The first chapter of John Falk and Beverly Sheppard’s *Thriving in the Knowledge Age*[^1] – a guide to help museums “thrive in the twenty-first century”[^1] – chronicles a visit of the hypothetical Rodriquez family to the hypothetical Alabaster Natural History Museum. Falk and Sheppard’s fiction features a plethora of innovative features foreign to contemporary museums. At the Alabaster Natural History Museum, the Rodriquez family is greeted like old friends. The family begins their day at the museum by retrieving their personal hand-held device; this interactive machine allows exhibit interaction and tracks the activities of each member of the Rodriquez family during their visit. In this hypothetical museum, general functions are streamlined by the intertwining operations of the hand-held devices and other museum interfaces. Museum staff is alerted to the whereabouts and activities of the Rodriquez family, they can offer guidance or answer questions based on information transmitted by the patrons, and even service functions are streamlined via high-tech museum management systems. Information about the Rodriquez family and their community – occupations, civic involvement, cultural needs – help the museum craft an efficient business model that positions the museum as a vital civic organization.

The authors present these operations as an ideal example of a twenty-first century museum business model: a museum with a business model that is “bottom-up rather than top-

down”; one that can “match the needs and desires of their publics with the needs and desires of the institution.” One that engages each individual patron through their unique experience and an organization with deep ties to the community it serves. Their guide attempts to outline the museum of the future, but, instead, perpetuates the organizational form and experience aspirations of the museum of the previous fifty years.

Falk and Sheppard’s emphasis on individual engagement and civic involvement mimic the Falk’s previous writings. His arguments in *Identity and the Museum Visitor Experience*, *Lessons Without Limits*, *Learning From Museums*, and many others, stress an experiential basis for learning within and beyond the museum space. Transposing this theory, to what he and Sheppard entitle as the “Knowledge Age,” the authors point to a shift away from group-oriented leisure activities toward distinctive customizable experiences, i.e. the Rodriquez family’s micromanaging of their museum exhibit. Still, this concept is not unique to Falk and Sheppard’s book. Experiential museum exhibits were developed throughout the twentieth century as a result of the move toward an education-oriented public museum, where interpretation was encouraged through interactivity and active engagement of the visitor.

The Alabaster Natural History Museum example also advocates the challenges presented to museums in the American Association of Museum’s (AAM) *Mastering Civic Engagement*. In the report’s introduction, Robert R. Archibald calls for a future in which museums, “will relinquish our traditional authoritarian roles in favor of new responsibilities as both resources and facilitators of dialogue about those things that matter most to people.” Published in 2002, the AAM report promotes civic engagement – communication with government programs,

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2 Falk and Sheppard, *Thriving in the Knowledge Age*, 14.
3 Ibid., 52-53.
collaboration with local businesses, providing museum facilities for outside activities – as a tool for capitalizing on the sense of community engendered in the wake of the tragedy of September 11. And yet, this initiative supports a role that the museum assumed decades prior. In an essay presented at the Museum of London in 1994, Stephen Weil states that the quality of museums has intrinsically been measured by “the extent that they are perceived to provide the communities they serve with something of value beyond their own mere existence.” In this sense, the recommendations of Falk, Sheppard, and AAM are nothing new.

Published in 2006, Sheppard and Falk’s guide attempts to forecast the future of twenty-first century museums after only six years. What they fail to foresee is the rise of Internet media as a catalyst for changing methods of reception and communication. The emergence of web 2.0 (named by Tim O’Reilly in 2004) technologies (or social media) effectively altered the communication and consumption of information and knowledge. In contrast to the publishing culture of the 1990’s web, Lev Manovich describes web 2.0 Internet as a “communication medium.” Social media encourages the exchange of ideas via its various platforms for communication – blogs, Twitter, Facebook – and effectively alters the authoritative position of museum knowledge by providing venues for the sharing of interpretation. These websites establish an online community – a wider audience than a museum’s local community – regularly engaged in a reevaluation of contemporary culture. Accepting the communicative possibilities of social media, museums’ catering of the Internet community enhances their civic and individual engagement efforts.

8 Ibid., 169.
Falk, Sheppard, and AAM’s emphasis on the museum facility as the site of engagement is insufficient in the web 2.0 era. A museum like Ellen Hirzy’s “center where people gather to meet and converse,”9 is challenged by the appearance of a subsequent community of online patrons. Falk and Sheppard’s business model, based on the unique experience of each patron and active civic engagement is still the ideal for the contemporary museum, but outreach must involve both on-site and virtual operations. The example of the Rodriguez family is outmoded; the contemporary museum requires a unity of the virtual and material to better serve its patrons and community.

In response to these changing efforts in museum operations, this paper examines the effects of the combination of a traditional experiential learning environment and the communicative virtual space of the museum’s web 2.0 efforts. In the first section, I explore the roots of this shift in museum operations, from the early museum as empirical source of knowledge to the experiential learning center of the twentieth century. Secondly, I consider the various Internet media platforms available to museums and define their impact on the communicative nature of museum education. The final section of this paper, analyzes the effect of Internet media on the materiality of the museum space and collections; advocating what I define as a mediatic form of the museum, where increased use of the virtual space of the museum organization mitigates the intervisuality of the combined virtual and material museum experience.

As illustrated above, the development of museum operations is not represented by drastic changes in aesthetics or management, but a gradual evolution across the approximately two centuries of museum history. The concept of the contemporary museum is rooted in the

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museums of the Industrial Age: a hallowed space designated for the careful study of unique works of art or history. Contemporary museums have not eradicated this perception entirely. Instead, today’s museum is an amalgamation of various evolutionary shifts in museum aesthetics and management determined by the needs of the time. Imperative in these changes is the move away from pedantic methods of education towards a universal, public education form of learning through an emphasis on the museum experience.

The shift towards experiential museums began in opposition to the positivist notions of early twentieth century museums. These institutions were largely concerned with accumulation as a means of education; believing the development of large, unique collections, was a testament to the cultural prowess of their respective communities. Positivist museums were insular, focused on the conservation of their items and the scholarly work of their curators. Harold Skramstad characterizes the mission of this period – in contrast to the “place of curiosity wonder and delight” of even earlier museums –, stating, “The expansion of knowledge through museum collecting was now considered by museums to be the primary focus of their work...[the museum] would be a preserver and protector of the rare, the unique, the beautiful, and the special in the arts, the humanities and the sciences.” Regarded as a temple, a place for serious scholarly research and contemplation, the museum of this era neglected the educational needs of the public. Stephen Weil’s calls this the “Museum as Establishment,” a “majestic and deeply founded museum whose legitimacy was unquestionable...whose authority was absolute, and

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11 Ibid., 121.
whose inner workings were of no proper concern to anybody beyond its walls.”\(^{12}\) The stigma of exclusiveness and elitism remains, and continues to trouble museums.

Theodore Low’s 1942 essay, “What is a Museum?” addresses this concern, and reintroduces the notion of the museum as a community enterprise. While he does point to the necessity of a collecting oriented approach in previous years, praising the “collections of basic material for the future,” Low’s intent in the essay is not to praise the Museum as Establishment. He calls for a museum that fully inhabits its educational purpose, requiring this education to be “active, not passive,” and one that is “intimately connected with the life of the people.”\(^ {13}\) Accusing the museum of cultivating an air of superiority instead of serving the needs of the larger public, Low calls for the museum to return to its rightful course of public education. Weill characterizes this shift as a result of the rapid establishment of many museums and new funding structures for museums in the wake of World War II. As these institutions began to assume the attributes of other non-profit organizations, accepting government support, the gauge of their success became tangible examples of public service through education.\(^ {14}\)

The development of public accountability led to new methods of exhibition, resulting in the Museum of Experience: a space that encourages interpretation of museum collections through interaction and the straightforward communication of artistic aesthetics or information. Chronicling this development in her book *From Knowledge to Narrative*, Lisa Roberts identifies the emergence of education departments as the impetus for alterations in museum operations, but also points to the reluctance of curators to accept this change in direction: “Many curators opposed educational activities that appeared to interfere with the direct contemplation of the object. In their eyes, interpretation demeaned art by turning it from an aesthetic phenomenon into

a social or historical construct.”"\textsuperscript{15} The traditionalists continued to perceive the museum patron as the passive receiver of empirical knowledge from the museum. Despite this obstinacy, the efforts of educators persisted, and, in 1960, 79 percent of museums reportedly offered some form of educational programming.\textsuperscript{16} Museum operation maintained this public education dedication throughout the remainder of the twentieth century, and into the twenty-first.

The establishment of an educational paradigm in museum operations promotes detailed studies to determine the exact nature of learning through museum collections. Roberts characterizes these findings as, “Acknowledgement and, gradually, understanding of the sheer variety of goals, needs, interests, expectations, and meanings that visitors bring to their museum encounters.”\textsuperscript{17} A recent study by Theano Moussouri suggests a conflation of two discursive motivations, education and entertainment, influences the expectations and outcome of an individual’s overall museum experience.\textsuperscript{18} In mediating these two poles of influence, the museum becomes experiential. Skramstad points to children’s museums and science and technology centers as pioneers in the use of experiential exhibits using hands-on activities and instructional media. Their focus on “educational experiences that address the diverse learning styles of students,”\textsuperscript{19} allows for a deeper understanding through various forms of interaction, creating a unique experience for every visitor. The experiential museum is essentially a collaborative effort between the museum and its patrons. John Falk and Lynn Dierking’s contextual model of learning implies an interaction between the museum’s exhibition strategies and the patron’s personal, sociocultural, and physical contexts. The difficulty of a contextual bias

\begin{flushleft}\textsuperscript{15} Lisa C. Roberts, \textit{From Knowledge to Narrative: Educators and the Changing Museum} (Washington, DC: Smithsonian Institute Press, 1997), 63. \\
\textsuperscript{16} Ibid., 65. \\
\textsuperscript{17} Ibid., 45. \\
\textsuperscript{18} John H. Falk, \textit{Identity and the Museum Visitor Experience}, (Walnut Creek, CA: Left Coast Press, 2009), 51. \\
\textsuperscript{19} Skramstad, “An Agenda for Museums,” 129.\end{flushleft}
in museum experience is the museum’s inability to control the patron’s understanding of the exhibit’s concepts. Falk and Dierking state, “The knowledge and experience gained from museums is incomplete; it requires enabling contexts to become whole…these enabling contexts occur outside the museum walls weeks, months, and often years later.”

Whereas the twentieth century museum struggled to influence the contextualization of information beyond institutional boundaries, the contemporary museum has tools to influence the development of understanding through web 2.0 technologies. Since the launch of many web 2.0 platforms in the first decade of the twenty-first century, user volume increased exponentially and social media is now a common facet of contemporary daily life. According to their statistical reports, social networking sites continue to grow annually and the creation of social media will only increase. Facebook claims to support more than 500 million active users. Average users are connected to 80 community pages, groups, and events, and spend over 700 billion minutes a month on the website. YouTube, the video-sharing website, presents the most staggering statistics of the popular social media sites: users upload 35 minutes of video every minute, representing nearly 13 million hours of video in 2010 alone. Faced with such large numbers of users and content, the efforts of museums to engage with these interfaces may seem trivial, but the potential for expanded public education is an opportunity museums must embrace.

Examining the current state of museum’s social networking strategies, six platforms appear most popular: blogs, Facebook, Twitter, Flickr, YouTube, and ArtBabble. The functions of these sites allow a museum to integrate news, advertisement, and dialogue into the daily social functions of patrons. Blogging and network platforms, such as Facebook and Twitter are a means

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for written communication with patrons, while video and photo sites like Flickr, YouTube, and ArtBabble are a source for the dissemination of dynamic visual media related to museum events and efforts.

A vital characteristic of social media is its interoperability, allowing users to intertwine various web 2.0 platforms via hyperlinks to other media sources and information. Through this weaving of information, social media continues the collaborative nature of the experiential museum. The patron establishes a long-term relationship, before, during, and after visits to the physical museum site, through interaction (reading blog posts, sharing Twitter messages, commenting on Flickr photos) with museum media outputs. The dissemination of information in this manner involves the patron as well as his online network as media is disseminated across platforms. This allows museum to circulate information efficiently, while informing an interconnected network of online users of cultural news and ideas.

Social media in the museum field is predominately focused on supporting the learning experiences located within the museum facility, highlighting upcoming events and news regarding the museum collection. These efforts serve an ancillary function to the interior operations of the museum site. Social media is most successful when creating a dialogue between the museum and the patron that reveals the previously concealed aspects of museum culture and operations. Through informal discussion of art world news, aesthetic concepts related to collection materials, and behind-the-scenes videos and blog posts, a museum engages the interest of patrons by communicating the inner workings and opinions of museum and its staff. Jocelin Shalom, Social Media Director at the Art Institute of Chicago (AIC), sees this dialogue as a strategy “to increase the museum’s online presence in the virtual community, elevate the museum’s local/national/international profile, and promote the museum as a cultural hub in
Chicago,” but, most importantly, they aim for “creating conversations about art and showing people why museums are relevant to their lives.”

This use of social networking represents a vital function of twenty-first century museums, but the dialectic of museum’s social media efforts has not evolved beyond previous held beliefs about museum’s missions and their contents. Beyond social media, Internet technologies through interactive websites and touch screen applications for mobile devices, such as smart phones and tablet computers, present an opportunity to provide an active education through interaction. Currently, the few museum-sponsored applications do not embrace the interactive possibilities of this platform. Most simply represent a compilation of various museum services – brochures, event calendars, audio guides – that serves a tool of convenience instead of educational initiation. This basic use of an emerging technology does not take advantage of its innovative characteristics.

As condensed exhibits, the interactive application is a site for affective engagement through tactile manipulation of a video monitor. The Smithsonian National Museum of Natural History’s MEanderthal application illustrates this experience. Using a phone’s built-in camera, the software instructs the user to photograph a face within a designated framing area (Figure 1). Once a photo is selected, the program asks the user to select the type of Neanderthal transformation, providing two male and female options with corresponding date ranges (Figure 2). Following the transformation, the user is given the option to Share, Choose a New Species, Start Over, or Learn More (Figure 3). The Learn More button is a hyperlink to a Smithsonian website featuring further opportunities to study Neanderthals. The interactivity of this application is simple, but serves as site of engagement between the knowledge of the museum and the entertainment of the patron. Beyond the enjoyable visual of transformation, the user is

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23 Jocelin Shalom (social media director, Art Institute of Chicago), in discussion with the author, April 11, 2011.
encouraged to learn more or share their experience via Facebook or e-mail with other members of their online community. A derivative of the exhibit experience, the interactive application is akin to the hands-on or interactive elements of many scientific or historical museums.

Similarly, John Baldessari’s *In Still Life 2001-2010* represents a unique opportunity for the creation of interactive educational media for fine art. Based on an exhibit at the Los Angeles County Museum of Art, the application gives users the ability to rearrange the many items present in the Dutch Golden Age painting *Banquet Still Life* (1667). This interactive artwork conflates the act of interpretation with the act of creation or participation. By arranging each element of the still life according to their unique vision, users create their own relationship with each still life subject (Figure 4, 5). Baldessari’s statement on the piece stresses the agency of the user, claiming, “When someone completes their own still life using *In Still Life 2001-2010* it becomes their own artwork. It’s not mine. It’s theirs.”

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understanding of the elements of the still life by providing the historical meanings behind each element (Figure 6). The medium of interpretation is participation; creation of a new artwork instills an understanding of both the original artwork and the artistic experience.

Figure 4
Similar to most applications, users can share the media they create with the *In Still Life 2001-2010* program. The display of user-created media imbues a sense of ownership in the user, raising the stakes of their learning experience by subjecting their work to the scrutiny of the larger online community (Figure 7). Users become invested in their artwork in the same way they may track views or comments on a photo on Flickr or a video on YouTube. Baldessari’s interactive exhibit achieves a heightened relationship, conveying multiple facets of the artistic experience (both aesthetic and experiential), which were previously a challenge to art museums.
Interactive applications redefine the museum/patron relationship by targeting the evolving expectations of web 2.0 users. This new patron is not a proxy for the traditional museum visitor; their experiential criterion differs in their search for connection beyond the singular museum authority. These users seek an open source of information and ideas that the user can manipulate and contextualize through their intertwining network of social and cultural media inputs and outputs. Less the self-reflective subject, searching for personal meaning through understanding of the world, the contemporary patron is reflexive, or reactive, in a state of constant reorganization based on incoming and outgoing news, information, ideas, and communication. Sam Han labels this a second modernism, in which the subject reestablishes a sense of self with communicative acts through “technological forms of life.” The contextual space of Falk and Dierking’s learning model is expanded by the ubiquity of social, commercial, and educational media inputs available to contemporary patrons. This development in learning models is ultimately a combination of the positivist and experiential theories of communication. A user, consuming countless pieces of information, accumulates understanding through

reactions based on the immediate contextual value of the incoming or outgoing ideas. In this virtual space of intertwining information and communication, the museum acts as a mediator. Providing access to their collection as an ideologically neutral site, allowing the user to unite their museum media experience with the many other media sources they frequent. To act as intermediary, the museum must assume a mediatic form, similar to the virtual presence of other cultural institutions and organizations.

Michelle Henning traces the development of the mediatic museum form through the increasingly hands-on, interactive basis of museums through the twentieth century. These exhibits, like contemporary Internet media, advocated participation, communicative or tactile, as the affective source of learning and understanding. In her definition, the medium of participation is analogous to the act of interpretation, creating a cognitive experience that is similar to everyday interactions with popular media structures. The mediatic space, both material and virtual, constitutes a media output of the museum’s operations – artworks, artifacts, brochures, audio guides, curatorial expertise, interactives – in conjunction with the communicative input of museum patrons and other social network members, creating an intervisual and multi-contextual experience between virtual and physical space. Thomas Markussen provides an example of this interaction between physical and virtual interfaces: “At one moment, the networking of Internet technology with mobile devices may place the user in an augmented reality where the physical environment is enhanced with computerized elements from cyberspace; the next moment, the user may relocate herself in a purely

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physical environment on the basis of a direct and unmediated view of reality.”

Markussen’s example illustrates the harmonious variance of the virtual and physical in a mediatic space, where experience, learning, and communication are enhanced by the fluctuating relationship of these two planes of perception.

The mediatic museum represents a challenge to many museums as the emphasis on virtual communication and engagement effectively alters the patrons relationship with the materiality of the museum collection and physical space. In this evolving form of the museum, the authority of museums, established through the tangible presence of their collections in a designated other space is contested by the twenty-first century emphasis on communication and technology. The democratization of cultural interpretation through virtual processes negates a reliance on materiality alone, but achieves what George MacDonald calls the “full potential as places for learning in and about a world in which the globetrotting mass media, international tourism, migration and instant satellite links between cultures are sculpting a new global awareness.”

The ephemeral nature of a museum’s space and collection in a virtual environment casts aside previously inscribed notions of object-based quality. Belief in the aura of the artwork or artifact, as defined by Benjamin in *The Work of Art in the Age of Mechanical Reproduction*, focus the source of items affective abilities in their materiality and the spatial relationship of viewer and item. Benjamin’s fear that the aural nature of the object would be negated by mass reproductions requires the presence of both viewer

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and artifact to enact an affective experience. In Benjamin’s argument, the virtual approximation of an artwork lessens the ability of the original to insight an affective response by relinquishing the individuality of the original. Opposed to this notion of aauratic exclusivity, Peter Walsh establishes the development of an object’s aura in the very mechanical reproductions that Benjamin maligned. In examining the effect of photography on the perception of artwork in late twentieth century museums, Walsh states, “The more reproduced an artwork is – and the more mechanical and impersonal the reproductions – the more important the original becomes.” Walsh’s theory determines the reproduction of the work as a presaging element of the original’s aura, contextualizing the importance or prestige of the item before participation in an affective experience within the presence of the hallowed artifact. Virtual surrogates hold the same aura signification abilities.

A reliance on object-based notions of knowledge and affective experience ignores the ongoing conflation of the physical and virtual. In “Beyond the Cult of the Replicant,” Fiona Cameron illustrates the development of a new conception of the virtual iteration as an active site of knowledge development. As proxy to the original artifact or artwork, virtual iterations may not inhabit the physical characteristics of the original, but do refer to the viewer’s general concepts regarding the original, not the virtual. The affective or cognitive response to a virtual item essentially unites with the pre-existing contextual knowledge of the original. The influence of the surrogate’s virtuality is negligible, as the

30 Fiona Cameron, “Beyond the Cult of the Replicant,” in Cameron and Kenderdine, Theorizing Digital Culture, 56.
viewer does not relate to it as a representation, but perceives it as equivalent to the original.

The affective abilities of virtual surrogates are evident in programs like Google’s Art Project. Through an intuitive interface, Art Project enables the user to interact with artwork on previously unattainable level. Zooming in on select segments of the artwork reveals the movement of brush-strokes, the deterioration of works over time, and the minute details unperceivable due to the prescribed distance of museum spaces. Revealing the unknown aspects of familiar pieces of artwork, Art Project serves as a site for subjective interpretive experiences in the same manner as the physical museum space. A secondary function of Art Project, recreates the physical museum space in a three-dimensional interface, allowing the user to wander the halls of many famous fine art museums. This feature affirms the auratic qualities of the museum architecture and contextualizes the space as another factor in the mediatic relationship between institution and patron. Art Project corroborates the ability of the virtual museum space to achieve an equal affective experience to that of the physical iteration, by allowing the user to engage with materials and the facilities in previously unavailable methods.

Determining the trajectory of the twenty-first century museum is impossible at this stage in its history, but the increasing presence of Internet media outlets points towards the continued development of the media museum. As the social, leisure, and civic activities continue their migration to online platforms, the museum must adapt to address its audience’s needs in both virtual and material. The museum is truly community-based when it accepts its position as a member of multiple nodes of community: local, global, and virtual. Continued mediation and contextualization of the
museum’s knowledge and collection is achievable via the social media platforms and interactive media.

Returning to Falk and Sheppard’s Rodriquez family, it is evident that their example is easily adaptable to the contemporary social paradigms. The authors’ emphasis on distinctive individual experiences is transposable to interactions between the museum and patron in a virtual medium. The mediatic space becomes another resource of information and ideas for the Rodriquez family through their ability to interact and engage with the museum collections and staff via informal social networking and media communications. The museum as a resource is predicted by Stephen Weill as an “intricate and potentially powerful instrument of communication, it will make available to the community, and for the community’s purposes, its profound expertise at telling stories, eliciting emotion, triggering memories, stirring imagination, and prompting discovery.”  

Weill’s image is that of the mediatic museum, a resource for unprecedented exchange of ideas and knowledge between the museum and their public, a space both virtual and physical mediating the educational needs of its constituents through the introduction of a new digital cultural community.

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