

Proposing a Practical Media Taxonomy for Complex Media Production

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This article proposes a taxonomy of media designed to clarify the production and critique of complex media publication. I examine the conflation of ideas described by the word *media* and review prior taxonomic categorizations of this fuzzy concept. Media is broken into layered categories of content, media form, and media channel based on the semiotic and technological roles in mediated communication and then is described as a flow of decisions made in the creation and publication of communicative products. Finally, this taxonomy is applied to clarify the different functions of multimedia, crossmedia, and transmedia storytelling.

Keywords: communication, content, crossmedia, definition, media, media channel, media form, multimedia, storytelling, taxonomy, transmedia

Media is a problematic word. Contained within it are a number of conflated ideas that are often contextually misinterpreted. It is a fleet-footed target for definition. To study and practice complex storytelling in any media industry, some definitions need to be refined. Media embodies many ideas, from a sociopolitical entity to the goo in a petri dish or the dab on an artist's palette. It can be a vocal stop in music, an ancient Persian empire, or the design of, and access point to, information. Media as a carrier of information is the subject of concern here. To describe the structure, function, and creation of stories that unfold simultaneously across multiple media channels requires a breakdown of the production-oriented ideas contained in the word *media*.

This article examines related work and generates a taxonomy of media designed to serve the practitioner and analyst of complex storytelling. Also critical to multimedia, crossmedia, and transmedia story design is an understanding of the roles of content, media form, and media channel. The latter two replace *medium*, the common singular of media, in this taxonomy for the reasons described above: The meaning of the singular *medium* is also easily conflated. Precise definitions are critical to study and make effective use of the affordances of the 21st-century mediascape. Though I intend this taxonomy to serve any storytelling and publishing structure in any media industry, it is oriented to the diverse possibilities and complex arrangements of transmedia storytelling, where stories unfold across multiple media in an expansive rather than redundant way (Dena, 2009; Jenkins, 2003, 2006; Rose, 2011; Scolari, 2013). These complex storytelling structures show particular promise for documentary storytelling forms, from journalism and documentary film to science, history, and nongovernmental organization outreach. The complex

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contemporary mediascape presents challenges in reaching audiences who can best use the information that is delivered. Transmedia storytelling arguably answers that challenge better than other forms (Gambarato & Tárca, 2017; Moloney, 2015; Moloney & Unger, 2014; Ryan, 2013).

There is an intriguing intellectual body of work toward a taxonomy of media. However, some of this work applies to a fundamentally different mediascape (Clark, 1975; Heidt, 1975; Heller & Martin, 1995). Other studies (Kress, 2010; Meyrowitz, 1993; Ryan, 2006, 2014; Strate, 2017), though insightful and flexible, embrace the natural poststructural fuzziness of media categories. In some cases, this task may resemble an attempt to define the borders between red and orange on the visible light spectrum. Other cases may involve instances where, metaphorically, light acts simultaneously as both a particle and a wave. Media, too, can be studied from such divergent perspectives. This taxonomy, by studying the granular qualities of a medium, is arguably the equivalent of examining media as a particle. The media ecology perspective, which views media as environments, is more analogous to the study of media as a wave. Lance Strate (2017) argues the perspective of media as environments with another analogy:

It follows that in biology, a medium is an environment in which a culture lives, reproduces, grows, and perhaps evolves, and that understanding extends to media ecology, so that we view cultures as existing within media environments, rather than media as nothing more than products of culture. (p. 87)

Strate's analogy describes a different perspective than the one of this article, however. Focusing on the environment is one discipline in biology, whereas the taxonomic categorization of the organisms within the environment is another. The media taxonomy proposed in this article models its purpose on the latter. To revisit my own analogy: If light can at once be both a particle and a wave, then a medium can at once be an environment for culture and an object created by culture.

The value of this taxonomy is supported by the Dreyfus model of human learning (Dreyfus & Dreyfus, 2000), which divides learning and understanding into five stages: novice, advanced beginner, competent performer, proficient performer, and expert (pp. 19–35). Whereas the expert, through experience and practice, demonstrates an intuitive understanding of tools and techniques that can be molded and recombined spontaneously to achieve a goal, the novice must start with clear and precise rules for action. A comparison might be made with the process of learning to peck “Chopsticks” on a piano keyboard for the first time, but with practice and experience, this might lead to the improvisational virtuosity of jazz pianist Keith Jarrett (to whom I listen as I write this). Some media producers do reach the expert level over time, as Jarrett has, intuitively combining and recombining the elements of media production with less attention on how the elements assemble. However, in an increasingly dilettante mediascape, media produced by experts is comparatively rare. For example, more than 542,000 hours of fan-created content for the entertainment franchise *Glee* dwarfs the 110 hours of professional broadcast media (M. Wolf, 2014, p. 33). As both producers and scholars have observed since the beginning of the digital age, the increased speed, scale, and democratization of production and publication are the most intriguing and disruptive developments in the history of media (Jenkins, 2003, 2006, 2016; Rose, 2011; Rosen, 2006; Rusbridger, 2018). It is for Dreyfus and Dreyfus's first three stages of human learning—novice through competent performer—that I propose a practical taxonomy of media that extends the work of Joshua Meyrowitz, Marie-

Laure Ryan, and Gunther Kress. Bright lines between all the definitions and functions contained in the word *media* will serve to better illuminate complex storytelling structures. As Ryan (2014) notes on the value of categorizing media, "It is better to work with a large collection of sharp tools that fulfill precise tasks than with a single blunt one, even if everyone cannot share the tools" (p. 27).

Categorizations of Media

Although a rich body of scholarship examines the influence of media on those who engage with a message and on the wider culture, relatively few attempts have been made to categorize how a medium is assembled or how its constituent parts may be classified. Marshall McLuhan (1962, 1995, 2011) extensively explored the bidirectional influence of media and culture, particularly through the concept of media as extensions of human senses. His work at categorizing media as objects is modest, however. Media, he noted, is either hot and high definition or cool and low definition—ideas that express the level of interaction they require from those who engage with them. "A hot medium is one that extends one single sense in 'high definition,'" he wrote. "High definition is the state of being well filled with data. A photograph is, visually, 'high definition.' A cartoon is 'low definition,' simply because very little visual information is provided" (McLuhan, 2011, p. 39). Rich in detail, a photograph leaves less for the imagination to fill than does a cartoon. We participate more in the decoding of a cartoon by engaging imagination, memory, and experience to understand its simplified images, whereas a photograph often fills in the finest details. Hotter yet is cinema, with its immersive, high-definition screens, rich soundscapes, and explicit narratives. More than a half century ago, McLuhan's ideas helped us understand how rapidly the mediascape was beginning to change and what the influences on people and on social interactions would be. His observations inform our understanding of the current mediascape, the response to which necessitates a better categorization of elements that are critical to the design of media.

Joshua Meyrowitz (1993, pp. 56–63) steps much closer to the goal of a clear, bright-lined distinction between the ideas contained in the word *media* by differentiating metaphors of media as conduits, languages, and environments. We easily understand media as a conduit for its capacity to deliver content. It can be the pipe that carries information to the public. Because of its differing affordances, media also can be language, using varying intellectual or sensory means to communicate. As an environment, a medium may encourage different consumptive behaviors. Here Meyrowitz echoes McLuhan's expression of media as hot and cool, using the telephone as an example of a media environment that encourages a relatively informal and bidirectional exchange of information. Meyrowitz did not define a particular taxonomy of media in his work; rather, he explores the three metaphors above as alternative understandings of media.

Marie-Laure Ryan (2004, pp. 15–20; 2006, pp. 16–25; 2014, pp. 25–49) works toward defining media from the perspective of narratology rather than media ecology—a purpose much closer to mine. In her continuing work to define a "media-conscious narratology," she classifies categories of media into a "folk taxonomy" (Ryan, 2014, pp. 29–30) resting on three approaches: semiotic, technical, and cultural. Ryan describes the semiotic approach as engaging categories of signs that include language, image, music, and motion. Each category supports different cognitive interactions: Language generally communicates abstractly and intellectually, and image, music, and motion more often communicate spatially and emotionally. In the technical approach, she explores how media technologies "configure the relationship

between sender and receiver," how media affect cognition, and how the affordances of a technology support storytelling. "Not all media involve technologies," she argues, "but all of them have a technical dimension since they cannot exist without material support" (p. 29). Ryan's cultural approach explores how media are influencers of and influenced by societal evolutions, concerns, and actions. Though it is a mix of the semiotic and technological, the press is considered a category of media in its own right. Ryan's work builds significantly on that of Walter Ong (1982), Joshua Meyrowitz (1993), and Werner Wolf (2002) and is valuable to the categorization proposed in this article. However, her three parallel approaches to media are designed as lenses of analysis rather than structures for practice, and her division of media into the "semiotic substance" of language, image, music, and movement neglects the object and interaction and dismisses the potential of odor and flavor as media.

Though these scholars address the affordances of nonverbal media, Gunther Kress (2010) argues that nonverbal media are rooted in a linguistic conception of communication. We interpret these nonverbal modes through the same frame we interpret the verbal. Communication, he argues, is never so simple. It is always multimodal:

Instances of commonly used modes are speech; still image; moving image; writing; gesture; music; 3D models; action; colour. Each offers specific potentials and is therefore in principle particularly suited for specific representational/communicational tasks. However, in communication several modes are always used together, in modal ensembles, designed so that each mode has a specific task and function. Such ensembles are based on designs, that is, on selections and arrangements of resources for making a specific message about a particular issue for a particular audience (p. 28).

Kress also differentiates between technologies of dissemination—radio, newspaper, television, and so on—and technologies of representation—such as writing, speech, and image. The latter reflect his description of common modes of communication described above. He builds on prior analyses to address the practice of media design, discussing the distinct roles of rhetor and designer in message construction (p. 43). However, his detailed analysis often conflates the definitions and roles of content, media form, and media channel in pursuit of the much broader idea of mode. Before I describe the interplay of ideas of content, media form, and media channel in the design of a story, a few critical definitions of media should be discussed.

Taxonomic Ranks

In building a taxonomy it is pertinent to start at the top: the domain rank with all the definitions of *media* used in English and most Latin-root languages. Many other languages may not suffer from the same conflation of ideas found in English. Definitions of media are many: the media of cultivation in microbiology or agriculture, the media of communication under discussion here as well as other definitions that include an ancient Persian empire, a vocal stop in music, arterial wall structures in mammalian anatomy, and wing structures in entomology. The media of cultivation and communication share a vehicular purpose, whereas the other definitions are derived from the concept of a position in the middle. At the second rank—kingdom in a traditional taxonomy—media might arguably be divided into categories of cultivation, communication, and etymologically divergent definitions for those with disparate origins.

A Media Taxonomy

The classic biological taxonomy is a hierarchical structure composed of nested categories that sit within one another like Russian matryoshka dolls. The media taxonomy shown in Figure 1 presents a similar hierarchy, though the definitions are somewhat quicksilver in nature. The top-to-bottom flow may be a common order of operations for a message designer: one who takes a message defined by a rhetor and designs what media will best communicate and convey that message. Figure 1 visualizes one of six possible orders of three groupings of ideas: content, media form, and media channel. The series of media design decisions among these three groupings may be linear, moving in either direction. Or they may form a convection pattern in which the flow reverses at the bottom of the media channel group shown to be reinfluenced by content and media form before the story is finally published. For example, after determining which media channel would best reach a tightly targeted public, a creator may need to reevaluate content and media form. Because of space constraints, the figure shows neither every possible arrangement of media nor every possible subcategory. It is designed to provide an example that allows extrapolation to other circumstances. The chart is not exclusive.

The many ranks in the chart are broken into three principle groups: content, media form, and media channel, as labeled on the right side of the chart. Though Meyrowitz used a triad structure of environments, languages, and conduits, and Ryan defined semiotic, technical, and cultural approaches, their triads are understood as parallel ideas of media rather than hierarchies. This fluidity is valuable in analysis but less so in production. Rather than approaches or understandings of media, each of the three groups in Figure 1 is necessary in the design of a message. All three must be engaged in a story design, though the order of the groups is not fixed. A designer may prioritize one group over another in making decisions that best serve the needs of a particular story.

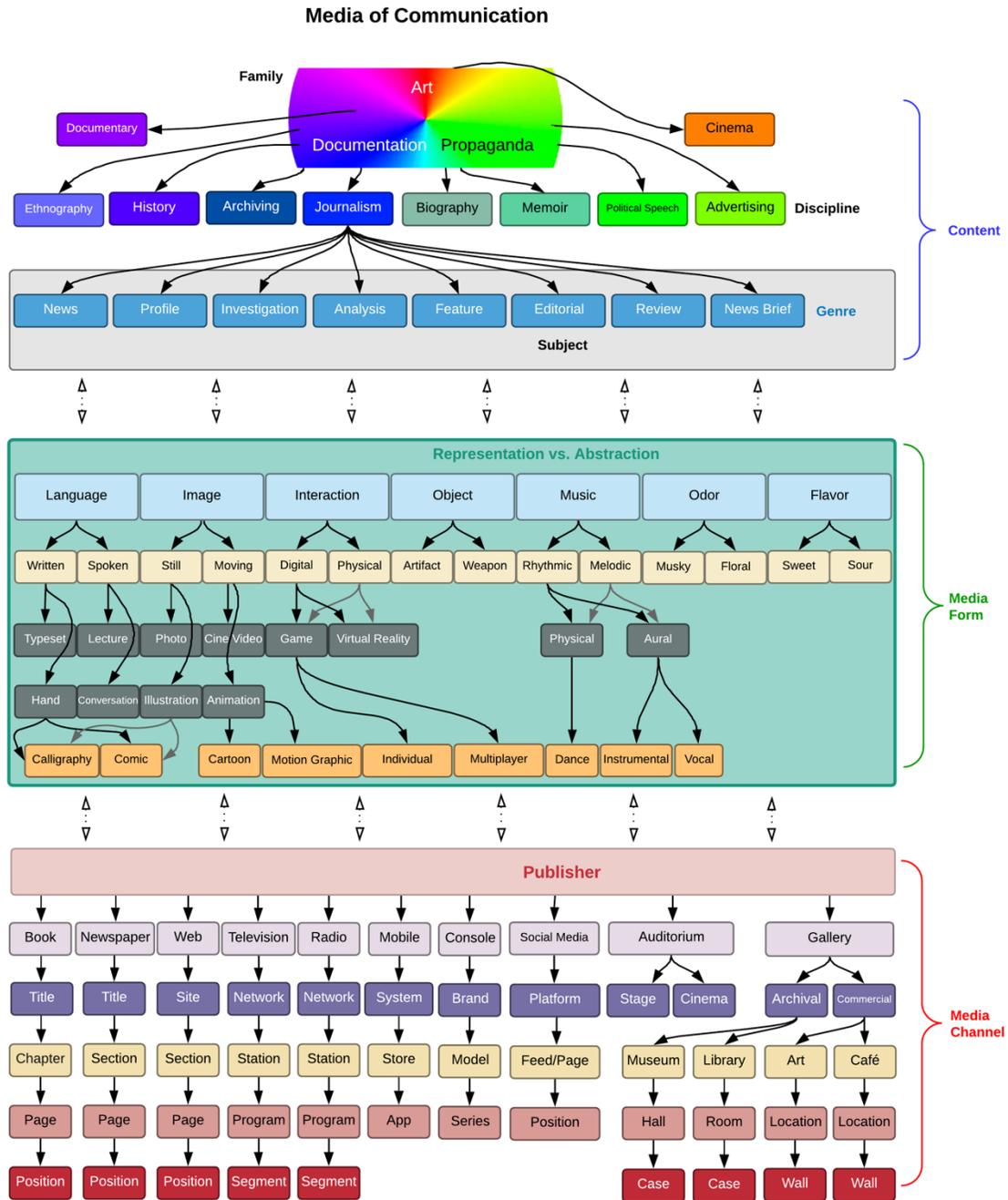


Figure 1. The proposed taxonomy of the media of communication in one of six possible orders of content, media form, and media channel.

Two examples of a simple media design are illustrated in Figure 2. Though media design is a highly complex task, these simple structures serve to illustrate the relationship among all the elements in the taxonomy. The left half of Figure 2 illustrates a decision flow for a history story that may be told through a museum-displayed artifact—perhaps an article of clothing from a notable historical figure. This item is a relic, an heirloom object belonging to a subject in the story. However, an artifact in this sense could be myriad other physical objects that demonstrate or objectify a story. Because a displayed artifact is rarely without an interpretive text, language as typeset text also appears under media form. Artifact as a media form is uniquely capable of adding context and physical presence to an otherwise distant story and adding physical immediacy to a subject. To best engage those affordances, the media form chosen is the artifact itself, present and on secure display. Decisions about where it could be displayed come last: content > media form > media channel.

The right half of Figure 2 illustrates a single news photograph distributed through the Instagram social media channel with an accompanying caption. In many stories within a transmedia project, it may be desirable to target a particular public that could best use the information reported in that story. Here the set of decisions about which media channel would best reach that public immediately follows the choice of subject. The media channel chosen likely determines the media form: content > media channel > media form. Equally possible are patterns where the media channel or media form desired may determine the content. There are six possible permutations of the three groups, each of which is discussed in detail next. The order of decisions (or operations) within each group will probably remain fixed even when the order of the groups is shuffled.

Content

Though communicative media can be understood as blind carriers of content that decisively shape the message (McLuhan, 2011), content must be considered in its design and delivery. This task, Kress (2010, p. 43) points out, is the work of the rhetor—the arguer, the teller of the tale.

Figure 1 displays different families of media spread across a three-poled spectrum in which these families (or industries) blend from one to the next. Among the poles of art, documentation, and propaganda, one might derive varying disciplines of media production. For example, the discipline of archiving (rigorously clinical in nature) may directly derive from the documentary pole of the media family. Related disciplines such as journalism might land exactly at that pole in the hands of one journalist but drift toward the art or propaganda poles in the hands of another. Likewise, cinema directed by Steven Spielberg (1977, 1994) might be close to the art pole, as in *Close Encounters of the Third Kind*, but somewhere between the art and documentation poles in *Schindler's List*. Though technological limitations once siloed these families (or industries), many point out that the digital revolution has accelerated the blurring of these and other definitions (Bolter & Grusin, 2000; Jenkins, 2006; Rose, 2011; Russell, Ito, Richmond, & Tuters, 2008). It is below the content grouping, however, where bright-lined distinctions facilitate the effective design and delivery of media.

To illustrate the flow of decisions in the creation of any published story, Figure 1 displays the discipline of journalism as divided into various journalistic genres common in the industry. Decisions of

subject and genre are not sequential when designing a story and are, therefore, overlaid in the figure. In many cases, the kind of story being told will determine the appropriate genre; in other cases, the need to fill a genre will send a storyteller in search of a suitable subject. This is one pair of ranks where the motion through the flow may be more of a convection pattern than a linear one. Other disciplines derived from the spectrum of media families would split into a similar array of genres. The Spielberg examples illustrate two genres: science fiction and historical drama. Each has a specific subject from among the possibilities within that genre. In the case of *Schindler's List*, it was the subject that determined the genre used (McBride, 2011, p. 427).

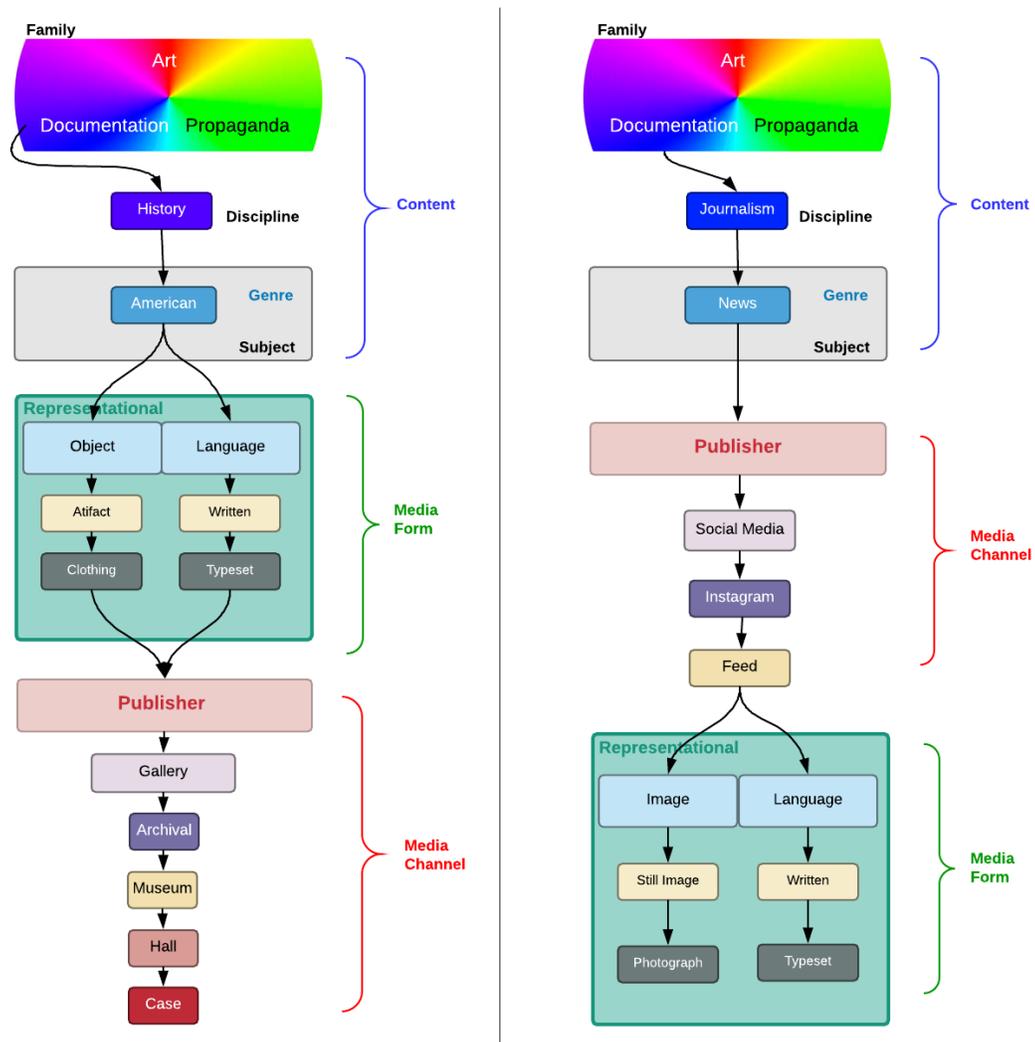


Figure 2. Media form before media channel decision flow for a museum-displayed artifact (left). Media channel before media form decision flow for an Instagram photograph (right).

Media Form

The next grouping of ranks, isolated in Figure 3, illustrates the cascade of process decisions regarding the media form a story may take. Meyrowitz describes these as languages, Ryan describes them across both semiotic and technical approaches, and Kress describes them more broadly as modes. Media forms include text, audio, motion picture, photograph, illustration, artifact, lecture, music, dance, performance, game, and more. They are location-independent. For example, the media form of text can be found not only in print or on the Web, in video and games, but also in sidewalk chalk and skywriting. Media form not only shapes how a message is conveyed but also orders the way we understand it through the affordances that these media forms exploit. Text appeals to the intellect, for example, while images and musical forms appeal more to emotion and vicarious experience (Barthes, 1978, 1981; Ritchin, 2013; Sontag, 1978).

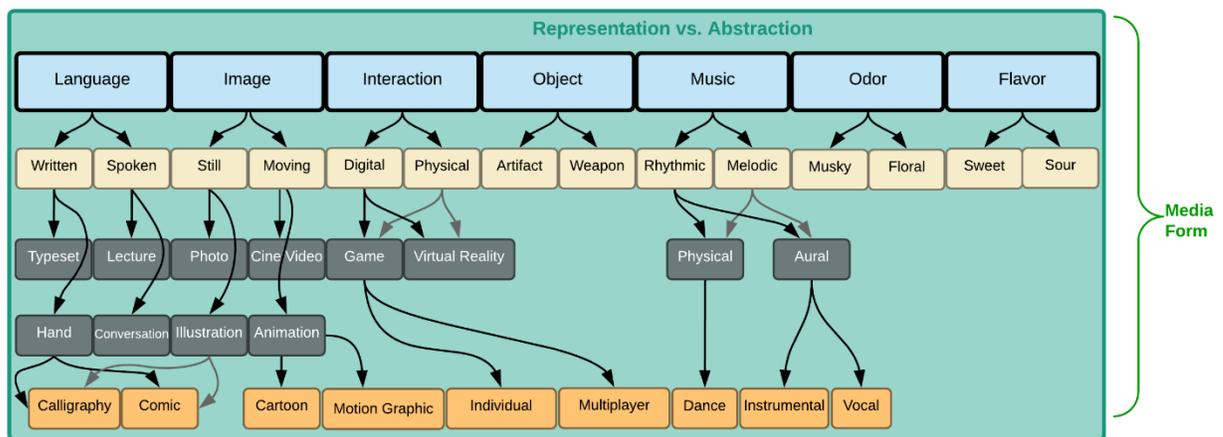


Figure 3. An example of the structure of media form.

Pairing information or a story with the best media form can be critical to how well that message is received. From here we move from the work of rhetoric to that of design. Design is a “prospective act,” Kress argues (2010, p. 43). It looks forward to how a message might be structured, what modes it may employ, and what aspects of the message’s reception and interpretation might be predicted.

The green box underlying all the ranks of media form is the idea of representation and abstraction. Virtually all media forms may have representational as well as abstract qualities, regardless of their rank in the cascading order of granular distinction. Though these qualities present important storytelling decisions, there is no particular place in the order that they would apply.

The upper rank in the illustration is divided into seven broad forms media might take: language, image, interaction, object, music, odor, and flavor. Three of these—language, image, and music—are among those described by Ryan (2006, 2014) and Werner Wolf (2002). Kress (2010) describes far more in his discussion of the “modes” of communication: “speech; still image; moving image; writing; gesture; music;

3D models; action; colour” (p. 28). However, he conflates ideas: still images and moving images should be considered subcategories of image, and the idea of 3-D models is too specific for the broad category he discusses. Though Ryan (2014, p. 29) also lists movement among the semiotic substance of media, her description of it is sparse and indeterminate. Movement as a symbol, I argue, may be musical in the case of dance, linguistic in the case of sign language, or an object in the case of a defensive gesture. It may be better to consider movement a subcategory of rather than equal to language, image, interaction, object, and music.

If we consider the media form used in telling a story separately from the story itself, we may find a limited set of affordances that each media form engages. Language is uttered sounds or written symbols; image is lines and hues in space; an object is shape, texture, and mass; and music is a series of tones in a particular order. However, a message or a story is what makes these sensory experiences meaningful, and thus is what makes them media. Their affordances must be taken in concert with the message they communicate.

Language is received through the senses of vision, hearing, and touch, and it performs functions very distinct from the others at this rank. It might engage the intellect and express thought, where the other forms of media more directly express emotion. Language is unique, as Ryan (2006) points out, in its ability to “represent the difference between actuality and virtuality or counterfactualty” (p. 19), whereas the other umbrella media forms would have great difficulty stating a negative. They cannot easily demonstrate the absence of something. In language, emotion, beauty, and the flow of time are implied. They are constructed from reassembled context and the reader’s experiences rather than demonstrated explicitly.

Image includes any graphic nonverbal symbols engaged by vision alone—drawings, icons, photographs, motion pictures, paintings, and so on. With the message between humans assumed, an image explicitly shows objects and the relationships among them. From that simple point we understand a story or an argument by implication, prior experience, and emotional sensitivity. We decode emotion on the faces of people represented in the image in one case, or the story we perceive within the image may evoke an internal emotional response in another case. A complex story will communicate emotion both explicitly and implicitly.

Interaction engages the nontraditional senses of agency and proprioception, from highly interactive games and virtual reality to designed experiences to much older forms of communication such as conversation. With agency (Bandura, 2006, 2018; Murray, 1997, pp. 126–153), we sense our influence in the real or virtual world, changing outcomes with our actions. With proprioception (Sacks, 1985, pp. 42–52; Sherrington, 1953, pp. 248–261), we understand our movements as integral: We own our bodies and seamlessly inhabit them. Proprioception is possible to mimic in virtual environments, as demonstrated by the work of immersive journalism pioneer Nonny de la Peña (de la Peña et al., 2010) and others. De la Peña’s group at the University of Southern California developed a virtual reality experience in which participants would see their avatar as a reflection in a mirror. Though their physical bodies were seated in a normal position, their virtual bodies were put in interrogation stress positions. By seeing through their virtual bodies as they turned virtual heads, participants reported feeling the physical discomfort of the stress position. Proprioception appeared to be transferred to the digital avatar.

Object is understood here to be the media of touch. We physically interact with these media by feel or force. We receive an implicit message by savoring the texture of an object. We pick up or sit on these media. Some objects are designed as media from the start, such as a sculpture or a 3-D model intended for physical exploration. We also use tools—either our own bodies or an object held—to send a message. Though objects may be seen, visual interaction with objects is not a requirement. They may convey their message without being caught in our glance. A gesture or a weapon certainly sends an arguably explicit communicative message by either vision or touch. I include here nonverbal and nonmusical sound as an object. Anne Fernald, the director of the Center for Infant Studies at Stanford University, explains, “Sound is touch at a distance” (Abumrad & Krulwich, 2007). When we hear an explosion, a crunch, a crash, or a nonverbal emotional utterance, we construct an emotional message from the impact of sound waves on our bodies.

Music can be aural, as in the case of a symphony or a rhyme, or visual, as in a dance or a rhythmic gesture. The former shares characteristics with language, and the latter with image and object. Nonverbal, or instrumental, music alone communicates purely by implication. We construct a sense of drama or story from the emotional power of the musical structure, but unless it is combined with language or image, it has difficulty being explicit.

Odor and flavor, when standing alone, also communicate purely by implication. These two forms of media have only begun to be explored by media designers. From Smell-O-Vision, a 1960 attempt to bring odor to the movie theater as a storytelling device and marketing gimmick (Olofsson et al., 2017), to the current 4-D film installations in amusement parks that bring physical and olfactory stimuli to the auditorium (Oh, Lee, & Lee, 2011), film producers in particular have sought this level of immersion most. Psychologists observe that smell (also a principle element in taste) is highly effective at triggering memory, and it is distinct from other memory triggers such as language (Bergland, 2018; Willander & Larsson, 2006). The smell of baking bread can certainly send us traveling through time and space in storytelling ways, even if those implicit and abstract stories may be different for each recipient. The National Geographic Society embraced flavor as media in its 2014 Future of Food transmedia project through culinary experiences designed for participants to discover stories of the culture, production, and sustainability of food (Moloney, 2015). A chef would consider image, object, odor, and flavor as the media of the culinary stories she or he implies to patrons.

This perspective extends prior taxonomic categorizations of media. Ryan (2006) once argued, “It is only our habit of not ranking cuisine and perfume among media—probably because they do not transmit the proper kind of information—that prevents this list from including olfactory and gustatory categories” (p. 18). Kress (2010) echoes this notion, arguing, “As their primary function is not that of representation and communication, there is a question whether they should be considered as modes—even though we know that they can be used to make meaning and to communicate” (p. 79). Though odor and flavor as media are challenging for their level of subjective abstraction, their as-yet-unimagined possibilities in storytelling necessitate their inclusion in this taxonomy. Though other discussions of odor and flavor as media use terms such as *smell* and *taste*, I chose the former because they are clearly the objects of their associated senses, as are language, image, interaction, object, and music. Smell and taste are easily conflated with the sense. These root categories of media form are arranged in the figures from more explicit in their storytelling on the left (language) to more implicit on the right (flavor).

With media form, the metaphor of light as both a particle and a wave is very applicable, because a painting or a photograph may also be an object. In a dark and destructive moment, a person could, while no one is looking, reach up and glide a finger across the texture of a painting or crumble the weathered and yellowed emulsion of an antique photograph. Though it may be physically possible to touch an architectural model or to walk around it, we engage with it as an image not to be touched. In such cases and others, one may choose first to interact with an image and then as an object or vice versa. Graffiti is often both language and image by the design of the author, and font designers would argue that they communicate on the image level while conveying language. Poetry may create music or an object of language, and, as Walter Ong (1982) observes, language can be an object used as a spell or a weapon.

Nested Media Forms

Excitement persists around the nested media forms of a multimedia age. Since the appearance of the Mosaic browser in the early 1990s, the Web has demonstrated the nesting of media forms. Almost any document accessed on the Internet is an assemblage of language, image, music, and (arguably) object media forms, making them vibrant experiences. Nested, bundled, or rich media forms have existed since before illuminated texts deepened language’s relationship with image.

The recent fascination with rich digital multimedia presentation is simply an echo of what cinema brought at the end of the 19th century. A motion picture, as seen in Figure 4, is constructed not only of image but also of language and music. A midnight showing of the cult film *The Rocky Horror Picture Show* would likely add interaction, object, and odor directly to the experience as part of the story being told (Austin, 1981).

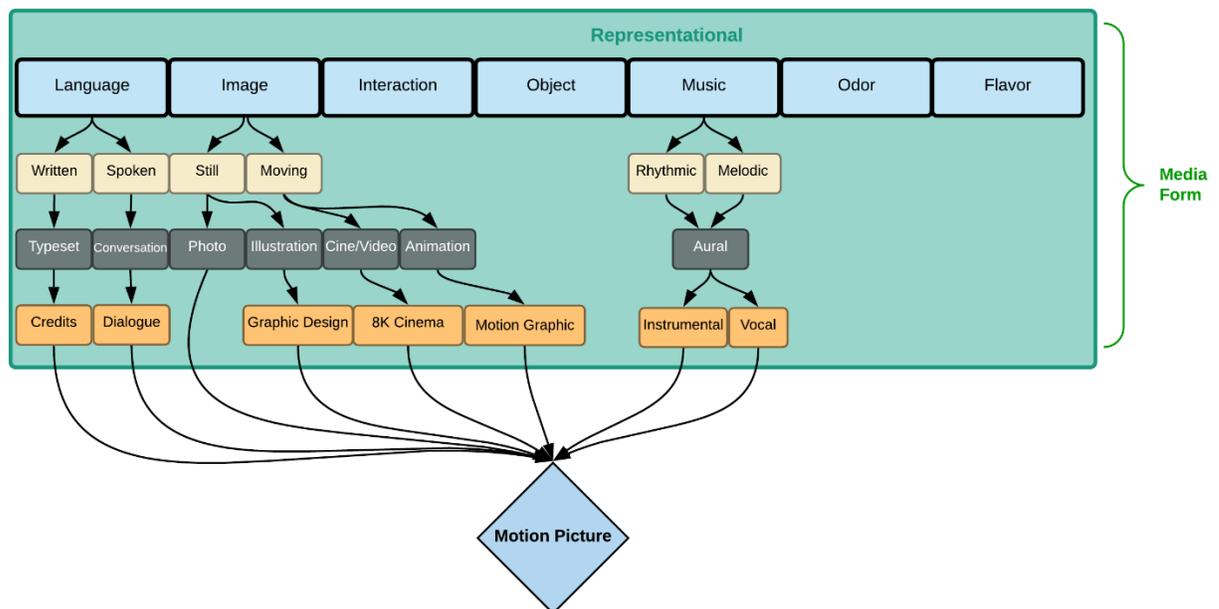


Figure 4. A motion picture as nested media forms.

A video game, likewise, is a rich media form, as seen in Figure 5. It is composed not only of interaction but also of language, image, music, and object through the haptic feedback available on many console controllers. For producers these are exciting changes. For the public they are only as monumental as one’s fascination with technology itself. Nonetheless, the design of 21st-century media benefits from the understanding that, when combined with or nested in another, a collection of media forms does become something new. These rich media forms combine the affordances of all the media forms that are assembled to create an experience that is more than the sum of its parts. They become their own media form, capable of distinct communication powers.

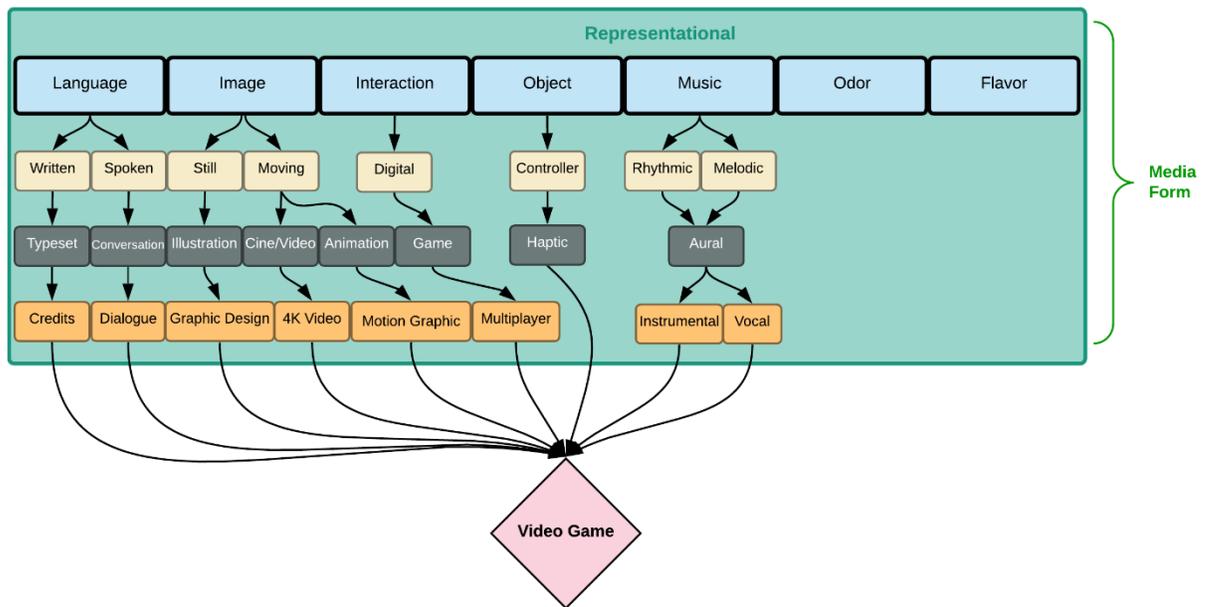


Figure 5. Video game as nested media forms.

Media Channel

The next grouping of ranks, isolated in Figure 6, moves from the designer’s decision of how to tell a story and asks to whom it should be told. This is described by Meyrowitz as a conduit, by Ryan as a technology, and by Kress as technologies of dissemination. Media channel can also be understood as the place or environment in which a story is told. However, place implies an expectation that the public must come to the teller to hear the story, and environment fails to clarify which decisions a designer must make when designing a message. *Media channel* is a carefully chosen term, despite criticism of transportation metaphors for media (Carey, 1992; McLuhan, 1995; Ong, 1982; Schwartz, 1974; Strate, 2017). As Strate argues, “A medium can be the link between two nodes in a network, but it can also be the network in its entirety” (p. 87). Regardless of scale, the differing characteristics of media are always a factor in communication. With the term *media channel*, I describe the isolatable characteristic of connecting senders and receivers. This is a connection point with an audience, and with the ubiquity of media channels available

in the digital age, a publisher will want to take the message to the public rather than depending on the public to come to the message.

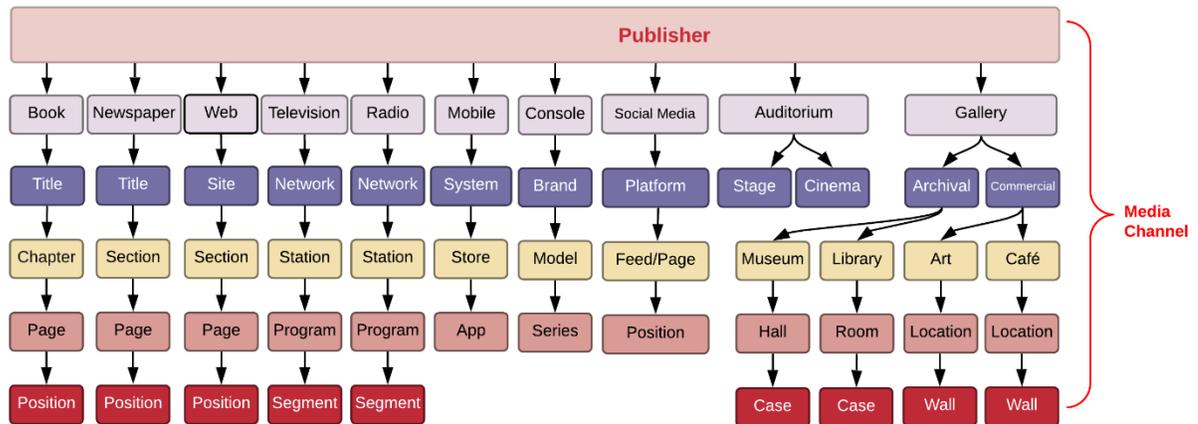


Figure 6. An example of the structure of media channel.

Each media channel reaches a distinct public. Examples include newspapers, magazines, books, television, radio, gallery walls, auditoriums, museum galleries, websites, and mobile devices. *Channel* can suffer from conflation when the same word is used to describe a particular television data stream. McLuhan (2011, p. 19) famously argued that all of these media channels influence the message, so *conduit* is an inadequate descriptor because it implies an unfiltered and nonpolluting pipe. *Platform*, a commonly used term in many media industries for this function, implies an elevated and purified pedestal for the information. *Venue* is also an inadequate term because it implies a place to which one travels. The word *channel* evokes a meandering ditch or riverbed that may add stuff to the fluid it carries. Many media channels are adept at carrying a message to someone in particular, where he or she already is.

The highest rank shown in Figure 6 is publisher, because these individuals, corporate entities, or government agencies likely have various narrower media channel categories at their disposal. The Gannett Company, for example, owns not only newspapers but television, radio, billboards, and Web publications. The National Geographic Society owns multiple magazines, television channels, mobile apps, a museum, a book division, radio programs, a feature film production company, lecture series, guided travel, and online blogs. Each publisher may reach a particular set of wide demographics or engage in one side of a national or international debate. It might focus on particular varieties of messages or prefer a specific subset of media forms. This is where the cascade of decisions begins about where one wants to reach precise and ever more refined subsets of the larger public.

Once a publisher is chosen and accessed (in the case of advertising or entertainment, it may be contracted; in the case of journalism or activism, it may be courted), the designer and publishing collaborators

must decide which category of media channel should be used—newspapers or magazines, radio and television, website or game console, auditorium or gallery, and others. These broad categories break the public at large into a complex Venn diagram of groups—TV viewers may be demographically different from news radio listeners, printed newspaper readers, or lecture attendees. Social media brands attract differing publics. Gamers vary depending on console, mobile operating system, or social environment.

Each of these groups may subdivide further, into online or off-line categories, between broadcast networks or cover titles. For a gallery presentation, a choice would be made between archival galleries such as libraries or museums and commercial galleries such as collectible art showrooms or cafés. With each rank, as seen in Figure 7, the potential public reached narrows to ever more specific groups. Among all TV viewers, for example, those of the Fox News channel differ substantially from viewers of CNN or MSNBC (Bachmann, Kaufhold, Lewis, & Gil de Zúñiga, 2010; Keeter, 2012; Mitchell, 2014; Mitchell, Gottfried, Kiley, & Matsa, 2014).

Decisions about what newspaper or magazine section, which station or program, which wall or case narrow the interactions to increasingly smaller groups of people. Interest in foreign political developments draws readers to the news sections of *The New York Times*, while others may gravitate toward features. Different programs on the same broadcast network attract different members of the public, and even certain segments of a show; standing features in print, sections of a site, or an app will draw a progressively more particular audience. The power of this granular differentiation of media channels and the segmented publics they reach provides a new understanding of the myth of the mass audience. It leaves behind the diluting effects of broadcasting (Glick & Levy, 1962) and embraces the targeted functions of narrowcasting. With narrowcasting, publishers aim to directly serve defined subsets of the public, making for themselves, as Eastman, Head, and Klein (1989, p. 283) argued, a viable economic model in a crowded mediascape.

Media Forms and Media Channels in Combination

Media channel and media form are critical to the definition and differentiation of three arrangements of media in contemporary production: multimedia, crossmedia, and transmedia storytelling. Kress (2010) argues that all media production is multimodal and such differentiations are meaningless. He notes, “As far as I can see the metaphor of multimedia has much the same relation to the present communicational landscape as the metaphor of horseless carriage has to the age of the car” (p. 30). Despite Kress’s objections to the relevance of these terms, they are commonly used by both practitioners and analysts to describe the structure of complex contemporary communication. This taxonomy enables clear differentiation among multimedia, crossmedia, and transmedia storytelling.

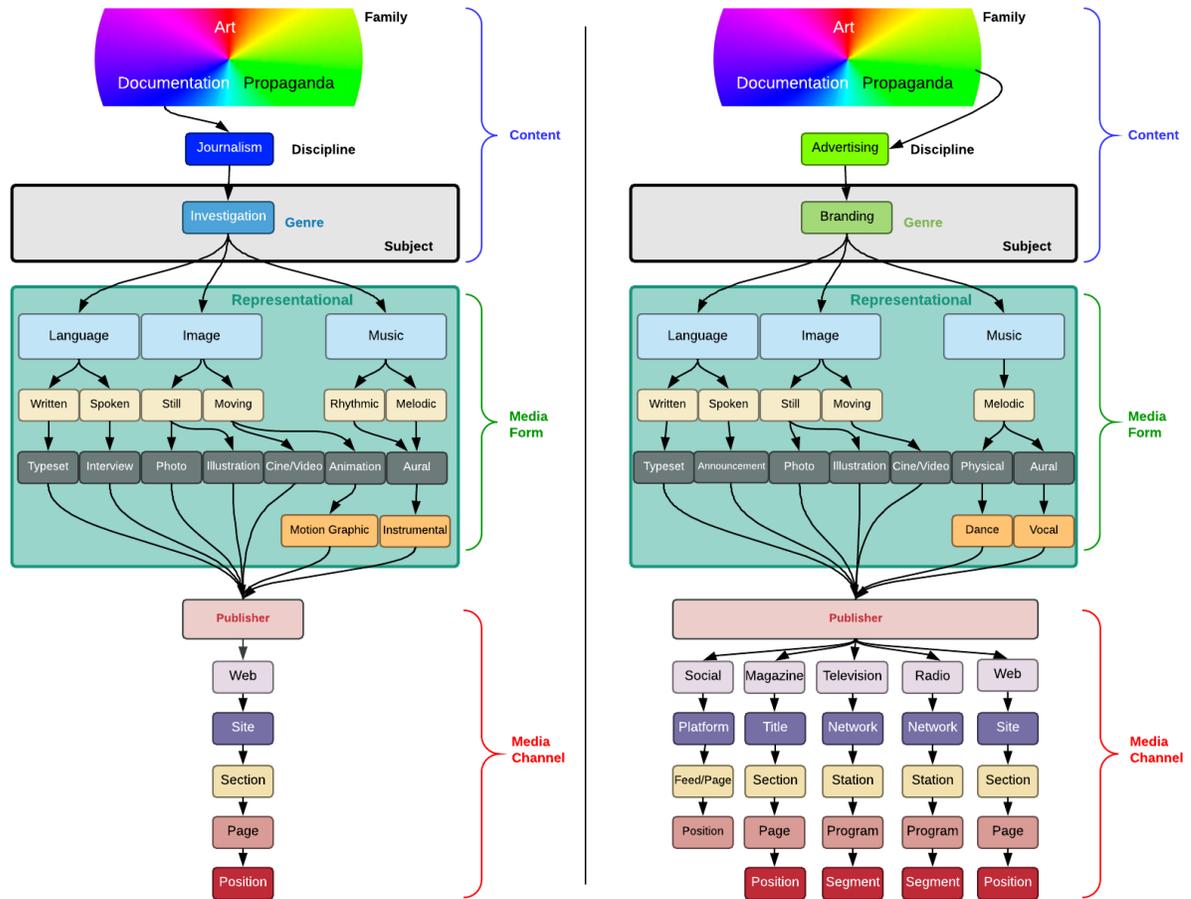


Figure 7. Examples of the structure of a multimedia story (left) and a crossmedia story (right).

Multimedia: One Story, Many Media Forms, One Media Channel

Multimedia is a catchall term often applied capriciously to anything new. Personal computers, CD-ROMs, and websites have been described with this term since the 1980s. But a lack of clarity on what this term means creates confusion with the subject under discussion in this article. With multimedia, many media forms are used—from text to audio, motion pictures, photographs, or graphic data visualizations, among others. Those media forms combine to tell a story more comprehensively, as Richard Wagner aspired with the *Gesamtkunstwerk*, or “total artwork” of his Ring Cycle (Packer & Jordan, 2001). These stories are then told on a single media channel. Contemporary journalism puts multimedia to work on news websites and in highly designed projects such as “Snowfall: The Avalanche at Tunnel Creek” by *The New York Times* (Branch, 2012), a massive project combining text and pictures with motion graphics, video, and maps. “Snowfall”

set new standards for multimedia production that persist today. The left half of Figure 7 illustrates a Web-based multimedia story similar to "Snowfall."

Crossmedia: One Story, Many Media Channels

Crossmedia is a term that most likely originates in the advertising industry, and it means to tell a story in many different media channels. Coke added "life" to the 1970s on TV, in print, and on radio. Journalism provides very old examples of this in the venerable wire services. Agencies such as The Associated Press and Reuters distribute a story through newspapers, magazines, radio, and TV around the world. But it is the same story, the same set of facts in largely the same arrangement. The distribution may include text, pictures, and video, but all forms tell the same story in the same way. Where multimedia makes use of the different affordances of media form, crossmedia makes use of the different affordances of media channel. Where the use of media form in multimedia appeals to the different learning styles or modes of understanding, media channel is used in crossmedia to reach a broader audience. The right half of Figure 7 illustrates the multichannel delivery of a contemporary advertising campaign.

Transmedia: Many Stories, Many Media Forms, Many Media Channels

Transmedia storytelling, as defined by Henry Jenkins (2003, 2006), implements the many media forms of multimedia and delivers them on the many media channels of crossmedia. In addition, it tells many stories rather than one and does so expansively rather than redundantly. Entertainment media companies design a franchise to be delivered across multiple media forms and media channels in ways that inspire viewers to actively engage in the story. Those viewers sleuth out answers to clues and questions, play related games, and create their own media that enriches the experience. As Jenkins (2006) explains in his book *Convergence Culture*:

A transmedia story unfolds across multiple media platforms, with each new text making a distinctive and valuable contribution to the whole. In the ideal form of transmedia storytelling, each medium does what it does best—so that a story might be introduced in a film, expanded through television, novels, and comics; its world might be explored through game play or experienced as an amusement park attraction. Each franchise entry needs to be self-contained so you don't need to have seen the film to enjoy the game, and vice versa. (pp. 95–96)

Since offering this entertainment-focused definition, others have expanded our understanding of it to education (Raybourn, 2014; Scolari, Masanet, Guerrero-Pico, & Establés, 2018), journalism and documentary production (Gambarato & Alzamora, 2018; Moloney, 2015), and activism (Jenkins, 2016; Russell, 2016).

Figure 8 illustrates a modest transmedia documentary project that includes four stories presented as an interactive Web documentary, a coffee table photo book, a mobile game, and historical artifacts on display in a museum. Each primary media channel is supported through secondary publication on different social media channels. Designing this most complex of contemporary storytelling structures requires a

detailed understanding of the fundamentally different roles that media form and media channel play in delivering specific content to specific publics and encouraging exploration from one node in this dispersed story network to another.

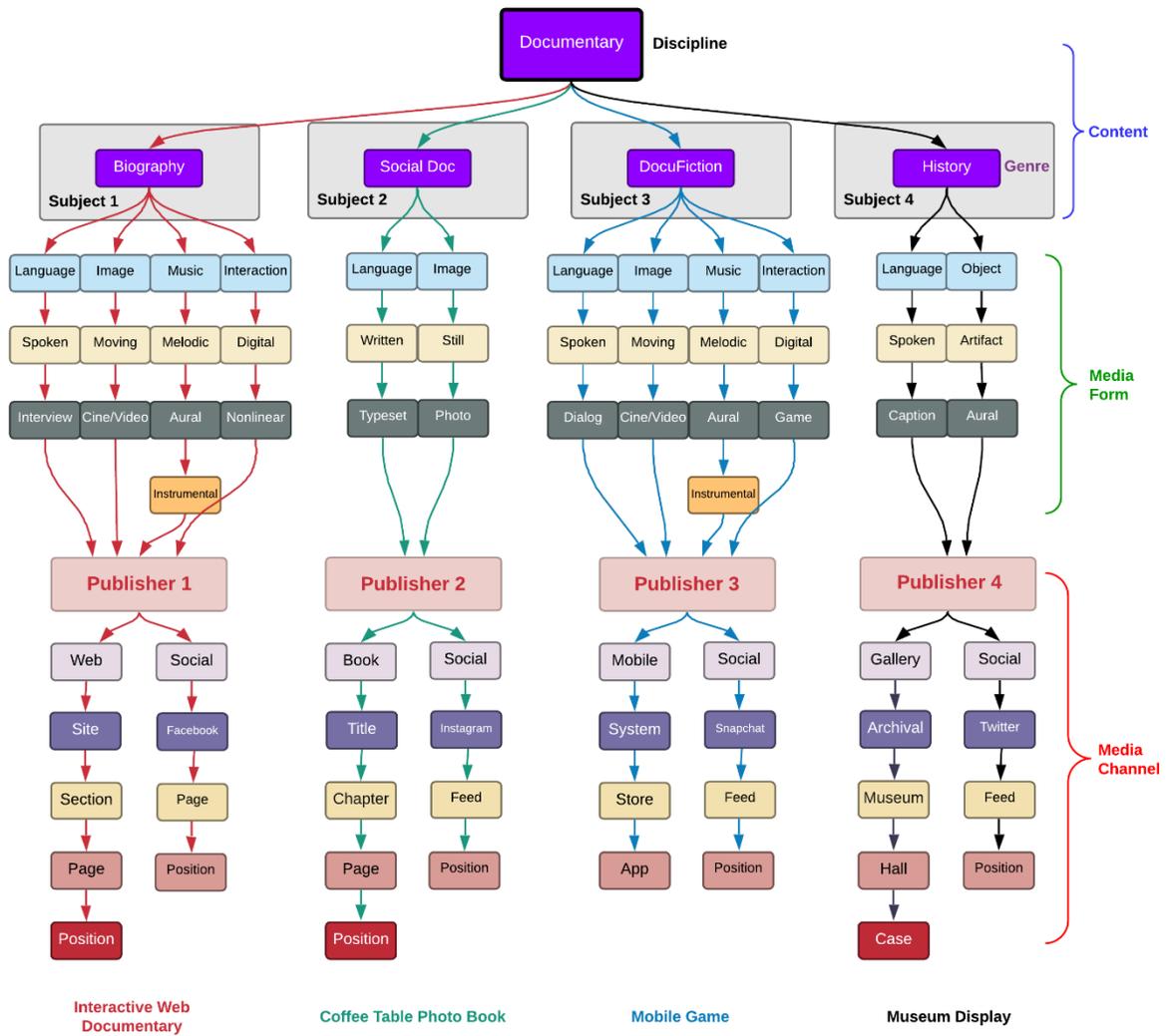


Figure 8. An example of the structure of a modest transmedia project.

Conclusion

Keith Jarrett once practiced scales. “My grandmother was a help: She set a timer for when I could stop playing. But sometimes I would cheat when she wasn’t looking, and move the knob on the timer so I could quit sooner,” he said in an interview (Iverson, 2016, para. 74). The virtuoso jazz and classical pianist began like most: pecking notes on the keyboard long before learning how to intuitively combine the distinct tones into something greater. Accomplished writers, filmmakers, photographers—artists of all kinds—begin with tools and techniques defined by bright lines. However, from Marshall McLuhan’s *Gutenberg Galaxy* (1962) to Marie-Laure Ryan’s ever-refining media-conscious narratology, scholars have taken an ecosystem-level view of media, rarely venturing close enough to catalog the species that make it up. Their view is the intuitive one, seeking to understand the elusive, or the something greater. However, few practitioners of complex storytelling, regardless of their previous experience creating or publishing single-channel forms of media, begin as novices in these comparatively new structures. Novices begin by following patterns, categorizations, and rules before their task becomes intuitive and fluid. For their sake, this taxonomy seeks to isolate the fundamentals for efficient learning. Analysis often needs a reverse approach. Though a critic may initially be interested in a transmedia story at an overview level, understanding how content, media form, and media channel are used in the creation and distribution of the story can be illuminating. By better understanding both the particle and the wave, we can cast light on the logic of effective stories.

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