

3

Classification of Digital News Packages

The first step in wisdom is to know the things themselves; this notion consists in having a true idea of the objects; objects are distinguished and known by classifying them methodically and giving them appropriate names. Therefore, classification and name-giving will be the foundation of our science.

—Carolus Linnaeus, *Systema Naturae* (1735), trans. M.S.J. Engel-Ledeboer and H. Engel (1964)

On December 20, 2012, visitors to the *New York Times* website noticed something they hadn't seen before. It was a new type of article, teased on the front page, titled "Snow Fall: The Avalanche at Tunnel Creek." The story instantly became a watershed moment in the online news industry. In an entirely new way to display a story, the *New York Times* employed a mix of technological and design conventions like autoplaying background videos, embedded photos and videos, graphics that changed as the user scrolled down, and a curtain effect, in which new sections of the story seemed to cover previous parts while the user scrolled. The package redefined the notions of how a news article could be presented on the Web and focused attention to new visual and interactive multimedia embedded throughout the story. Although news stories contained complementary multimedia elements like videos, photos, and interactive graphics for many years prior, there were only sparse examples of such a tightly integrated and seamless experience where the multimedia elements were embedded into the story itself; in a way, they became the story.

In the years since, story packages like these have become increasingly popular in newsrooms. Nearly every week as of the writing of this book, we find examples of media outlets experimenting with big in-depth multimedia news packages. Journalism schools now include these dynamic displays as part of the curriculum and regularly dissect examples of these packages to

better understand their nature.

It's easy to acknowledge the innovative potential of this new approach. These packages typically have slick designed interfaces, incorporate sound and visuals, and are presented in an almost cinematic-like fashion, using title pages and credits. While these sporadic examples of tightly integrated multimedia garner much attention from within the news industry, there are enormous logistical hurdles to creating these packages. Most are custom tailored, designed, and coded for specific stories—a process that is antithetical to the workflows and business practices of current newsrooms, which typically adhere to content management system (CMS) or templates.

But taking a step back, one must ask: How do these in-depth news packages best convey information? And, divorcing the glamor of new and inventive technologies found in many of these packages from the content, one also must ask whether they truly aid the end goal of imbuing readers with a story's essence and not just add visual gimmickry for its own sake.

As the publication of these news packages became more frequent, it was also clear how disparate were the approaches being taken by different organizations. Some of these stories were clearly a more linear, or narrative, experience. Others stories were divided into multiple sections with no predefined path through the story, giving users more control to decide how they wanted to consume the story. Some were cinematic-like experiences—as if you were watching a movie or playing a video game.

One person who thought a lot about online news presentation back in the 1990s was Leah Gentry, formerly with the *Orange County Register*, *Chicago Tribune*, and later LATimes.com. Some of her ideas were described in the 2002 book *Journalism Online* by Mike Ward,¹ and later in an interview we did with Gentry, who now works in digital marketing and social media. During several keynotes, including one in 1997, Gentry talked about the nature of Web news as a nonlinear platform and the importance of leveraging different media forms to best tell different parts of a story. Nonlinear storytelling was a crucial part of communicating on the Web back then, partially because it mimicked our natural tendencies to want to jump around a story in a lean-forward mode, such as using a computer, versus a lean-back consumption mode, such as sitting on the couch reading a book or watching a movie.

“I used to use the analogy of talking with my mother on the phone because my mother—like everyone’s mother—starts stories in the middle, and then skips back to the front and then skips to the end and then come back to the middle. And that’s how natural conversation works,” described Gentry in a Skype interview. “But it’s also how people’s brain works. I thought, how would it be like if we’d organize this story that way using hypertext—and so that’s how the first nonlinear storytelling project came to be and was the fertility doctor scandal at the University of California, Irvine.”²

The fertility fraud story won the Pulitzer that year for the *Orange County Register*. Designing the online component—particularly in respect to how to organize all of the many parts of the story—was a big part of discovering the nature of the medium, described Gentry. Later, when multimedia like photos, interactive graphics, and videos were possible on the Web, Gentry formalized a process of how to think about the structure of online stories with respect to leveraging multiple mediums. She espoused a process of “deconstructing and then reconstructing” a story to better understand its components and makeup. A single story is really multiple stories, each with a component part and possibly a different medium. Separating these component parts allows for the creation of a nonlinear story where the user had complete control over how, and in which order, to consume the story.

Another person who has thought a lot about the nature of online news packages with more contemporary examples is Wes Lindamood, a senior interactive designer at National Public Radio (NPR). This was a particularly important part of working on the project “Planet Money Makes a T-shirt.”³ His team based much of their early planning of their project on analyzing other news packages and trying to categorize them along a spectrum. The categorization he arrived at compared the level of user interaction that was required in a project versus a lean-back-and-watch narrative experience.

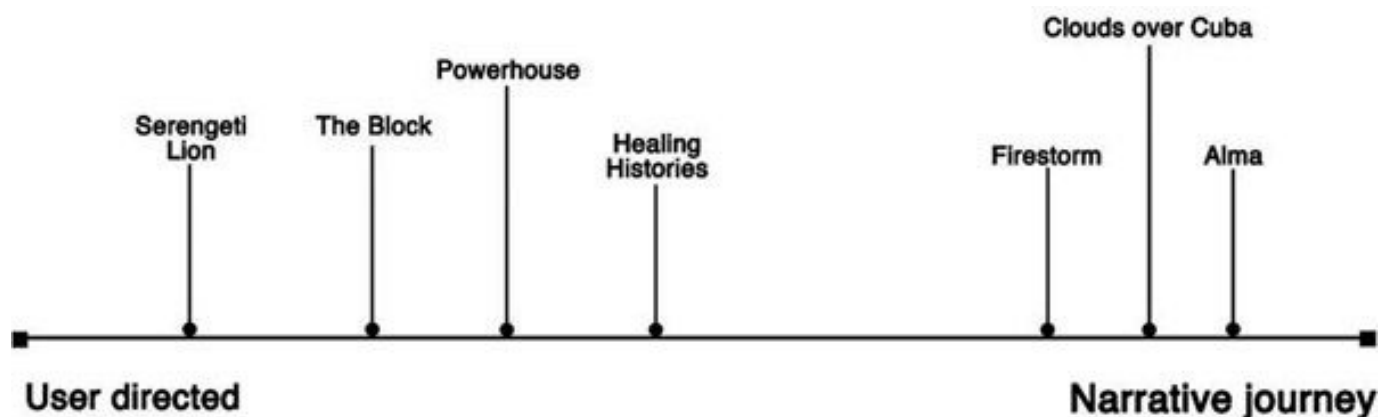


Figure 3.1 Story structure diagrams that helped the *Planet Money* team developing their T-shirt project design, Knight-Mozilla OpenNews Source (reproduced via CC-BY 3.0), 2014. Credit: Wes Lindamood/NPR.

Lindamood created a graphic charting the different stories along this spectrum to determine how much interaction was required from the users as they consumed the story—more specifically, how much power they had to jump around or make choices that would affect either the pacing or direction of the story. In some examples, like a news package designed by *National Geographic* called “The Serengeti Lion,” the user has ultimate control to move about and decide which parts of the story they want to consume—and in whatever order they choose. In the “Serengeti” package, each section is labeled with a moniker; and the user moves about using arrow keys on the keyboard to jump from section to section (the order is randomized and different for every user), and the user can view more information about that specific part of the story. A small index link will display all of the available sections, also listing which ones the user has already visited. In his graphic, Lindamood described the “Serengeti” project as more user directed rather than discrete narrative, as the user has complete control over which sections to view and is able to carve out a path through the story as they see fit.

On the other side of Lindamood’s spectrum is “Alma—A Tale of Violence,”⁴ which is an example of a story package that is more of a narrative experience. The “Alma” project is a self-described Web documentary and is distributed by Arte TV, a Franco-German TV network in Europe. The online film part of Alma is a single 40-minute interview with a former Guatemalan female gang member, Alma, as she vividly describes on camera how she killed another woman as part of her gang initiation. She then goes into

describing her life and the gang experience, and then ends the story with how she was shot and paralyzed when she tried to leave the gang. The film is very much a confessional with gripping accounts, particularly when she describes one of her victims crying out for her children as Alma stabbed her to death.

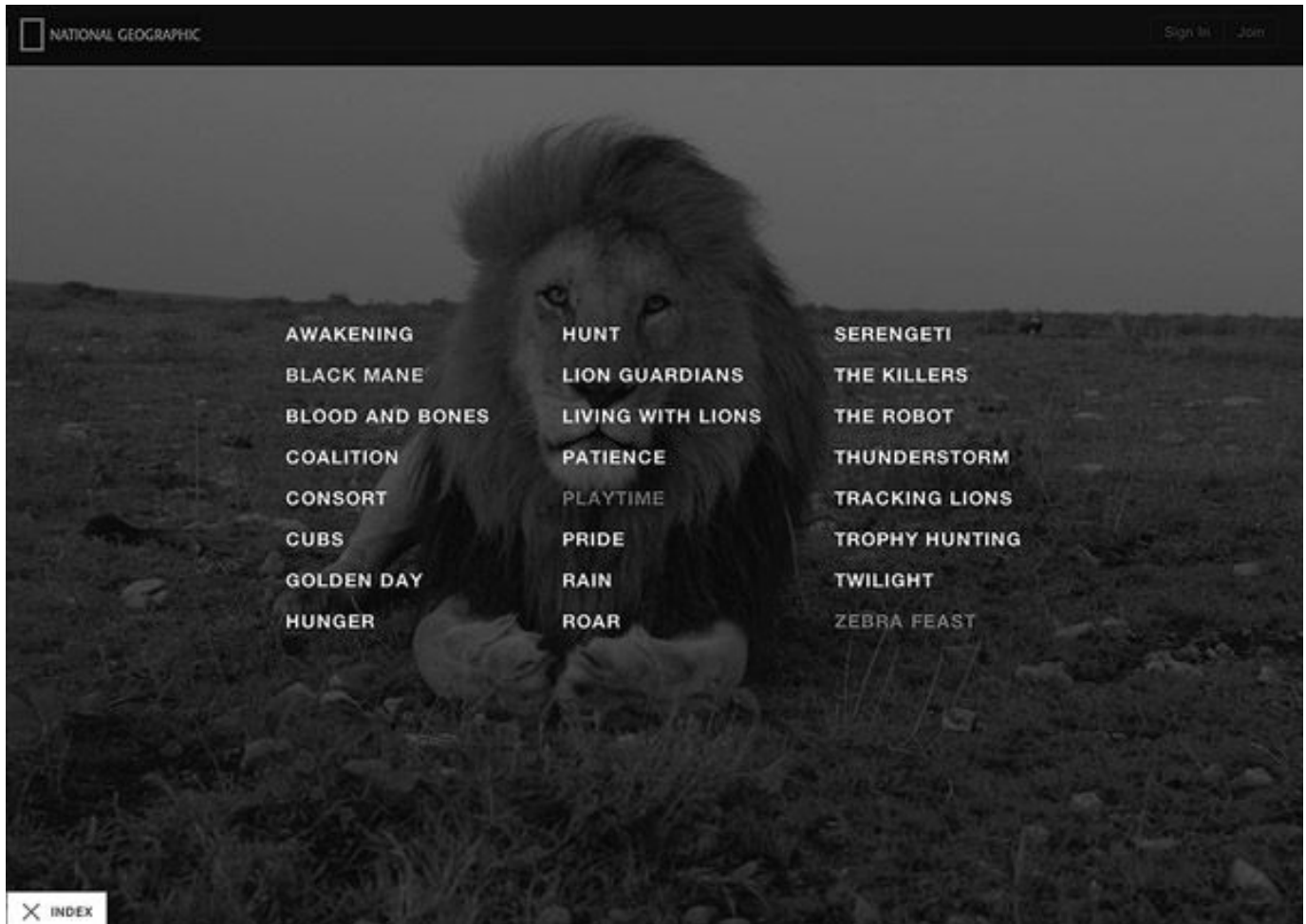


Figure 3.2 “The Serengeti Lion,” *National Geographic*, 2013

The “Alma” story package is split into two branches: a 40-minute Web documentary, and secondarily what Lindamood describes as “information modules”—separate sections that give background information on the story if the user scrolls past the documentary. Because the main focal point of the piece is the documentary, Lindamood categorized this as a more “narrative journey” requiring less interaction from the user. While a user is watching Alma’s video interview, the user has an option to move the entire video frame up, as it plays, to see some background footage (called b-roll in the broadcast world) of scenes corresponding to the narration. As Alma

continues to talk and give her interview, the secondary window shows b-roll scenes of Guatemala and background footage that a video editor might have placed over the narration of Alma in a more traditional format of the film. But in this online version, the choice is given to the user either to watch Alma describe her story or to view background images while listening to the narration. Although this interactivity is available, it doesn't change the direction of the piece, nor is the user given choices that affect the path of the story. This narrative journey is akin to a documentary film, but it allows people to stay engaged with the piece in an online medium by permitting them to interact with it as they listen to the narration.



Figure 3.3 “Alma—A Tale of Violence,” Arte TV, 2012

This notion of a spectrum separating linear from nonlinear stories very much led our initial approaches to defining a taxonomy of story packages. The challenge in categorizing news presentations was finding clear demarcations that could separate one package from another. In many instances, there are overlapping characteristics. Was the *New York Times*’s “Snow Fall” a narrative story? Yes. Does it have videos and photos throughout the story? Yes. Does the user have control to jump around the story? Yes. But you could also say the same thing about numerous other projects, such as *National Geographic*’s “Serengeti Lions” or the *Guardian*’s “NSA Files: Decoded.” However, when one views these projects, it’s clear they are very different approaches to online storytelling and needed to be identified using a different set of characteristics. What were the most common themes separating one story from another?

► The Grabowicz Taxonomy

Our approach to this taxonomy of digital news packages really started with Paul Grabowicz, a senior lecturer at the UC Berkeley Graduate School of Journalism. In 2013, Grabowicz published a first attempt at classification and taxonomy of multimedia news projects on a school-related training website.⁵ There were two parts to this taxonomy: The first was describing a series of approaches to packaging multiple forms of media into a cohesive experience, and the second was describing individual novel media types (e.g., interactive videos, games, graphics, etc.) that could be included within a larger news package. In the spirit of Leah Gentry's early work, Grabowicz divided stories into a linear versus nonlinear spectrum. Linear stories generally follow a directed path through the story, while other stories were nonlinear and gave the viewer lots of control to jump around the story at their own discretion and in their own order. Linear stories were more *narrative* in nature—consisting of a beginning, middle, and end—while nonlinear stories covered more of a topic and were more *informational* in nature. Nonlinear stories could also have parts embedded that could be mini-linear narratives or single-media types like a video or graphic. For example, one section of a nonlinear story package might be short profiles of characters in the story, whereas another section would be background information.

Grabowicz also came up with descriptive labels for different types of published news packages. One, called the “Christmas Tree,” is a form where multimedia elements would be “hung” off to the side of a text story, similar to ornaments on a tree. The term is originally attributed to Regina McCombs, formerly of the *Minneapolis Star Tribune* and later Poynter Institute.⁶ Other descriptions included terms like “embedded multimedia,” used to describe the *New York Times* “Snow Fall” piece, where multimedia was embedded directly within the narrative of the story. “The Kitchen Sink” is used to describe story packages that cover a general topic rather than a single story, sometimes exhaustively, where the organization of content into a hierarchy becomes a central challenge (the kitchen sink problem). “Immersive Multimedia” was a catchall for projects that were usually interactive documentaries or video-game-like experiences, using three-dimensional representations for users to explore a space.

This approach to the taxonomy evolved over time. The shortfall with this approach was that it wasn't systematic enough and didn't give each package

a common enough identity in order to compare it with others on a more granular scale (and later plot it on a graph). However, the Grabowicz taxonomy was the precursor to later versions and identified most of the structures and elements that we later included in our own work.

► **First Attempt at a Biological-like Taxonomy**

While working on this book, we met a UC Berkeley visiting scholar and science writer, Caterina Visco, who was intrigued by our use of the term “taxonomy” and by applying these ideas to news. Visco had studied biology in Rome and thought it would be an interesting challenge to classify news stories in the same way biologists classify life forms.

In 1735 Swedish scientist Carolus Linnaeus published *Systema Naturae* and brought to the world its well-known Linnaean taxonomy (i.e., kingdom, phylum, class, order, family, genus, and species), which many might recall from high school biology classes. This was a rank-based system that categorized all organisms of the world into a hierarchy. At its highest level of classification, the original Linnaean taxonomy put the broadest possible form of organism at the top—the “kingdom.” In 1700s, the kingdom rankings Linnaeus chose were animals, vegetables—and minerals! As discoveries of new forms of life were made over the years, the kingdoms have evolved and expanded to include microorganisms, like bacteria, and even fungi, whose cellular walls made them unlike plants in the most elementary way, so they were given an entire kingdom ranking of their own. Also, newer top-level categories above kingdom were defined: “domain,” and even above that, simply “life.” Interestingly, there is still much disagreement around the world regarding the precise labeling of these terms, since the sub-categories are not always pure biological descendants of top-rank descriptions. This biological ranking has been an iterative process over the centuries, changing many times, as recently as 1998.⁷ As it stands now, since 1998, the current kingdoms of all life fall under these basic classifications: Bacteria, Protozoa, Chromista, Plantae, Fungi, and Animalia. There is a lot of fluidity in the precision of systematizing something as amorphous as life forms.

Much like the Linnaean classification, our process of trying to come up with a taxonomy of news packages was an iterative process. The first step we

took was to define a classification of the different types of story packages, similar to a biological classification. This consisted of first identifying the characteristics of a database of more than 400 in-depth digital news packages we collected (these would be considered the very-bottom-level “species”) in order to better understand their characteristics, and grouping them into a few well-defined categories. As it would be impossible to study all the species living on Earth without a system that gives them some order, so it would be difficult to study such a variety of news stories without grouping them in categories based on common characteristics. This process provided a way to understand their structure and to derive conclusions about their scope and impact on the user.

► A “Linnaean Taxonomy” of News Packages

- **Domain** → Storytelling
- **Kingdom** → Non-fictional Storytelling
- **Phylum** → Non-fictional Online Storytelling
- **Class** → Digital News Package
- **Order** → (based on structure) → Linear, Shell, Immersive, Comprehensive
- **Genus** → (based on main element) → Text, Visual, Audio, Games, Data
- **Species** → Christmas Tree; Embedded Multimedia, Charticles,...

As shown in this chart, we attempted to identify elements of story packages in the pattern of a Linnaean taxonomy. We used the entire scope of storytelling as our “domain,” non-fictional storytelling as a specific “kingdom” (to differentiate it from other types of creative fiction), non-fictional *online* storytelling as “phylum,” and a news package as “class.” These specific hierarchies set up an initial framework for categorizing news stories.

The main taxonomical classification really begins in the next rung down, with the four named “orders,” which are based on the structure/narrative form of the projects. We chose linear, shell, immersive, and comprehensive.

Linear describes more lean-back, read/watch types of stories, where the user would consume the story with little direct interaction, except perhaps scrolling. The structure is linear, with a predetermined order of how to

consume a story—from beginning to end. These stories typically have one primary medium (like text or a video), which drives the whole package, and various other media assets (like photos, graphics, or videos) are integrated throughout the narrative—directly or peripherally.

Shell is a term coined by Jane Stevens of the Reynolds Journalism Institute. Partly as a response to Adobe Flash projects, Stevens trained journalists to think about how a multimedia presentation could be wrapped in a packaged “shell.”⁸ The lesson included training in a workflow that consisted of storyboarding a project first—similar to what is done in cinema and also exhorted by Leah Gentry—by dividing the project into component parts and choosing the best media for each respective segment. Story shells were generally nonlinear by nature. A consumer can choose to consume the story in any order they want. Upfront, consumers are typically presented with numerous topics or sections in the form of some type of central navigation that allows them to move around the different pieces of the story. As a standard design convention, shells typically have a unified title for the entire project, which helps maintain cohesiveness to the multiple sections of a presentation. Adobe Flash shells were particularly useful at a time when users often hesitated to click links away from the story and load an entirely new web page. Flash made it easier to visit each section, was a much quicker process, and maintained continuity throughout the story. Later, this would be seen as a poor design convention as broadband proliferated and web page loading times became nonissues.

Comprehensive is a derivative term of the “kitchen sink” coined by Grabowicz, essentially capturing news packages, which cover topics rather than a single news story. But Comprehensive became a broader catchall term for this. Comprehensives are similar to shells in their nonlinear structure. Consumers can go through the story in any order they wish. However, instead of a Flash shell, Comprehensives were more akin to a topic page or a single-issue vertical. Some examples were the “Empty Cradles” series by the *Milwaukee Journal Sentinel*.⁹ The *Journal Sentinel* published numerous multimedia pieces—charts and graphics, interactive panorama, text stories, video pieces—on a single topic. This type of package wasn’t linear, although there are some narrative anecdotes within the piece. But each is designed for a specific purpose to illustrate a different part of the story.

Immersive is a classification that is also from Grabowicz; it aimed to describe stories that were similar to a video game or 3D environment. A number of stories, particularly ones by the National Film Board of Canada (NFB), are heavily sophisticated projects technologically and usually take up the entire screen. It gives the feel of a video game—in fact, one could even consider these a type of video game in many of the examples. These are often described as interactive documentaries, partly because NFB, who spearheaded much of this storyform, is a documentary film-focused institute. Another pioneer of Immersive stories is Nonny de la Peña, who works on immersive installations that transport users into environments. One of her early influential projects was “Gone Gitmo,” in which Guantanamo Bay prison was reconstructed in the virtual world Second Life. Through the project, users could experience being a prisoner through virtual reality and thus gain empathy with prisoners’ plight.^{[10](#)}

The next rung of the taxonomy is the “genera,” identified by individual media types: text, visual, audio, games, and data. This is designed to describe the primary medium of each of the previous packages. For the last category of the taxonomy, the “species,” we used some specific examples identified by Grabowicz, such as the Christmas Tree, embedded multimedia, charticles, and others.

But as we began to deconstruct various stories into this model, it was clear these formalized patterns didn’t fit into such a rigid structure. While this model was a noble attempt to classify Grabowicz’s taxonomy, it didn’t allow for classifications to overlap or intersect among the main categories, nor did it allow for a multiple intersections of types. Online news stories are simply too amorphous for such rigidly defined orders.

But there was a silver lining in this process. During her work in applying a biological classification, Caterina Visco did start to drill down on the four “orders” that served as the basis of further work. Despite the number of hours Visco dedicated to this process, she was especially motivated by a quote from Isaac Newton: “Truth is ever to be found in simplicity, and not in the multiplicity and confusion of things.”^{[11](#)}

In the next phase, we started with a large database of journalistic news packages collected by Bobbie Johnson, co-founder of *Matter* magazine. Johnson wrote a blog post on Medium highly critical of the *New York Times*’s

“Snow Fall” model. At the end of the piece, Johnson created a Google spreadsheet asking the public to contribute links to examples of large immersive news packages similar to the *New York Times*’s “Snow Fall” piece (he called them “Snowfallen” stories).¹² Visco took this crowdsourced spreadsheet and appended several hundred additional story links, resulting in a list of more than 1000 news packages similar to “Snow Fall.” This began a process of identifying common characteristics of each package: checking off which had videos and analyzing the various mediums that composed each story—specifically the media forms of the main element that drives each story (e.g., video, audio, photo, or text). All of this data ended up in a new spreadsheet that also noted information about each package, such as the main element driving the narrative, other complementary elements in the package, and the level of interactivity required of the consumer to experience the piece. Visco also listed a column for “narrative form,” using an expression from Grabowicz’s taxonomy, but evolved the meaning to better reflect the *experience* the consumer gets. The narrative forms she settled on were Straight, Immersive, Comprehensive, Shell, and Intersections.

	Text	Video	Audio	Animation	Data	Games	Map	Timeline
Straight								
Immersive								
Comprehensive								
Shell								
Intersections								

Figure 3.4 The authors started with a simple table to deconstruct the multimedia packages into their separate elements

This grid, even if basic, helped us to understand that there were two different possible classifications that had to be examined individually: one based on the narrative structure, and the other identifying media forms that composed each package.

► Classification Based on the Narrative Structure

The text iteration of a taxonomy focused on five terms that identified the narrative structure of the packages: Straight, Immersive, Comprehensive, Shell. The fifth, Intersections, is a term that describes any stories that intersect two of the previous forms. We created a square diagram to better visualize it.

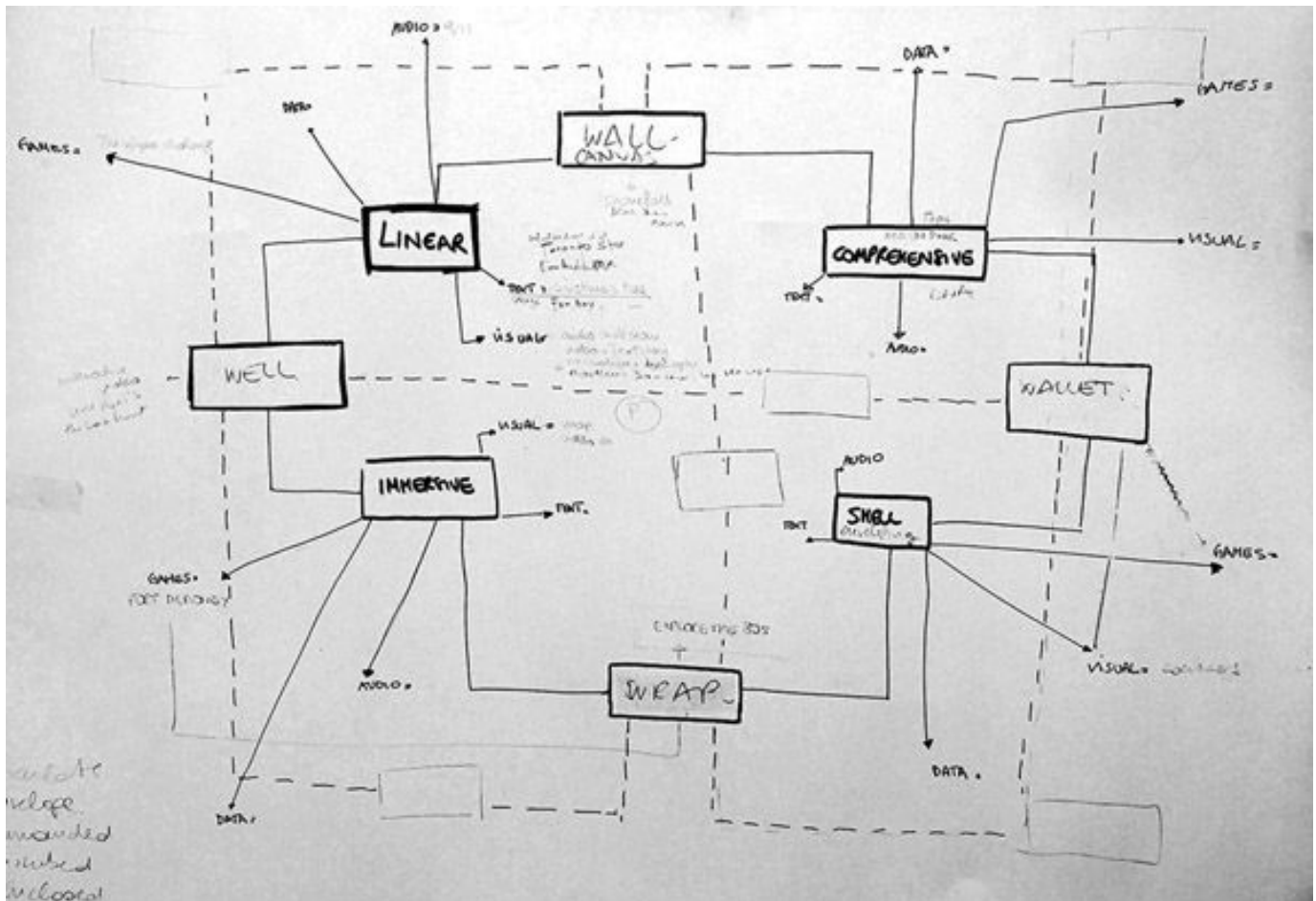


Figure 3.5 The “square” diagram, with intersections

The framework for this grid meant that stories could be placed along the lines of these spectrums. The linear designation was renamed to “Straight” with the understanding that linearity of a story was too simplistic a description; even immersive 3D games were linear, for example. Straight stories were more traditional approaches, where one primary medium led the story—text, video, or graphics—and other multimedia were complementary.

Some stories were clearly defined in these four categories: Straight, Comprehensive, Immersive, and Shell. But sometimes a story could be two of the categories. Stories that could not univocally be identified as one category would reside in one of the four Intersection segments, which were a cross between two categories. We also identified a difference in the naming of each Intersection, depending on which name came first. For example, a “Linear-Immersive” and the reverse, “Immersive-Linear,” would differ in meaning depending on which form was more prominent in driving the story.

This model was a clear improvement over earlier structures. It was nimble enough to classify something as amorphous as an online story, and allowed for flexible definitions in order to draw conclusions about the nature of these stories. The key was settling on proper category names. Shell and Comprehensive were both very similar categories; their definitions differed only by the technology and presentation used to display them. Shells were presentations embedded on a page, usually with Flash or a similar technology acting as a container. Comprehensives were more akin to a topic page, with multiple stories or sections giving an exhaustive coverage of a single topic or story. We decided to merge the two in later iterations. It made sense, as Flash is a deprecated technology in online storytelling. Some packages, such as “Explore the ’80s” published by *National Geographic* in 2014,¹³ were among the few stories we found that exhibited an intersection of both Comprehensive and Shell. *National Geographic*’s “The ’80s” is a Comprehensive-Immersive project that allowed the user to pick out various story segments in a 3D space. The project is contained within a single presentation, and each segment plays within the same frame (rather than going to a separate page). Analyzing this project proved that we didn’t need to separate Comprehensive and Shell into two distinct categories.

The square diagram has many other issues as well. It prevented intersections, or mixing, all of the four categories in a simple way, as the intersections could only comprise two of any four categories. We would have had to add two more intersection categories—Straight-Shell and Comprehensive-Immersive—reaching a total of ten different groups. This was simply too many to serve our original goal of a clear and simple classification. The categories also seemed not to be clearly distinctive one from the other.

► The Triangle: Categories Based on Narrative Form or Experience

To solve the issues just described, we needed to further simplify our model. Taking a reductive approach, we merged Shell into Comprehensive, and what resulted was a triangle diagram. The triangle shape also allowed all categories to intersect in a more elegant fashion. We even debated the need for the third prong—Immersive—the elimination of which would have resulted in a simple linear–nonlinear spectrum, similar to Wes Lindamood’s model when investigating the *Planet Money* project. However, it was clear the third category was essential to differentiate an entire swath of projects in our database, such as interactive documentaries that were clearly not traditional linear stories (Straight) and not Comprehensives (Shells) and yet not a combination of the two. These immersive 3D-like interactive documentaries arguably needed a category of their own.

The triangle was an elegant solution to graphing all of the stories and discovering commonalities in story types. At the top corner of the triangle is the Continuous category, which we renamed from the older “Straight” designation. After much discussion about the specific naming of this category, we felt Continuous better represented the experience users get from these types of stories. Other names we tested were “Traditional,” which felt pejorative, even when it describes some of the most powerful and compelling stories we found. “Linear” was too broad, given that many immersive stories are also linear. And “Straight” had too many other connotations in the English lexicon and could bring up a sense that the category was unadulterated or even possibly associations with a sexual orientation, which weren’t our intentions at all.

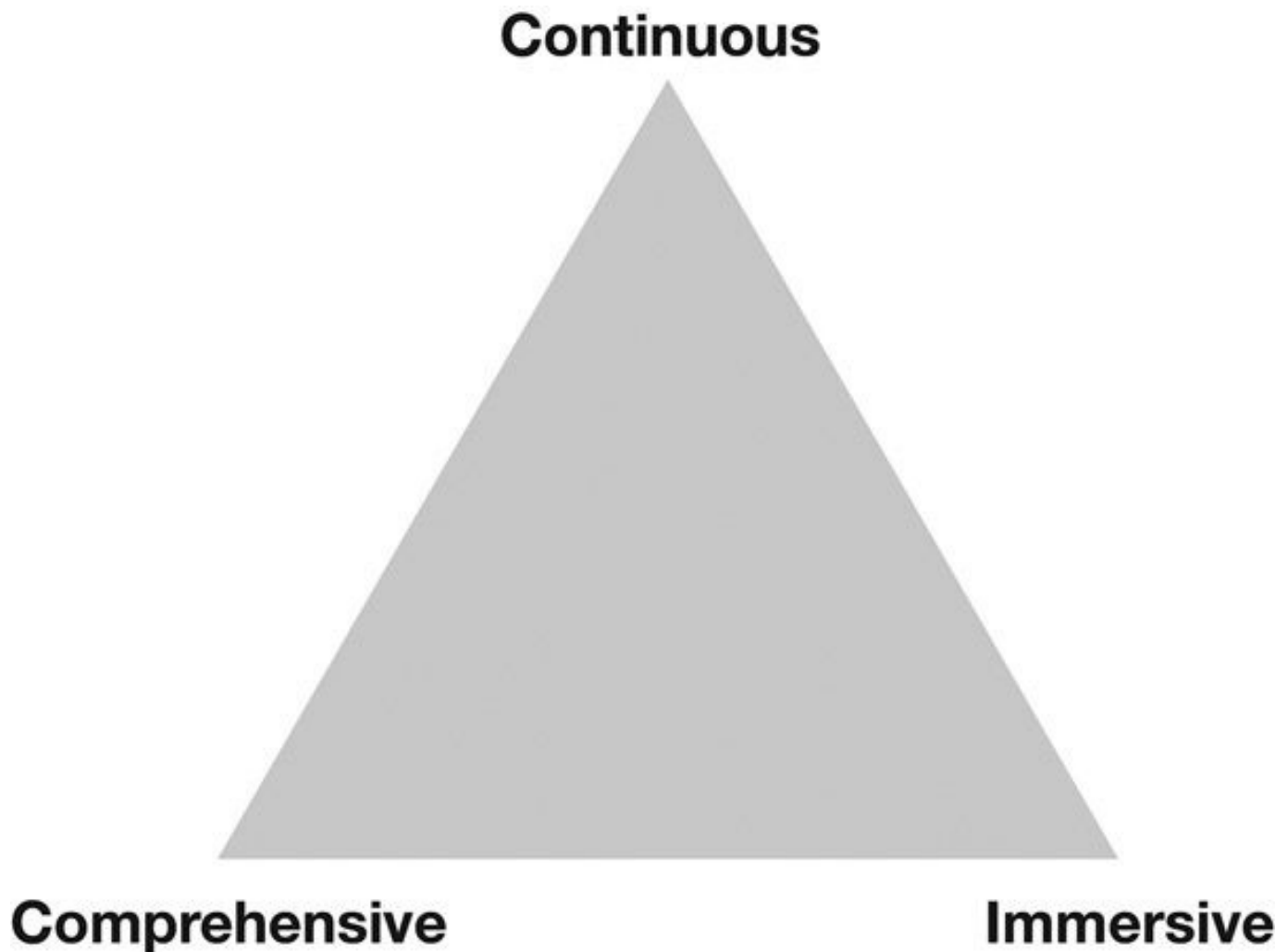


Figure 3.6 The first triangle diagram

On the left corner is the Comprehensive category, which is any nonlinear project that aims to be multifaceted, tackle a topic, or serve as more informational than strictly narrative. On the right corner is the Immersive category, which describes cinematic-like interactive projects that take up the whole screen and present themselves like an interactive movie or video game.

We also maintained the ability for stories to encompass multiple categories, but instead of having strict borders where elements could serve as an intersection, such as Continuous-Immersive (or vice versa), we decided that the triangle diagram would plot stories *within* the triangle. This worked especially well because it offered an enhanced level of flexibility for stories to comprise characteristics of each of the three categories at different levels of granularity.

To plot stories within this triangle diagram, we came up with a series of nine survey statements—three per category of the triangle—to test the news package against. The answers would determine where the story would be plotted in the triangle. Each survey statement tests a single characteristic of the categories, with the user giving a scaled answer of one to five, five being the most accurate description of the story being surveyed. In an early version of the triangle, we started with 12 survey statements and considered weighting each, based on how crucial it was to the category. But we later discovered discrepancies in the data because many of the original statements we came up with overlapped with multiple categories. We later reduced the number of statements to nine and tried to devise more definitive statements that would be more diametrically separated among opposing categories.

To properly gauge the efficacy of the triangle diagram, we set up several stories as our control. Through our research we knew where we believed certain stories belonged on the triangle and the most quintessential examples of each of the three corners, as well as of the three intersections. We applied our question set to survey these stories to see if we could plot them in the proper markers around the triangle perimeter. Then, going through our database of more than 1000 stories, we had participants view a news package and answer the survey regarding the package. What resulted were markers distributed across our triangle diagram. This allowed us to view where similar story types congregated and eventually to draw conclusions as to their nature.

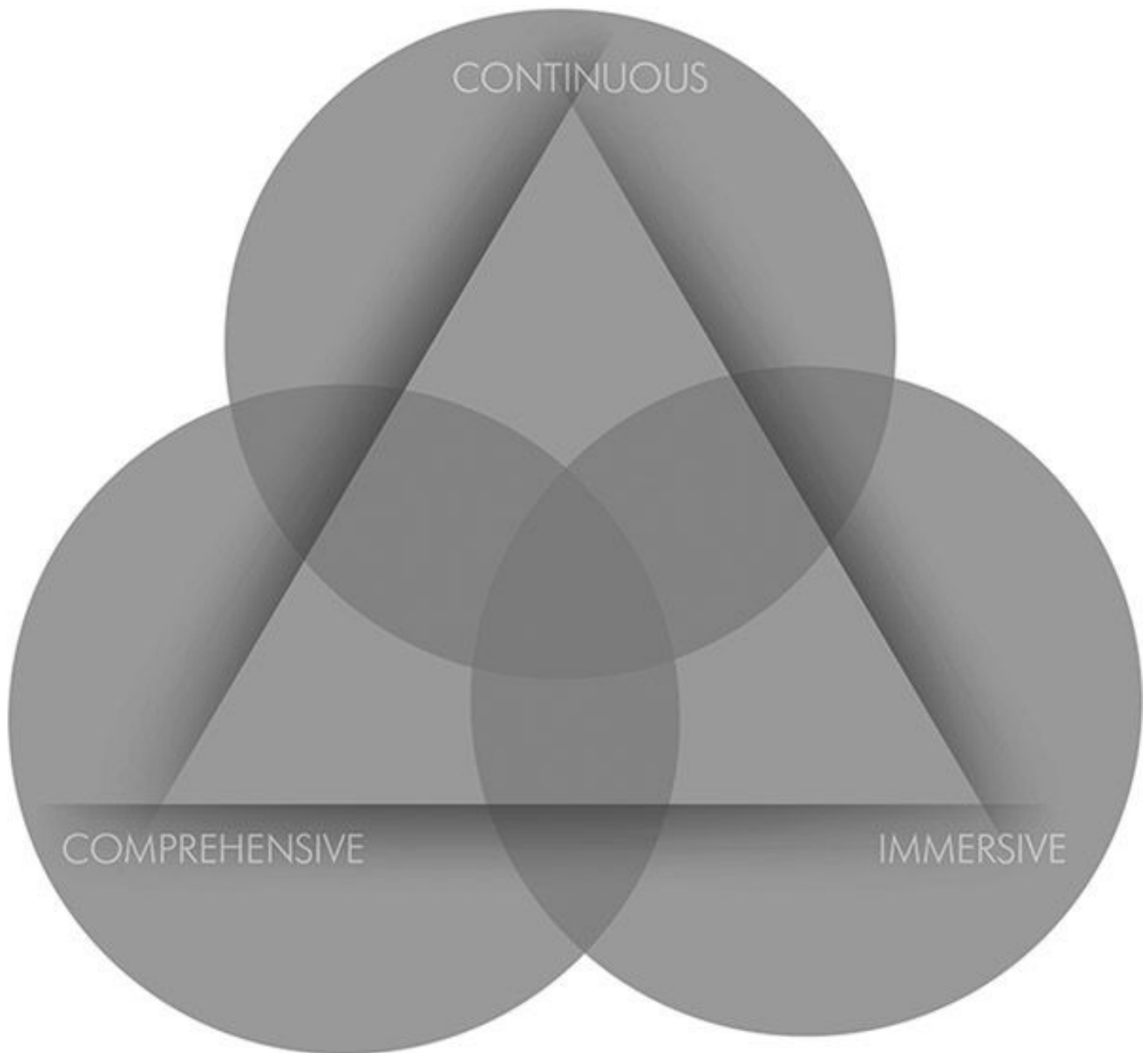


Figure 3.7 The latest triangle model, with colors to show the intersections. Each dot is a package and shows where that project falls in the spectrum.

► Continuous Stories

Story packages that are continuous in nature are characterized by a traditional narrative structure with a beginning, middle, and end to the story. Thus, they are also consumed in a linear fashion, meaning it is not intended for the consumer to jump around to different parts of the story out of order. Interestingly, this intention was often challenged in numerous

projects that we initially thought might be Continuous, including “Snow Fall,” where the story is separated into user-clickable chapters. This theoretically could encourage people to jump around the story before finishing a particular chapter, but the sequence and intention of the chapters is for them to be consumed one after another. Determining linearity can become nuanced in some story packages we found, where each chapter is separate enough from the whole narrative that it can be consumed by itself without losing context of the whole story. In these situations, the project can border on our Comprehensive category, whose chief characteristic is being able to jump around and consume segments of a story based on the user’s own preferences. The benefit of answering question on a one-to-five scale allows us to determine these levels of nuance in a granular way.

Continuous stories also require one primary medium driving the story. We felt this was a necessary characteristic to describe this category, and the data we collected reaffirmed this notion. If there were too many media forms (e.g., text, video, graphics) of equal weight, the story seemed to change characteristically into a more Comprehensive or Immersive story. There were few exceptions, most commonly in stories done by the Atavist platform, where videos would be interpolated throughout the text narrative and become an integral part of the narrative. The primary media form driving the news package doesn’t necessarily have to be text. We felt some projects that were video driven fit into the Continuous category. “Alma—A Tale of Violence” is an example of this. The project is a single linear interview with some interactivity and other multimedia accompaniments, but it is essentially a traditional continuous narrative.

Another characteristic we determined of Continuous stories is that they are arguably more “lean-back” in nature, meaning there was often less interactivity than Comprehensive or Immersive stories. The idea is that the story is consumed mostly by reading or watching. The more a user interacts with the content—by clicking, scrolling, or making decisions—the more the narrative form is interrupted by user choices, thus changing the nature of the story. Interactivity seemed to work better on informational stories, where the user learned about a topic, and we felt they were more antithetical to Continuous stories, which are narrative driven and in which interactivity was more of a distraction.

We did find some exceptions to this interactivity rule, particularly on stories that were linear “lean-back” experiences that required some interaction to advance the story, such as scrolling. Mike Bostock, a *New York Times* graphics editor, wrote a blog post extolling the use of scrolling as a narrative device, since it’s grounded in a linear form (up being reverse, down being forward).¹⁴ It also gave users an experience superior to clicking, because it seemed less disruptive and more natural.

Another new form of storytelling has emerged that is sometimes described as “Scrollytelling” (a term trademarked by Nick Jones of NarrowDesign.com). It uses a design convention called “parallax scrolling,” where various elements on the page can move at different speeds. One example of this technique is “The Jockey” from the *New York Times*.¹⁵ As the user scrolls, a video comes into view and becomes fixed on the page for a moment and plays. If the user continues to scroll down, the video stops and reattaches to the page and will scroll out of view. Because we felt this genre of storytelling still fit within the rubric of the Continuous category, we weighted the survey question about interactivity as a nominally important characteristic of the category.

We also included a question on our survey about the use of a CMS template in creating the news package. In a blog post, the former associate managing editor of digital at the *New York Times*, Aron Pilhofer, made the case that “Snow Fall” would not have been as effective if it appeared in the *Times*’s standard CMS template;¹⁶ his argument was that design played a crucial role in the story. This was important in that it allowed us to realize one of the differences between traditional Continuous stories and Comprehensive or Immersive ones. In the latter two, we nearly always saw situations when the story broke the mold of the publication’s CMS and was given special treatment. Yet, because the use of CMS template is not a differentiating factor of the Continuous category, it also carries relatively nominal weight on the overall plot on our triangle diagram.

As we outlined in the introduction, our goal with this taxonomy was to identify stories that were of a special nature—in-depth stories, or the digital equivalent to a longform story in print. These are packages that get some kind of special treatment to enlighten readers with analysis, anecdote, and depth, rather than simply inform the public of the day’s news. As we

aggregated stories for this taxonomy, we found numerous examples that were borderline in this respect, particularly in the Continuous category. We often asked ourselves if the example was a special feature “news package” by the publication or just a run-of-the-mill news story.

These are the survey statements we used for determining whether stories fall under the Continuous category, answered on a scale from one to five, with five being the most accurate statement and one being the least accurate description to the story in question.

- This project is mostly one continuous narrative.
- This story has one primary media form (e.g., text, video) driving the narrative.
- This project is more of a “lean-back” non-interactive experience.

Comprehensive

A Comprehensive package presents an in-depth environment that contains multiple separate elements of a story under a common umbrella, like a topic page. Instead of a linear narrative that drives the users through a singular experience, the story is broken up into sections. A story package may include segments such as profiles, background information, history, or future implications—some of which can be individually narrative. But each segment is unique, and in many cases each section is told in the type of media most appropriate for the content in that segment. For example, a video is used for a segment of a story in which there is a lot of action or emotion, and graphics for a section that is informational or requires visual aids to explain complex subject matter.

The very nature of a Comprehensive story nearly demands that stories be topical and informational. One of the early examples of this is “Touching Hearts” by Joe Weiss of the *Herald-Sun* in Durham, North Carolina.¹⁷ In 2000, Weiss went to Nicaragua as a photographer to cover a story about a group of doctors who were lending medical assistance to ailing children. When he returned, he naturally decided to construct a Comprehensive story in Flash. The story is separated into three parts: Mission, Stories, and People. The first segment, Mission, is a linear animation that explains the story and the purpose of the trip. The second section contains a series of emotionally

powerful photo slideshows about the individual children, who are suffering from a range of heart conditions. The third is an informational section with more data about the doctors and the children. The choice to construct this story in segments rather than one linear piece is an almost natural approach, in part led by the capability of the technology. (Later, Weiss used his programming skills to construct the Soundslides platform.)

The main characteristics of these kinds of packages are the variability of elements as much as the absence of a predefined path—the user gets to choose how to navigate the story by selecting the segments of most interest. This gives the consumer a high level of control over the navigation of the experience. In fact, these packages are better suited for informational than narrative stories. There is no one story to tell, but a big body of information to give to the user in the most efficient way possible. This also offers the ability for users to personalize the story based on their own understanding of the subject matter, or their own interest in the topics presented, and then carve their own path through the story.

Some of the packages included in this group are more exhaustive than others (the package “Empty Cradles,”¹⁸ published by the *Milwaukee Journal Sentinel*), while others are more restricted and framed (like “Planet Money”¹⁹ by NPR), but all of them give the user some liberty and choice. They also usually present a medium/high level of interactivity.

The following are the survey statements tested for this category:

- This project is more about covering a topic than a single narrative story.
- This project is divided into sections or parts, intending for the user to jump around.
- This project is informational in nature.



Immersive

Several of the subjects we spoke to during the research for this book took issue with the name “Immersive” being restricted to a single category, as all narratives aspire to be immersive in some respect. We felt this name best represented this category because the design conventions employed aim to

stimulate many of the senses. Stories in the Immersive category create an environment, a space for the user to explore, and through this exploration the narrative unfolds itself. It's an environment that is very engaging, and there is a high level of interactivity between the space and the users.

Interestingly, linearity is not a prerequisite for this type of storytelling. We found numerous examples where the level of control the user had in directing the experience varied. Some Immersive news packages were like video games or choose-your-own-adventure stories, where users made choices that would determine their own experience. The experience varied from user to user based on the decisions made. Others packages were a very structured experiences with little more than a “next” button to advance the narrative through a unified path.

Narratologists have often described forms of storytelling that are non-chronological, or told out of sequence—such as those experienced in Quentin Tarantino films like *Pulp Fiction* or *Reservoir Dogs*—as “non-sequential” or “disjointed.” Immersives can also be organized in this way. But when a narrative is interactive, it can be what is described as “branching,” or sometimes “ergodic,”²⁰ where the paths through the story are decided by the consumer. Technology of the Web allows for stories to be dynamic as the user interacts with them, a complete departure from the traditional media form in journalism, such as print, television, or radio, where the delivery mechanism was static and unidirectional. We considered adding a question about the linearity of a story to describe Immersive but removed it later as we discovered such a variance in examples. This is advantageous, because the linear nature of the news package will be better determined by the Continuous–Comprehensive spectrum.

“Cinematic” is a term often associated with this category, and it makes sense. A striking commonality found in these projects was that most had some sort of initial start page displayed up front with a title, background information, and more importantly a button or link requesting action to initiate the experience—similar to a DVD/Blu-ray start menu. This analogy is interesting, because when a consumer clicks “play” on a DVD, they are initiating an experience: the start of a movie. In a similar fashion, these projects give the sense of embarking on an experience similar to a video game or movie. These start pages are less often seen in Comprehensive or

Continuous stories. While this is a subtle design convention, its presence was a clear indicator of this archetype, so this is a question on the survey and it is given a moderate to high weight on its effect on the marker's position on the graph.

Immersive stories also generally contain multiple media forms, like interactive video, animation, graphics, and background music. Rarely is there ever one single media form driving the whole experience, as seen in a Continuous package, where there might be a single video or text story. The seamless integration of the multiple media forms is very natural and almost opaque to the user. Text comes up as instructions but appears as if it's a title slide in a video. This is noticeable in choose-your-own-adventure-style experiences like "Journey to the End of Coal,"²¹ made by a French projection group called Honkytonk Films. The story places the user in the role of a freelance journalist exploring the crude conditions of coal mines in Datong, China. The user interacts and even interviews subjects. These are based on real interviews conducted by the filmmakers. The user chooses where to go and which questions to ask during the interviews, and text narration appears on the screen to explain the context and background of the story. The whole time, the user is presented with a combination of videos, photos, and text that are so natural to the medium, many people forget the different media types in play. Unlike a web page with a YouTube video and some type of play button to initiate the experience, Immersives offer a much more seamless continuity from section to section.

Another important characteristic of Immersives is the fullscreen layout. When these types of stories are initiated, they demand a certain presence in the browser and nearly always go edge to edge. This is a subtle design effect, which disconnects the users from their own reality to transport them into the scene of the story. Fullscreen was a convention that originally began with Adobe Flash, a browser plug-in. When the fullscreen setting was initiated, the experience seemed to pop out of the browser and display a piece of media, like a video, using the entire monitor screen, beyond the chrome of the browser application. Later, browsers would initiate their own mechanism to do this without Flash, using HTML5, as Flash became a deprecated technology.

Another role of Immersive stories is the ability to leverage numerous

technological abilities that might seem awkward on more traditional stories. Such experiences as choose-your-own-adventure-style narratives would likely feel misplaced in a Continuous text story, or even a Comprehensive. But in an Immersive, the ability for the consumer to participate in the story gives a sense of role play and helps build empathy with the story's subject matter. This was seen in the first-person interactive documentary "Fearless" by Avni Nijhawan, a lecturer at the Sorbonne in Paris and a former graduate student at the UC Berkeley Graduate School of Journalism.²² In "Fearless," the user plays the role of a woman in Mumbai, India, as she tries to commute to work using various modes of transportation. Crowded buses and trains are hotspots for women being sexually harassed in India, forcing many women to either walk or take expensive pedicab taxis to work. Nijhawan used point-of-view (POV) cameras like Google Glass to take a journey using various transportation methods. The user walks in the shoes of a woman trying to get to work and is presented with choices on how to react to situations—all in an effort to better empathize with the scenarios many women endure. Other experiences, like "Fort McMoney," are played in real time by users using interactive game elements to develop oil sand reserves in Alberta, Canada. The choices made by users, such as voting on referendums or answering surveys, affect the game for others who play.²³

The survey statements we tested to best identify Immersive stories are as follows:

- This project is similar to a video game experience requiring lots of interactivity and/or takes up the full screen of the browser.
- This project begins with some type of launch-like element, like a play button, to initiate the experience.
- This project uses audiovisual media to create an immersive environment.

Intersections

The beauty of the triangle diagram lies in its approach to plot stories on a graph with granular values. There were few stories that could be described entirely as Continuous, Comprehensive, or Immersive. Instead, there were nearly always varying degrees of each of these forms found in each story.

The more fascinating discoveries of this graph were found in what we describe as the Intersections of two archetypes: Stories that were both Continuous and Comprehensive, Comprehensive and Immersive, or Immersive and Continuous. Unlike earlier iterations of our graph, the ordering of names doesn't matter in the triangle diagram since it's easy to plot the degree to which a marker is near a particular corner of the triangle. Partitioning our triangle into these quadrants, one can spot which stories ended up in the various quadrants of the graph.

Let's see some examples for each category:

▶ Immersive-Continuous

The *Guardian's* 2013 package "Firestorm,"²⁴ about a bushfire in Tasmania, is an excellent example of this kind of intersection. This package tells a story from beginning to end of a devastating fire that nearly wiped out the town of Dunalley.



Figure 3.8 "Firestorm," *Guardian*, 2013

It begins with background information on the prevalence of bushfires in

Tasmania, then recounts one family's near-death experience escaping the fire. The entire piece is displayed on a single web page that takes up the entire browser screen. Unique to this presentation is some special code in the background that affects the way the page scrolls, creating a friction so that as the user scrolls, there is a brief pause on certain sections. This forces the piece to be partitioned into multiple, digestible chunks. Some sections have a brief paragraph of text with background images, others play pieces of audio, and some show a short video interview. The experience from section to section is seamless, and multiple sections are grouped together in chapters. The story was published after "Snow Fall" and was compared to it in numerous blog posts²⁵ and industry articles.²⁶

At its core, Firestorm was a linear narrative story, told from beginning to end. But its unique multimedia integration, along with the fullscreen immersion, also made it characteristic of our Immersive category. There is a start button to initiate the experience, which is rarely seen on traditional Continuous stories. This was a prototypical example of a Continuous-Immersive package.

The "Firestorm" experience is separated into chapters, which a user could theoretically use to jump around, but this is not the intention. The chapters are designed to be consumed sequentially; when clicked they do not navigate to a separate web page—rather, the page will scroll down to the section of the story where that chapter begins. It's clear the intention is to view these chapters one after another. This made the package less like a Comprehensive, which are informational pages.



Comprehensive-Continuous

The *New York Times*'s "Snow Fall" is our prototypical Comprehensive-Continuous story—and it makes sense. The story began as a traditional text-only story, and only after most of it had been written was it decided to turn it into a multimedia story package with videos, photos, graphics, and a short documentary film. The Continuous nature of the story is apparent in the fact it's a singular 16,000-word linear narrative text story. The story is separated into six chapters, which are designed to be read one after another, but each is separate, with a title page and a unique topic of the story. The narrative is informational at parts, giving lots of background information,

including about avalanches and some of the tools used by skiers to mitigate getting trapped under snow. The piece is designed with several media forms, including a shortform documentary at the end. When applied to our triangle diagram, we found “Snow Fall” fit closer to a Continuous narrative, but many qualities fell under the Comprehensive rubric.

► Immersive-Comprehensive

National Geographic’s “The ’80s” is a story package built to complement a six-episode TV miniseries of the same name. The project displays a neon 3D wireframe, drawing inspiration from movies like *Tron*. Displayed floating in space are boxes with topics related to various 1980s nostalgia. The user can navigate from left to right to view additional modules, or click or scroll forward to go through time to different years in sort of a virtual time line. When any of the floating boxes are clicked, a window pops up and offers some multimedia—text, videos, photos—about that particular item. Some of the boxes are related to specific episodes covered in the TV miniseries.

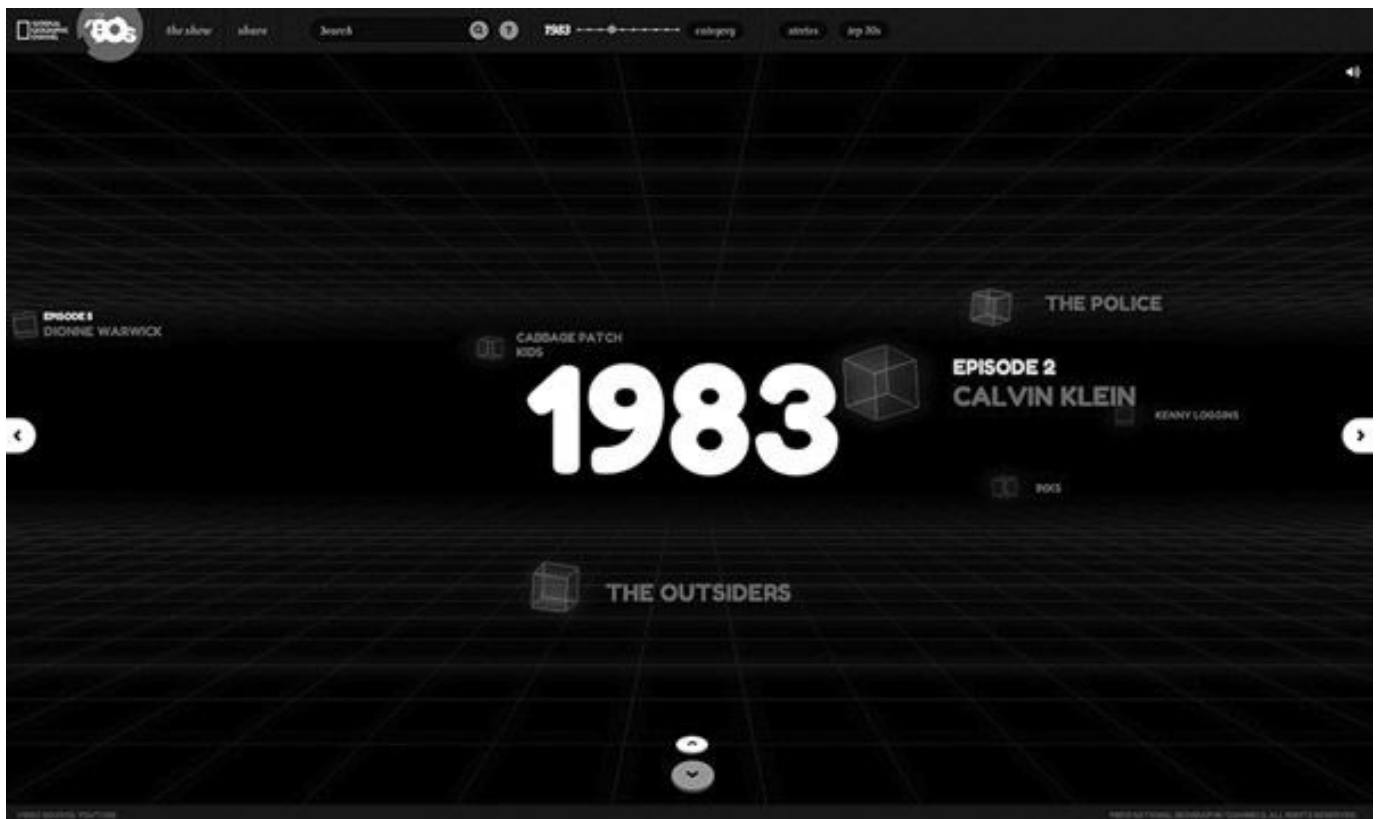


Figure 3.9 “The ’80s,” *National Geographic*, 2014

While the project initially presents itself as a clear Immersive-category story package, it does include the ability to navigate around different topics, rather than go through a linear narrative. We decided to define a true Immersive archetype as requiring some type of narrative experience, even in situations when the user could direct the narrative, sometimes described as a branching narrative. In “The ’80s,” there is no singular narrative; rather it’s a Comprehensive display of information modules that the user can jump into and out of. In fact, it’s unlikely most users will see every part of the project. The intention is that a user will click on only the modules that interest them most. In a project that effectively unleashes a strong sense of nostalgia, the ability for a user to create their own path through the story makes the most sense in this respect, picking out items they are most familiar with or those that pique their interest.

Conclusions

While we were writing this book, people in newsrooms all over the world were constantly experimenting with news packages, developing new narrative forms. In the near future we will probably need to add more categories to our classification. This is a framework—a starting point for a discussion that will eventually lead to an improved and adopted classification and taxonomy of digital news packages. There is much room for change. We know these attempts are our own representation of the reality—one that is constantly changing and evolving. The community can adapt the criteria we selected. They might have to be changed or rearranged to form other categories and perhaps a new type of visualization. We welcome any discussion, any proposal, and any falsification of our model. As theoretical physicist Carlo Rovelli suggests we “keep the door open to doubt,” and we “...will be ready to shift to a different point of view if better elements of evidence, or novel arguments emerge.”^{[27](#)}

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