

Searching for Aristotle in the Digital Age: Creating Cultural Narrative with 21st Century Media Technologies

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Abstract: This paper examines how 21st century media technologies are fundamentally changing the ways in which we create cultural story and context. It explores pre-digital methodologies and today's radical departure from Aristotle's classic narrative. In particular, it examines how the authorial role is changing, and how this affects the creation, consumption, and interpretation of our human story. It analyzes trends that are giving rise to a new user-centric, democratized cultural narrative, and includes a range of examples of participatory, collective, and mobile forms. This paper offers a framework for understanding today's user-centric narrative landscape and how it is altering our cultural context, interpretation and legacy.

Keywords: Storytelling, Culture, Arts, Technology, Mobile, Participatory, Collective, Aristotle, Museum, Exhibition, Heritage, Digital Media Technologies

Creating Stories, Creating Culture

In the first gallery of the traveling museum exhibition, *Roads of Arabia*,¹ three dramatically lit 6,000-year-old burial markers greet visitors. The expression on each face captures the personality of the person buried, one warrior-like, another simply worried. Throughout the day, visiting school children pause to talk to the ancient steles as though they are living entities, inventing modern stories to converse and connect with these ancient artifacts.

Just as children do, we as a society use stories to explore and solidify our understanding of our culture's past, present and future. Stories help us to make sense of our lives, to connect with each other, and to explain the mysteries of the world at large. We use storytelling "to understand ourselves, to think – emotionally, imaginatively, reflectively – about human behavior,"² explains Brian Boyd in his thoughtful book *On the Origin of Stories: Evolution, Cognition, and Fiction*. Storytelling is a "human universal."³ Since the beginning, through cave art, oral histories, visual imagery, and written text, humans have created and shared their stories. It is the essence of our cultural narrative and legacy.

This paper questions how 21st century media and web technologies are changing the form and function of our cultural narrative, particularly in terms of authorial role, diversification of author and audience, and the impact of instantaneous and global scale. The immediacy and scale of Digital Age story generation is unprecedented, as is the ability to create, share, collect, critique, manipulate, and curate the cultural story. From viral videos to crowd-sourced eyewitness accounts to geo-tagged tweets, there is a constant stream of stories that are individually and collectively forming the cultural context of our humanity today.

Advances in communication and Internet technology in the modern era are blurring the authorial role of, and relationship between, storyteller and audience. The rhetorical form of one local storyteller communicating to a single, captive audience is being replaced by multitudes of people sharing multi-media, multi-modal stories asynchronously, globally, and on demand. The sheer volume of cultural content is exponentially expanding. This represents an extraordinary temporal, spatial and quantitative shift. How do we define and interpret the new cultural narratives of the 21st century? Marshall McLuhan's proclamation fifty years ago, "the medium is the message" was prescient.⁴ But what happens when the medium is instant messaging?

Background: Aristotle and Classical Narrative Form

Before the age of digital-internet communication, there was a fairly uniform framework for engaging an audience. Cultural narratives typically had a linear chronology, archetypal characters, and plot lines that reflected local historical events, traditions, and values. The authorial role was the domain of a designated storyteller - the village elder, shaman, griot, sha'ir, or poet - who shaped, conveyed, and passed down a set of stories through generations. The act of storytelling was discrete, one communicator who engaged a single, captive audience. With some local variations, this was the norm for societies around the world for millennia.

Approximately 2300 years ago, in his treatise *Poetics*, the Greek philosopher Aristotle described the four fundamentals of narrative story as “plot is the basic principle, the heart and soul,” character second in importance, followed by persuasive thought, and verbal expression.⁵ He understood plot to be the imitation of unified actions and structured events, that are most effective “...when they come about contrary to one’s expectation yet logically, one following from the other...”⁶ Essentially, he defined “story” as a chronological or linear series of intentionally arranged scenes, actions and events, enhanced with a few unexpected twists and turns, that progressed to a decisive resolution. This formulaic narrative is one that could be easily understood and would lay the foundation for classic storytelling.

Aristotle also emphasized the importance of considering the veracity and authenticity of content. He wrote,

Since the poet is an imitator just like a painter or any other image-maker, he must necessarily imitate things one of three possible ways: (1) the way they were or are, (2) the way they are said or thought to be, or (3) the way they ought to be.⁷

He outlines the difference between fact and conjecture, yet concedes that truth might encompass stories such as those by Sophocles, who said “that he portrayed people the way they ought to be” and those of Euripides who told stories of people “as they are.”⁸ In other words, truth could imply what might have been in ideal circumstances but was still grounded in fact. Aristotle’s distinction between nonfiction and fiction has been a defining classification of story genres. Today’s technologies are greatly changing this narrative taxonomy in ways that I will specifically examine later in this paper.

Over the ensuing centuries, many scholars have expounded on Aristotle’s classical narrative form, including Joseph Campbell. In the 1940s, Campbell wrote of “... a magnification of the formula represented in the rites of passage: separation—initiation—return: which might be named the nuclear unit of the monomyth.”⁹ To put this in the context of storytelling, he described a classic Hero’s Journey:

A hero ventures forth from the world of common day into a region of supernatural wonder: fabulous forces are there encountered and a decisive victory is won: the hero comes back from this mysterious adventure with the power to bestow boons on his fellow man.¹⁰

This construct represents the penultimate story of the superhero and has been widely exploited in novels, movies, and other popular media, particular in Western civilizations.

Aristotle’s influence permeated academia as well, reinforcing the formal relationship of storyteller as expert and audience as passive spectators. Increasingly, however, the expertise of museums, curators, and scholars is being challenged as elitist. In 2008, The Center for the Future of Museums asserted, “For Americans under 30, there’s an emerging structural shift in which consumers increasingly drive narrative.”¹¹ They are rejecting the construct of an expert lecturing to a captive audience. In fact, today’s popularized appropriation of cultural narrative may well be a grass roots reaction to the ivory-towered cultural institutions of the twentieth century. The

rebellious toddler of twenty-first century cultural narrative is interactive, highly democratized, and participatory, claiming an authorial role vastly different from Aristotle's time.

The Explosive Rise of Democratized Storytelling

In the 1430s, a young man named Johannes Gutenberg invented moveable type, precipitating the western world's ability to tell stories to a wider audience. Within a few decades of Gutenberg's discovery, newly formed publishing houses across Europe were printing millions of books, resulting in the first widespread distribution of information in history. Less than a century later, nearly 200 million books were in circulation in Europe.¹² This technological innovation created a massive paradigm shift, altering who controlled the authorial voice and dramatically increasing the simultaneous sharing of cultural narrative over geographic expanses. It marked the beginning of a popular new form of individualized, self-directed, and secular story consumption.

The explosive expansion of today's story generation is on a much larger scale and has occurred in a very short period of time. The sheer quantity of multimedia content generated over the past five years is massive. A week's worth of the New York Times contains more information than a person was likely to come across in a lifetime in the 18th century.¹³ In 2013, the number of worldwide mobile-cellular subscriptions reached 6.8 billion and a global penetration of 96%.¹⁴ This number is expected to increase to 7.3 billion by 2014, more than the total world population.¹⁵ Approximately 40% of the world's population is using the Internet. Facebook has over 1.1 billion monthly active users, of which 751 million are accessing the social media network via mobile devices.¹⁶

Digital and Internet technologies are enabling a new world of democratized access and participation. In the United States, the use of Internet technologies is surprisingly evenly distributed across demographics in terms of gender, ethnicity, income, education, and geographic location (urban, suburban and rural). The one exception is age. For example, among the number of adults using the Internet, 92% of users under age 30 have used a video-sharing site, such as YouTube or Vimeo, whereas only 31% over age 65+ have done so.¹⁷

According to the Pew Foundation, the lead demographic of one of the fastest growing social media platforms in the U.S., Twitter, is young African Americans, a group that remains vastly underrepresented among cultural museum visitors.¹⁸ This is powerful evidence of how 21st century media technologies can enable opportunities for equal access participation in today's cultural narratives.

However, it is essential to acknowledge there are many who do not have such opportunities. Lack of economic resources, education, availability, and freedom of expression are preventing full participation, causing new demographics of omission and discrimination. We must examine how media technology is creating a new kind of elitism, and marginalizing those who do not have digital tools or Internet access. How do we ensure that all can engage in the expanding media landscape?¹⁹ The challenge of giving voice to those who are unheard continues.

Defining the New Cultural Narrative

Across media, storytelling is evolving from passive and observational to interactive and participatory: from Aristotle's imitative, localized model to a distributed, global model. It is morphing from mimes to memes.²⁰ This fundamental change in the form and function of today's contextual narrative is altering how we chronicle our culture. Traditional narrative is shaped and cemented in the telling and retelling. It is communicated, curated, and interpreted with an authoritative perspective. This reductive process simplifies and solidifies, creating vertical silos of institutionalized cultural memory.

<u>THEN</u>	<u>NOW</u>
Expert-centric	User-centric
Top-down	Distributed
Passive	Participatory
Observational	Interactive/Experiential
On-site	Off-site/Mobile
Local	Global
Individual	Social
Serious (Education)	Playful (edutainment)
Text	Visual
Linear	Non-chronological
Continuous	Fragmented
Real-time	Asynchronous

Today’s narratives ebb and flow in a sea of continual action and reaction. Frequently, there is no beginning, middle, and end. No plot. No heroic archetypal characters. No narrator. The public-at-large is contributor, critic, and curator. This expansive process creates a universe of amorphous and possibly ephemeral cultural memories. Tens of millions of people are participating in today’s cultural story, contributing fragments of contemporary humanity through YouTube, Twitter, Facebook, and other networked social media. Compared to traditional narrative, the new story modalities and contextual olio may seem random and anarchic. Narrative formulae are fluid and nebulous in this nascent stage. Theorists and practitioners alike are struggling to understand and define today’s constructs.

My research indicates the emergence of several key trends. First and foremost is the growth of user-centric technologies that are enabling highly individualized, self-directed forms of cultural narrative. These technologies are giving rise to several new genres of storytelling and fundamentally altering the form of our cultural narrative.

User-centric Narrative

One of the most sweeping changes is the shift from one-narrator, one-audience to a multi-authorial, nonhierarchical model. This change is particularly poignant in the context of museum exhibition design. Not so long ago, the museum debate focused on “expert-centric” versus “visitor-centric” curatorial approaches.²¹ But today, the emphasis is increasingly on a “user-centric” model, in which the general population actively engages as “cultural participants not passive consumers.”²² User options are proliferating rapidly as technology empowers everyone to become the hero and narrator of their own story, to participate onsite, offsite, virtually, virally, and at times, unwittingly.

User-centric cultural narrative forms are personalized, interactive, adaptive, and inherently social. They include some traits of Aristotelian linear narrative, in that there continue to be brief stories of actual events told by a single narrator. However, the collective result is massive amounts of non-linear, fragmented content distributed to multitudes of audiences over networked social media platforms.

The authorial role between provider and consumer is fluid and multi-layered. At one end of the continuum are the do-it-yourself (DIY) users, or “selfies” who capture, curate, and stream their daily lives (and other content of personal interest), creating highly individualized, virtual museums. Yet this content is rarely stagnant. Users may like, tag, add to, remix, mash-up, manipulate, and mutilate each other’s content, creating variable narratives across expanding networks of casual connections. The stories are adaptive and mutable in both content and form. The relationship of storyteller and audience becomes its own form of cultural fusion.

At the other end of the spectrum are users who participate in highly designed, curated experiences. These might be constrained through an agreed upon set of rules, such as gaming, or through intentional intervention by experts, users, or a collaboration of the two. Nina Simon, in her book *The Participatory Museum*, explains, “The misguided perception is that it’s more respectful to allow visitors to do their own thing – that the highest-value participatory experiences will emerge from unfettered self-expression.”²³ Creating meaningful experiences through well-designed parameters and scaffolding can heighten the visitor experience. However, users are increasingly determined to play a role in creating the constraints. “With multi-participant, player-determined and DIY books, games, media, and technology, the audience has growing expectations of sharing or usurping authority from the hosting institutions.”²⁴ Users expect both added value and to be valued.

Another significant departure from Aristotle’s classic narrative is the lack of authentication. For centuries, we relied on the veracity of the narratives of elders and experts, whereas today anyone can assume the role of cultural narrator. In virtual forums without visible accountability, narrators can misrepresent themselves. Content is not easily discernable as fact or fiction. One could argue that truth was no more verifiable in ancient times than today, with its dependence on the credibility and objectivity of hierarchical elites. Today’s veil of cyber-anonymity may, in fact, enable a greater freedom of expression to a much wider range of voices. But it is clear that as the authorial voice shifts to the general public, so does the burden of verifying sources and substance.

User-centric trends and technologies are vastly changing how we experience cultural context. Visitors are engaging within - and increasingly beyond - museum walls through the use of these technologies. My research shows three emerging areas of user-centric technologies that are driving the changes in modern narrative form: participatory, collective, and mobile. These groupings are by no means mutually exclusive or definitive—an obvious reflection of the mutability of 21st century media technologies.

Participatory Narrative

To create, critique, and curate are the triumvirate of user-centric participatory narrative. Currently in the U.S., “46% of Internet users post original photos and videos online they have created themselves and 41% curate photos and videos they find elsewhere on the Internet and post on image-sharing sites.”²⁵ Consumers of online video content “...have become empowered in their ability to share in the creation of moving image content whether as super fans and flag bearers, interactive collaborators, and/or storytellers themselves in the never-ending story.”²⁶ Rather than Joseph Campbell’s Archetypal Hero, today’s participatory narrative empowers *everyday heroes* to create and share fragments of their own mini quest journeys. Museum design futurist Nina Simon asserts, “...participatory elements may draw in audiences for whom creative activities and social connection are preconditions for cultural engagement.”²⁷ On-site museum visitors curate their own experiences by taking photos of select objects with their smart phones and instantly sharing them with friends. Off-site, they are using YouTube, Google, Flickr and other web-based technologies to critique, curate, and share their own virtual exhibitions.

The Google Art Project, among others, is accelerating the rise of self-directed participatory narrative by partnering with museums to digitize collections, including works in storage, and to

make these digital images available to the general public.²⁸ Nicholas Serota, director of the Tate Museum in London believes, “this is a second generation view of the way museums will use the internet.”²⁹ Perhaps more significantly, it portends a fundamental change in how the public will use museums. Google’s Art Project is but one facet of the Google Cultural Institute that is endeavoring to make “important cultural material available and accessible to everyone and to digitally preserve it to educate and inspire future generations.”³⁰ The distributive ubiquity and resource capacity of powerful search engines such as Google far exceed that of traditional museums. They are providing tens of millions of users with unprecedented access to multimedia assets and information, creating the possibility of infinite, albeit virtual, self-determined cultural experiences.

There is no doubt that encouraging global access and participation democratizes and diversifies our cultural narrative, but it also requires a critical look at best practices. How do we ensure quality and depth of information? How do we ascertain what information is fact or fiction? How do we prevent cultural homogeneity? Search engines, such as Google, enable only the most popular information to rise to the top. As Elisa Bonacini cautions in a recent article about how Google is enhancing Italy’s cultural heritage, “Museums should be able to stand beside technology, fully exploiting communication and disclosure, but should not be substituted by it.”³¹ Google’s cultural software projects such as Google Maps, Google Street View, Google Earth, Google SketchUp, Google Books and Google Art Project offer exciting new ways to interface with our heritage but they lack historical and interpretative substance.

Another emerging form, which I’ll label “purposeful participation,” uses media technologies to create shared opportunities that both add value and make users feel of value. These are projects designed to involve users in a cultural project with a specific outcome or goal. In their most recent book, Falk and Dierking predict that today’s successful museums,

...will increasingly be institutions committed to public service, institutions that reach out and attract new audiences and work to significantly address pressing civic, educational, economic, environmental, and social issues.³²

An excellent example is the interactive installation, *From Memory to Action*, at the U.S. Holocaust Memorial Museum in Washington D.C. This installation enables users to watch video testimonies about genocide, drill deeper for more information, select stories of personal interest, and share them over the Internet. Users participate “in the living history of these important eyewitness accounts.”³³

Purposeful participation includes a phenomenon called crowdsourcing, in which large numbers of people across demographics contribute small but valued amounts of information, knowledge, funds, and other resources via the Internet. It typically involves large data-sets of information. Wikipedia, for example, is a self-regulating, crowd-sourced mega-collection of knowledge based on autonomous contributions from around the world. Museums are using curated crowdsourcing to engage mass numbers of new and diverse users far beyond their walls. The result represents a new form of public engagement and participation based on the web’s ability to facilitate collaboration and communication, merging the “spaces which the academic and non-academic communities inhabit.”³⁴

For example, National Geographic’s emerging explorer Albert Lin is asking Internet users for help finding Ghengis Khan’s tomb “from the comfort of their living rooms.”³⁵ Thousands of enthusiasts study satellite images for clues, looking for odd land patterns, possible burial mounds, or other anomalies. Another example, “Children of the Lodz Ghetto” enlists participants to search historical documents for particular bits of information that aid scholars’ research.³⁶ Citizen Science projects ask users to help conduct broad-based scientific studies such as identifying invasive species, categorizing whale sounds, and tracking meteors.³⁷ Distributed computing projects that pool surplus computing processing power use participants to aid in collective research, such as finding cures for diseases.³⁸ All of these crowdsourcing examples

represent a radical shift of authorial voice, from hierarchical to egalitarian, by engaging a broad diversity of individuals, in essence creating a new form of distributed community.

Collective Narrative

Until recently, collective narrative was atypical, as the general populous rarely had an authoritative voice. Within discrete groups (often based on geographic region, ethnicity, religion, and other organized forums) it entailed such forums as prescribed dialog, chorus, or response. In Aristotle's era, the Greek Chorus emerged as one form of collective consciousness that was designed to voice comments on dramatic action. Today's collective storytelling is vastly different from its predecessors. It engages disparate participants across time and space, yet still forms a collective community. Typically, curatorial constraints are employed to frame the design of a particular project. Here, the authorial voice is the accumulative effect of a multitude of contributions within that framework. A curator may provide the coryphaeus that interprets the subtext, or not.

A small, highly curated example is *Mr. Beller's Neighborhood*, a regional web-based magazine that has been described as "one of the most successful online contributory collective narrative projects."³⁹ It combines a map of New York City with a wide variety of stories, using "the external, familiar landscape of New York City as a way of organizing the wildly internal, often unfamiliar emotional landscapes of the city dweller."⁴⁰ City residents have contributed over one thousand stories to date. This example represents a modern day village created through the autonomous sharing of personal stories on a curated e-zine website. Rather than meeting around the oasis, town square, café, or some other popular face-to-face gathering spot, these stories create a common, electronically-amassed cultural collective.

Another example, one that provides no curatorial interpretation yet has clearly defined search constraints, is the "Question Bridge" project. Its website defines it as an innovative collective trans-media project that is creating a "mega-logue" among black men in the U.S.⁴¹ Over 1600 searchable videos will soon be available on a website using "21st century technology and social media culture to expose the true complexity, diversity and humanity of an identity group."⁴² The website is an outgrowth of a five-channel video installation that premiered at the 2012 Sundance Film Festival. This model of collective cultural narrative could be generated across demographics, forging new ways to create empathetic connection by metaphorically sharing stories around a campfire of humanity. This and other community-centered forums enable a new type of collective synthesis of information and dialog.

At the cutting-edge of collective narrative is the aggregated mega-story, which is comprised of literally billions of disjointed story fragments. Facebook, Twitter, Flickr, Tumblr, Instagram, Vine, CrowdFlik, and other social media platforms are repositories of vast amounts of user-generated content, resulting in uber-collective narratives. The design constraints are generally imposed by the technologies rather than by curators. For example, Twitter constrains the length of a text message to 140 characters, Vine allows only 6- to 7-second videos, Flickr and Vimeo limit the pixel resolution of photos and videos, and so on. The result is a morass of abbreviated snippets of content provided by masses of people across space, time and demographics.

Technology artists such as Jonathan Harris are helping to make sense of this aggregated contextual information by experimenting with computer science models and graphical interfaces to interpret and curate social media narratives. For example, Harris' "We Feel Fine" project is a database of blogposts that use phrases such as "I am feeling" or "I feel", sorted into data sets and searchable by categorized statistical analysis.⁴³ The result is an artistic, quantitative representation of Internet culture.

Decoding the mega-story will require far more sophisticated meta-analytics than exist today, but interpretative tools are developing quickly. The U.S. Library of Congress has digitally amassed more than 170 billion public tweets (Twitter messages) to date and is actively exploring

ways to make the archive accessible to scholars. “As society turns to social media as a primary method of communication and creative expression,” said the library’s director of communications Gayle Osterberg, “social media is supplementing, and in some cases supplanting, letters, journals, serial publications and other sources routinely collected by research libraries.”⁴⁴ Eventually this repository and others like it will be rich sources of aggregated cultural narrative. Trends, memes and micro-memes will be data-mined for decades to come.

As user-centric technologies continue to evolve, the memes, mini-memes, aggregated stories, and other as yet unlabeled collective narratives become the artifacts of this century. Whereas in the past a significant object might be a stele, vase, or ancient Egyptian jeweled pectoral, today’s vast amounts of information will ultimately form the new cultural legacy. Cultural institutions will be paramount in discerning what is relevant, offering means to sort and sift through the massive data, and providing innovative ways to preserve emerging forms of cultural context.

Mobile Narrative

This trend is perhaps the most differentiated from classical narrative. Mobile technologies are fundamentally changing the storytelling experience, enabling users to access contextual content on demand, wherever, whenever, and from whatever sources they choose, including experts, first-hand accounts and collective opinion. Wireless and GPS/geo-tagging, smart phones and smart pads, and augmented virtual reality are giving rise to radically new contextual narrative forms.

At a basic level, many museums today provide self-directed, curated mobile audio and multimedia tours within the museum walls. The visitor uses a smart phone or other hand-held devices to access contextual content. However, today’s user-centric, technology-savvy visitors are just as likely to create their own cultural narratives by posting photos and video of objects on social media and tweeting their opinions. They can create, access, and combine elements to create cultural mash-ups for instant web distribution. New York City’s Museum of Modern Art found in a recent study that “74% of our visitors brought a mobile device with them.”⁴⁵ (Of those aged 18-29, 58% in the U.S and 75% in the UK have smart phones.⁴⁶) In a recent visit to MOMA, I personally observed that nearly half of younger visitors engaged with major exhibits through their smart phones.

There are literally thousands of mobile Apps that provide a wide variety of experiences beyond the museum walls, particularly with smart devices. It is now possible to superimpose video, animation, artworks, poems, and other user-generated or curator-supplied content in any environment. Geo-tags and GPS enable a form of 21st century virtual graffiti that comes to life when you point your smart device at a building, object, or archeological site. These spatial and temporal overlays have infinite possibilities, enabling users to access onsite multimedia that projects historical eyewitness accounts, present-day virtual billboards, and future predictions of climate change.

Augmented reality (AR) and gaming apps engage users in a variety of ways to explore heritage sites, historical events, and other cultural phenomena. AR tours of city neighborhoods can “layer the urban realm with a museological collection in order to compare its current outlook with that of other times and ages.”⁴⁷ Thanks to advanced rendering technologies, the visual depictions are increasingly based on 360-degree digitizing of real locations, mixed with documentary media.

One provocative mobile AR group is the international cyberartist collective, Manifest.AR, which staged an “AR intervention” at the 2011 Venice Biennial.⁴⁸ Artists Lily & Honglei explain,

The increased availability of free Augmented Reality viewers on mobile phones has brought this technology out of the lab and created a participatory form of mass media...

Uniting the strengths, features and possibilities of both the physical sphere and the virtual sphere...⁴⁹

One of Manifest.AR's collective works, called "Gradually Melt the Sky," was inspired by Yoko Ono's 1964 "Tunafish Sandwich" art-poem.⁵⁰ It creates a performance event "at once cosmic and mundane, an action painting and a protest" with AR to "overlay, intervene and challenge the physical world..."⁵¹

Mobile narrative is a very different construct from conventional modes of storytelling, transcending all aspects of classic narrative. In today's on-demand, media-rich society, mobile technologies provide significant new forms of cultural interpretation and context. Museums are already beginning to access this unique trend in narrative form, as are commercial ventures such as Google. Ultimately, those who embrace user-centric technologies and the potential of participatory, collective, and mobile narratives will be on the forefront of chronicling our culture.

Conclusion

Thousands of years ago, people chronicled their lives on rocks and in caves, creating an early form of cultural graffiti. In this century, people are leaving their mark in very different spatial, temporal, and quantitative spheres, creating a form of cyber graffiti. Future scholars may find the two are not so dissimilar, but in the throes of change, they appear vastly different.

Today's narratives are overwhelmingly episodic, sporadic and erratic in nature, a development that would have caused Aristotle great consternation. He eschewed the idea of the "episodic plot... in which there is not probability or necessity for the order in which the episodes follow one another."⁵² The sheer volume of fragmentary content is stupefying. Yet, some recognizable trends and patterns are beginning to emerge. Like the random splatters of paint on a Jackson Pollock canvas, the story shards are beginning to form a cohesive whole, particularly among collective and aggregated narratives. With advanced analytics, we are discerning patterns within the mega-stories and making sense of an ocean of nano-stories. It won't be long before we'll have the ability to unlock the narrative genomes of gargantuan cultural repositories such as Twitter.

Many questions still remain: What happens to cultural narratives that are not technology-driven? How do we prevent homogenization? Is the authorial control inclusive? How can we ensure meaningful opportunities are available to all? In the Digital-Internet Age, story content and media represent the cultural artifacts of our century. By necessity, the role of storyteller and curator is merging. We are becoming an amalgamation, simultaneously telling and interpreting both personal and universal stories. The public's participation in creating and interpreting our cultural narrative is unprecedented. The shift is a significant one. And so is the responsibility.

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REFERENCES

- ¹ Roads of Arabia: Archaeology and History of The Kingdom of Saudi Arabia, Smithsonian Institute, Freer/Sackler Galleries, Washington D.C., traveling exhibition, <http://www.roadsofarabia.com> (accessed July 13, 2013). The films for this exhibition were produced, directed and written by Maggie Burnette Stogner [www.bluebearfilms.com].
- ² Brian Boyd, *On the Origin of Stories: Evolution, Cognition, and Fiction* (United States of America: The Belknap Press of Harvard University Press, 2009), 208.
- ³ Boyd, 9.
- ⁴ Marshall McLuhan, *Understanding Media: The Extensions of Man* (Massachusetts: First MIT Press, 1964), 7.
- ⁵ Aristotle, G.F. Else, trans., *Poetics* (Michigan: University of Michigan Press, 1967), 28.
- ⁶ *Ibid.*, 35.
- ⁷ *Ibid.*, 67.
- ⁸ *Ibid.*, 68.
- ⁹ Joseph Campbell, *The Hero With a Thousand Faces* (New York: Princeton University Press, 1973), 30.
- ¹⁰ *Ibid.*
- ¹¹ The American Association for Museums, "Museums & Society 2034: Trends and Potential Futures," *Center for the Future of Museums* (Dec. 2008): 18, <http://www.aam-us.org/docs/center-for-the-future-of-museums/museumssociety2034.pdf> (accessed July 20, 2013).
- ¹² Eltjo Buringh and Jan Luiten van Zanden, "Charting the 'Rise of the West': Manuscripts and Printed Books in Europe, A Long-Term Perspective from the Sixth through Eighteenth Centuries," *The Journal of Economic History*, Vol. 69, No. 2 (2009): 409–445 (417, table 2).
- ¹³ Video by Parithi TV, "Did You Know 3.0 HD?" uploaded on YouTube Feb. 8, 2010. https://www.youtube.com/watch?feature=player_embedded&v=ygMPyP7qIkU&noredirect=1 (accessed July 20, 2013).
- ¹⁴ International Telecommunications Union, "The World in 2013: ITC Facts and Figures," www.itu.int/ict (Geneva: International Telecommunications Union, February 2013): 1, <http://www.itu.int/en/ITU-D/Statistics/> (accessed July 13, 2013).
- ¹⁵ Joshua Pramis, "Number of Mobile Phones to Exceed World Population by 2014," *Digital Trends*, February 28, 2013, <http://www.digitaltrends.com/mobile/mobile-phone-world-population-2014/> (accessed July 13, 2013).
- ¹⁶ Facebook, "Facebook Reports First Quarter 2013 Results," [press release] May 1, 2013, <http://investor.fb.com/release-detail.cfm?ReleaseID=761090> (accessed July 13, 2013).
- ¹⁷ Pew Research Center's Internet & American Life Project, 2011.
- ¹⁸ Betty Farrell and others, "Demographic Transformation and the Future of Museums", *The Center for the Future of Museums* (Washington D.C.:The AAM Press, 2010), 5 <http://www.aam-us.org/docs/center-for-the-future-of-museums/demotransaam2010.pdf> (accessed July 20, 2013).
- ¹⁹ Henry Jenkins, "Confronting the Challenges of Participatory Culture: Media Education for the 21st Century," *The John D. and Catherine T. MacArthur Foundation Reports on Digital Media and Learning* (Massachusetts: MIT Press, 2009).
- ²⁰ Richard Dawkins, *The Selfish Gene* (Oxford: Oxford University Press, 1976)
- ²¹ Maggie Burnette Stogner, "The Media-Enhanced Museum Experience," *Curator* 54:4 (2009).
- ²² John H. Falk and Lynn D. Dierking, *The Museum Experience Revisited* (California: Left Coast Press, Inc., 2013), 307.
- ²³ Nina Simon, *The Participatory Museum* (Santa Cruz: Museum 2.0, 2010), 25.
- ²⁴ Barbara Cohen-Stratynner, "Authority and Meaning-Making in the Digital Era" *Exhibitionist* (Spring 2013): 22-26.
- ²⁵ Lee Rainie, Joanna Brenner, and Kristen Prucell, "Photos and Videos as Social Currency Online," *The Pew Internet & American Life Project*, September 13, 2012, <http://pewinternet.org/Reports/2012/Online-Pictures.aspx> (accessed July 13, 2013).
- ²⁶ Dr. Alice E. Stephens, and April Lundy, "The Moving Image and Social Media: The Changing Power Relationship Between Creator and Spectator. Presented at ICCMTD, May 09-11, 2012, Istanbul, Turkey.
- ²⁷ Simon, 5.
- ²⁸ More information on the Google Art Project can be found at <http://www.googleartproject.com/> (accessed July 13, 2013).
- ²⁹ Sir Nicholas Serota, Director of the Tate Museum in London, is quoted in the article by arts correspondent Mark Brown, "Google Art Project aims to shed new light on classic works of art" *The Guardian*, Feb. 1, 2011, <http://www.guardian.co.uk/technology/2011/feb/01/google-art-project-classic-works> (accessed July 13, 2013).
- ³⁰ "Frequently Asked Questions," *Google Cultural Institute*, <http://www.google.com/culturalinstitute/about/> (accessed July 13, 2013).
- ³¹ Elisa Bonacini, "Communication and enhancement of Italian cultural heritage by Google," *Palabra Clave (La Plata)* 2:2 (November 2012-April 2013), 49-63.
- ³² Falk, 315.
- ³³ Maggie Burnette Stogner, "Communicating Culture in the 21st Century," *Journal of Museum Education* 36: 2 (Summer 2011). 194.
- ³⁴ Stuart Dunn and Mark Hedges, *Crowd-Sourcing Scoping Study: Engaging the Crowd with Humanities Research* (Centre for e-Research, Department of Digital Humanities King's College London: Arts & Humanities Research Council,

2012), p3, <http://crowds.cerch.kcl.ac.uk/wp-content/uploads/2012/12/Crowdsourcing-connected-communities.pdf> (accessed July 13, 2013).

³⁵ Jenny Williams, "Help Find Genghis Khan's Tomb From the Comfort of Your Home," *Wired.com* (July 11, 2010), <http://www.wired.com/geekdad/2010/07/mongolia-valley-of-the-khans/> (accessed July 13, 2013).

³⁶ More information on the Children of the Lodz Ghetto can be found at <http://online.ushmm.org/lodzchildren> (accessed July 13, 2013).

³⁷ More information on the Citizen Science Alliance can be found at <http://www.citizensciencealliance.org> (accessed July 13, 2013).

³⁸ One such example is the World Community Grid. More information on this organization can be found at <http://www.worldcommunitygrid.org/> (accessed July 13, 2013).

³⁹ Scott Rettberg, "All Together Now: Collective Knowledge, Collective Narratives, and Architectures of Participation," *Digital Arts and Culture* (2005), 7, <http://retts.net/documents/cnarrativeDAC.pdf> (accessed July 13, 2013).

⁴⁰ "What's This," Mr. Beller's Neighborhood, <http://mrbellersneighborhood.com> (accessed July 13, 2013).

⁴¹ "Artists@Google" Christ Johnson and Hank Willis Thomas," *www.questionbridge.com*, June 16, 2012, <http://www.questionbridge.com/blog/?tag=google-talk> (accessed July 13, 2013).

For more information the Question Bridge project, visit www.questionbridge.com (accessed July 13, 2013).

⁴² Hank Willis Thomas, "Question Bridge Interactive," *Kickstarter*, <http://www.kickstarter.com/projects/1959895010/question-bridge-interactive?ref=live> (accessed July 13, 2013).

⁴³ Jonathan Harris and Sep Kamvar, "Mission," *Wefeelfine.org*, May 2006, <http://www.wefeelfine.org/mission.html> (accessed July 13, 2013).

⁴⁴ Gayle Osterberg, "Update on the Twitter Archive At the Library of Congress," *Library of Congress* (January 2013), 1, http://www.loc.gov/today/pr/2013/files/twitter_report_2013jan.pdf (accessed July 13, 2013).

⁴⁵ "Mobile in Museums Study – 2012: A Survey of American Alliance of Museums (US) and Museums Association (UK) Members," *American Alliance of Museums* (Fusion Research & Analytics, 2012), 31, [https://aam-us.org/docs/research/mobilemuseums2012-\(aam\).pdf](https://aam-us.org/docs/research/mobilemuseums2012-(aam).pdf) (accessed July 13, 2013).

⁴⁶ *Ibid.*, 11.

⁴⁷ Margriet Schavemaker, "Is Augmented Reality the Ultimate Museum App?," in *Mobile Apps for Museums: The AAM Guide to Planning and Strategy* (Washington D.C.: The AAM Press, 2011) 47.

⁴⁸ More information on Manifest.AR can be found at <http://www.manifestar.info/> (accessed July 13, 2013).

⁴⁹ <http://lilyhonglei.wordpress.com/2011/04/27/crystal-coffin/>

⁵⁰ Tamiko Thiel, Sander Veenhof and Mark Skwarek, "Concept Proposal for AR Intervention at Venice Biennale 2011: Crystal Coffin – Virtual China Pavilion," *Land of Illusion: Chinese Society & Culture in New Media*, January 25, 2011, <http://graduallymeltthesky.wordpress.com/> (accessed July 13, 2013).

⁵¹ "a curatorial project by Mark Skwarek +Will Pappenheimer @ Devotion Gallery, Brooklyn," Gradually Melt the Sky, January 28, 2011, <http://graduallymeltthesky.wordpress.com/> (accessed July 13, 2013).

⁵² Aristotle, 34.

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