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“We Need a Showing of All Hands”: Technological Utopianism in *MAKE* Magazine

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Running head: MAKE MAGAZINE

“We Need a Showing of All Hands”:
Technological Utopianism in *MAKE* Magazine

Keywords: magazine journalism, ideology, textual analysis, technological utopianism

Make magazine is one of a growing genre of magazines that provides practical information to readers on ways to improve their homes and communities while also connecting their projects to greater social and environmental goals. The magazine and its associated event, the Maker Faire, promote self-reliance, innovation and individuality within a context of environmentalism and nationalism in ways that evoke long-recognized and widespread narratives of technological utopianism within American culture.

This study examines how, through the Maker Faire and *Make*'s unique blend of magazine content, the publishers of *Make* magazine effectively build and reinforce a collective identity for "makers" through the use of key themes of American ideology and even nationalism, while also motivating individual readers to participate in the "making" project for personal fulfillment and self-actualization. The *Make* phenomenon demonstrates one way in which contemporary magazine journalism may be developing a more sophisticated approach to marketing its products and developing its identity through strategic branding techniques and real-world events that reinforce the readership community forged through the consumption of the media product. At the same time, however, the perpetuation of the narrative of technological utopianism raises questions about the consequences of such a branding strategy in today's fragile ecological and social world.

Magazines and Identity

Magazine researchers have noted the ability of magazine content to play upon cultural norms and ideologies in order to gain readers' identification with their content. David Abrahamson's analysis in *Magazine-Made America* (1996), for example, demonstrates how magazines in the 20th century both reflected and shaped cultural and economic trends, especially in the shift from general-interest "consensus" magazines to specialized magazines that reflected individual interests and the growth of Americans' personal wealth. Individuals were then able to express aspects of their identities by consuming magazines related to their personal preferences and tastes. Similarly, Kitch (2003) describes

the role of newsmagazines in defining the public understanding of American generations through their coverage, which essentially manufactured groups around specific age ranges and attempted to assign them specific characteristics. These generational definitions gained traction among the audience and other news media as a result. The ability of newsmagazines to create terminology by which all readers could locate and define themselves – perhaps as members of "the greatest generation" or "Generation Y" – represents one instance in which magazines may have shaped an audience's self-definition with significant social consequences.

Webb (2006) analyzes the narratives and rhetorical strategies used by the Reiman Publications magazine group to establish a community of readers around a conservative, religious, and middle-class perspective, and finds that because the Reiman readers contribute much of the content of the company's magazines themselves, a process of co-creation exists that intensifies readers' buy-in to the ideologies presented. Furthermore, the home projects and recipes presented in the magazines "embody an aesthetic that can be created by the readers themselves, in the process working to make the reader feel both validated and creative" (Webb, 2006, p. 868). The Reiman magazines and *Make*, which also uses reader-submitted content, are therefore somewhat similar in that they both provide readers tangible methods for investing their own energy and effort into the perspective presented by the magazine through the completion of the magazines' projects. *Make* adds a further twist by developing and promoting the Maker Faire event, which brings together this audience in one physical location to share ideas and knowledge, and, as a side effect, to intensify their individual investment in the magazine and the "maker" identity.

Finally, in perhaps the most topically relevant magazine analysis, Frau-Meigs (2000) discusses *Wired* magazine's suggestion of certain attitudes toward the Internet for its audience during the technology's early development. *Wired* coined the term "netizens," and defined its readers as "citizens of the Internet" (Frau-Meigs, 2000, p. 239), much as *Make* promotes the term "makers" and suggests a

certain identity and role for this group. Technology, according to *Wired* during its early phase, would allow a productive anarchy to emerge as a viable alternative to the present state of politics, but only if the “netizens” supported causes like deregulation. Therefore, the magazine appeared to craft its presentation not only around the communication of topical information, but also around the deliberate definition of a community of readers, complete with political causes to support their purportedly mutual interests. Kitch, Webb, and Frau-Meigs all demonstrate the phenomenon that Breazeale (1994) identifies in specialized magazines: the creation of “calculated packages of meaning whose aim is to transform the reader into an imaginary subject,” or, in the Althusserian sense, to suggest that readers embody the appellation that is suggested for them (p. 9).

Research on magazines has also long attested to the ways in which magazines offer up ideal selves, characteristics, and activities for readers' emulation as they seek self-actualization. Self-actualization is defined in Maslow's well-known hierarchy of needs as the opportunity to develop one's interests and abilities to the extent of one's potential (Goble, 2004, p. 127). The significant literature on body image and magazine portrayals of men and women, for example, discusses one way in which magazines attempt to shape readers' self-image and personal goals, both explicitly and implicitly (e.g., Pompper, Soto, & Piel, 2007). Media texts imply that readers can realistically achieve the physical condition presented and suggest that it is desirable to do so. Other research on media products has suggested that consumer culture prescribes additional psychological means of self-actualization, as in the proliferation of “New Age” personalities whose appearances in a variety of media commodify the self and make personal fulfillment attainable through specific behaviors and lifestyle choices (Rindfleish, 2005). *Make* and the Maker Faire may offer another prospect for self-actualization: the suggestion that readers will find personal gratification and a sense of accomplishment through participation in “making,” or the completion of creative and usually technology-focused projects like those in the magazine.

Narratives of Technological Utopianism

By offering participation in technology as an opportunity for self-actualization, *Make* joins a long tradition of technological utopianism in American culture.ⁱ As defined by Segal (2005), technological utopianism refers to “a mode of thought and activity that vaunts technology as the means of bringing about utopia” (p. 10). Segal traces technological utopianism in America as far back as 1883 and follows the development of this cultural trope to today. In this paradigm, “technology” includes not only the creation of specific devices and tools, but also their implementation within a society (re)structured “on the model of a giant machine” (Segal, 2005, p. 103), under the control of rational, scientifically grounded (and, ultimately, elite) systems of governance.

Nye (2003) argues that within American culture, the development of the nation – in which the wilderness of much of a continent was brought under the control of technology in order to fulfill manifest destiny – grounds a recurrent “technological foundation narrative.” In this narrative, people enter a new region, transform it using new technologies, and achieve prosperity, which attracts new settlers. This community builds wealth, and in the process, witnesses the disappearance of the original landscape and its replacement by a “second creation shaped by the new technology” (p. 13). At that time, some people leave the developed area and strike out to repeat the process in a new undeveloped area. Nye notes that these narratives have been repeatedly displayed in various American contexts, such as the development of irrigation technology and the growth of the physical sciences, as inevitable and natural, as well as “progressive and optimistic... They gripped the imagination and convinced people to leap into the unknown” (2003, p. 14).

Media scholars have long observed and been critical of the narratives presented in popular media regarding the utopian potential of technology. For example, Braine (1994) indicates the technological utopianism present in *Star Trek: The Next Generation*, in which a technocratic 24th-century human society repeatedly defeats anti-technocratic cultures. Kling (1995) catalogs the ways

that utopian imagery “permeates” discussion of the role of computing in society, connecting such hopes for social improvement to the United States’ utopian ideals, stated upon its establishment as a nation (p. 47). Frau-Meigs’ article (2000), mentioned above, critiques *Wired* magazine’s presentation of a world in which all cultural change occurred due to technology, which she argues could in fact weaken political democracy. More recently, Chakravartty and Schiller (2010) point to the failure of journalism to critique the technologies of business and finance that function within the larger structure of “digital capitalism,” and cite this failure as a key factor in the current economic crisis. These studies, as well as the current study, fit within a “Critical Media Studies 2.0” paradigm, so named by Andrejevic (2009), with the goal of “explain[ing] why, even in the face of dramatic technological transformation, social relations remain largely unaltered” (p. 35).

Given the apparently “natural” implementation of these narratives throughout various aspects of American culture and across a great span of time, the public’s trust in the positive power of technology also seems natural, especially when it is suggested to be a means of self-actualization, as it may be within *Make* and at the Maker Faire. This desire to engage with such a positive force may motivate the *Make* audience to devote even leisure time to what might otherwise be perceived as work: the development and construction of a variety of technologically oriented projects. As Segal writes, in a culture characterized by technological utopianism, even play and leisure time are redirected into industrious activities, because “no utopian activity exists for its own sake” (2003, p. 134), leading to the diminishment of artistic and athletic activities in favor of productivity and technological advancement.

About *Make* Magazine and the Maker Faire

This study applies this paradigm to the examination of both *Make* magazine and the experience of the Maker Faire. Founded in 2005, *Make* is part of O’Reilly Media, which primarily publishes technical manuals and books on hardware and software (Downes, 2005). Between 2005 and 2008, the

magazine doubled its circulation from 60,000 to over 125,000 (Tweney, 2009). The magazine is published quarterly, and is distributed both as a perfect-bound 6” by 9” paper edition and as make-digital.com, a visually identical online edition of the magazine available only to subscribers.

According to the magazine’s advertising materials, it now has over 100,000 paid subscribers and claims a total readership of 250,000. Of that audience, 90 percent are male and 75 percent are college-educated, with an average annual household income of over \$100,000 and an average age of 40 (“*Make Media Kit*,” 2010). These affluent readers can afford the magazine, which costs US\$14.99 for a single copy on the newsstand or \$34.95 for a yearlong print subscription. Some readers obtain “Premier Maker” status by agreeing to automatic renewals, which entitles them to unlimited use of the online back issues of the magazine. A “Make:television” show also was broadcast on U.S. public television stations during 2009 (“Introducing Make:television,” n.d.).

Capitalizing on the magazine’s success, the publishers of *Make* created the Maker Faire, an event that provides a real-world opportunity for readers to encounter the magazine’s distinct editorial identity, together with other like-minded people. Three large Maker Faires are currently held annually: one in San Mateo, California, in the San Francisco Bay area; one in Detroit, Michigan; and one in New York City. In 2010, there were also “Mini Maker Faires” sponsored by the magazine in Kansas City, Missouri; the East Bay area near San Francisco; and Ottawa, Ontario, Canada. The Faire is heavily advertised in the magazine, as well as on Facebook fan pages, Twitter, the makezine.com website that serves as an umbrella for all of *Make*’s online sites, and in local media. Likewise, at the Faire itself, the magazine is featured at various subscription booths around the Faire, as well as on posters and in the Maker Shed retail area, which sells copies of the magazines and materials for featured projects. The 2010 Maker Faire in San Mateo alone attracted over 600 Makers who exhibited their work. The San Mateo Faire’s attendance has grown from 22,000 in 2006 to an anticipated 160,000 in 2010. The average age of these attendees is 38, with an average household income of over \$102,000. Ninety

percent of the attendees have college degrees (“Maker Faire Overview,” 2010).

This study examines how *Make* and the Maker Faire draw readers into a construction of both themselves as individual “makers” and as part of a larger community of makers with a common cause: the enjoyment of technology, but also the development of technological solutions to the problems faced by contemporary society within a vision based on technological utopianism. Using a grounded theory approach, I explore the ways in which readers and Faire attendees are called to participate in *Make's* projects and worldview, the consequences of these rhetorical strategies, and the implications of its approach for both the immediate audience and the larger society in which the strategies might succeed.

Method

This study involves two primary methods, textual analysis and participant observation, together leading to a rhetorical analysis of *Make* magazine and the Maker Faire.

For the textual analysis, every issue of the magazine from January 2008 to December 2009 was examined. The magazine is published quarterly, and each issue is about 200 pages in length, with few advertisements; therefore, a total of eight issues were analyzed for the study, or approximately 1,600 pages of content. These issues were selected for analysis due to both their representation of recent content in the magazine and their availability in the magazine's digital edition archive. Each issue consists of some staff-produced editorial content and a variety of edited projects submitted by readers for publication, including detailed directions for re-creating them and photographs of the original project or a re-creation made by the *Make* staff. The focus of the textual analysis was the editorial content created by the staff, including the publisher's letter and its regular departments, as well as the textual portions of the projects that preceded their step-by-step directions.

This textual analysis adopts the perspective that Fursich calls a "sociological approach to textual analysis" (2009, p. 248). In this approach, the analyst attempts to explain the specific ideologies and audience position implicit in the text by reading it closely and connecting it to both cultural forces and

its conditions of production and reception. The text is not considered in isolation, nor are its producers' or receivers' interpretations prioritized as possessing any greater validity; instead, an attempt is made to "establish the ideological potential of the text between production and consumption" (Fursich, 2009, p. 249). This balanced approach combines close reading with a consideration of larger contextual concerns. In collating my textual and observation data, I grouped items as patterns became evident in the analysis process, remaining open to "a process of modification as new observations [were] meticulously compared to the explanations evolving out of perceived patterns from previous sets of observations" (Potter, 1996, p. 152).

The participant observation element of this research occurred at the 2009 Maker Faire event in San Mateo, California. The event is held over three days and includes a wide variety of performances, displays, food and merchandise booths, and participation opportunities. Attendees could also participate in a range of hands-on workshops offered across the various disciplines represented at the Faire, such as electronics or sewing; some were more formal in nature, and others occurred whenever enough attendees wandered in and demonstrated interest.

I attended one full day of the Faire and ensured that I had visited the complete array of displays and booths; I also participated in two hands-on, informal workshops in order to understand that aspect of the Faire experience. I took ample field notes and over 50 photographs, and also collected a variety of brochures and print materials made available by Faire vendors and artists. Though the role of participant observer must often be carefully negotiated in the research setting (Potter, 1996), the size of this event, combined with its general lack of intimacy among participants, meant I was able to circulate freely and casually, take photographs like any other attendee, and write down notes unobtrusively between activities. I do not feel that my presence as a researcher disrupted or altered the normal proceeding of the event in any way; if anything, the nature of the event as an opportunity for "makers" to share their work made it more hospitable to a researcher seeking to gather information.

Results

In order to best explore the connections between the content of *Make* and my observations of the Maker Faire event, I will discuss them together below to show how they demonstrate similar themes and rhetorical strategies. Within the content of the magazine and the experience of the Maker Faire, I recognized two levels of appeal for engagement by the reader and participant: first, as an individual “maker,” who would find personal fulfillment and even self-actualization through this participation; and second, as a member of a larger-scale, even nationalistic enterprise of making that communally could solve significant environmental, economic, and social problems through the skillful application of technology and the sharing of knowledge. I have organized the textual evidence and participant observation notes below according to these individual and “macro” level appeals, then by the specific rhetorical strategy that appeared in the magazine's and/or the Faire's communication of each appeal.

Individual level: Self-actualization through childhood dreams and family traditions

As mentioned above, media texts often suggest ways in which audience members may reach their individual potential – or achieve self-actualization – through the imitation of suggested personal or physical characteristics and activities. *Make* contains a similar suggestion through its connection of its projects to the possibility that readers might have wanted to do such projects as children. For example, an article on "Homebrew Digital 3D Movies" begins, "When I was about 7 years old, I gazed into a View-Master toy and saw an amazing three-dimensional picture, and I was hooked. Today, I create 3D videos, using various homebrew camera rigs and displays" (Kurland, 2008, p. 51). Another author connects his high school art class experiences to his later inventions of complex puzzle toys (McGinnis, 2009). Finally, a 2009 feature article section on robot building is introduced with a specially designed page that includes somewhat cartoonish paper dolls of robots to be cut out and folded together, inviting comparisons to the doodles an aspiring young inventor might have made in the

margins of a school notebook. Linking the portrayal of projects in *Make* to a reader's possible early desires to "make" may more intensely motivate readers to engage with the magazine's projects by signifying that the readers can achieve a sense of self-actualization by satisfying these long-held dreams.

Another level of individual motivation to "make" that the magazine targets in its content is the connection of projects to family traditions of making. Many articles and project descriptions invoke memories of a parent or family friend who involved the author in creative projects, either as an active participant in making or as the recipient of handmade items, such as handcrafted toys. One author cites his family's tradition of giving Tonka toy trucks to children born into the family, and describes how he went a step beyond this tradition in making a special Hello Kitty-themed truck for his firstborn daughter: "No child of mine could possibly go through life without one" (Lappin, 2009, p. 111). Celebrity maker Adam Savage of the television series *MythBusters* wrote in a special guest column that "growing up, [he] was given specific advantages as a maker" because of his father's creative efforts (Savage, 2009, p. 11). Savage describes how he seeks to continue that tradition with his own sons, and how he feels they are learning positive values, not just mechanical skills, from the projects. Through these invocations of grander traditions beyond themselves, and the connection of making to values seen as inherent to positive childrearing, readers of *Make* are further encouraged to join in the endeavor presented by the magazine. Their individual projects will bring to life their sense of belonging to something bigger than themselves, as well as reinforce their sense of themselves as good parents.

The opportunities for family participation in "making" were also bountiful at the Maker Faire. Children were able to participate in many hands-on activities at the Faire, including a "Debris Area" where one could break apart and reassemble a huge variety of electronic and mechanical components that had been piled into one area, which was also supplied with tools for children and adults to use together. This area also featured a spontaneously created, ever-evolving sculpture made by the

attendees from bits of discarded “junk.” Children participated in this activity as well, adding their own touches to the work-in-progress with parents' help. Finally, the Faire featured a variety of rides for children (and some for adults), but not the typical carnival rides found elsewhere. Rather, these were handcrafted and unique rides, such as a bike on a tower that played a set of rotating electric guitars when pedaled. Among the many interactive exhibits, kids could also operate remote-controlled robots in an indoor inflatable pool filled with water, build and launch model rockets, melt pennies for souvenirs, and create models of human cells from clay. All of these family activities, while perhaps a necessity at an event of this type, also demonstrate the significance of making as a family-based activity that benefits children and parents alike.

Individual level: Consumption in accordance with "making" ideals

Make and the Maker Faire both present suggestions for things that can be made, and the materials for those projects must, in most cases, be purchased from commercial suppliers. Moreover, both the magazine and the Faire do encourage buying things, though not as effusively as other magazines might. The magazine contains advertising for various products and suppliers, though its advertising is minimal in comparison to other magazines: only a few pages at the front and rear of the magazine, and an occasional ad among the articles. The magazine includes product reviews of its "Favorite Things" and book reviews, as do most magazines. The magazine also markets project kits and other items available for purchase from the Maker Shed, its own online retail outlet. The Maker Faire event brings the Maker Shed out of the virtual world for a few days, offering a retail area where shoppers can purchase kits, books, toys, T-shirts, and other items on the spot.

As a whole, *Make's* consumerism seems to be a uniquely formulated variation. The projects suggested by the magazine frequently use recycled materials or items that would otherwise have been thrown out in the average household, though they may also incorporate some new items purchased specifically for the project. For example, a feature article in the magazine – "One Man's Junk, the Same

Man's Treasure" – describes two men who find discarded items on curbs in neighborhoods, pick up the items, re-make them into new items, then return the new items to the curb where their original incarnations were found. These makers are lauded in the article for "turn[ing] trash into treasure, or at least into unexpected reinterpretations and reprieves for landfill-bound refuse" (Polito, 2008, p. 53). The creativity required to make items that conserve natural resources is valued more highly than the ability to simply go purchase a new object.

When new items must be purchased, *Make* also encourages the selection of items that involve as little actual "consumption" as possible. Because of *Make's* emphasis on handmade objects that have been created with care, readers are asked to buy things that have been created with equal attention and quality:

...buried in the maker ethos is a fundamental part of the solution [to the problem of overconsumption of natural resources]. Makers reuse things. Makers repurpose things. Makers repair things...My hope for a more beautiful future is that we will have fewer things pass through our lives, of higher quality, and love them more. (Griffith, 2008a, p. 26)

The Maker's Bill of Rights, enshrined in the first issue of the magazine and referenced by various authors across the duration of its publication, also states that "Ease of repair shall be a design ideal, not an afterthought" ("The maker's bill of rights," 2009, p. 31). The ability to fix and continue using an item is represented as more important than the ability to replace it, and higher-quality items may be more likely to permit such repairs.

The Maker Faire also contained elements that encouraged participants to learn the skills of repair alongside the skills of creation. Participants in a hands-on workshop on soldering could use this skill to manufacture new projects, or could also remake and repair household items that might otherwise be discarded. A sewing tutorial also included information on darning and mending, not just sewing new garments and home décor items. Therefore, acquiring both types of skills is clearly valued in the *Make* paradigm.

Overall, although purchasing items in order to complete a project or to enjoy during everyday life is supported by the magazine and the Faire, the adherence to what is presented as the "maker's values" is demonstrated as more important. When new items are purchased, they are often discussed with regard to their environmental benefits and/or impact. For example, a project on making archery bows describes the author's use of paulownia wood, "the wood that just might save the world," from a "wonder tree" that grows quickly and is sustainably harvested (Albert, 2008, p. 169). Another article showcases a surfboard-making kit that doesn't utilize fiberglass, making it more environmentally friendly (Hammond, 2009). As a whole, the variety of consumerism presented in the magazine and at the Faire is specific to makers' ideals, combining the prioritization of quality and repair-friendly products with a need to remain true to the maker's belief in environmental protection. The maker consumes, but only in ways that accord with his or her values as a maker, according to the magazine and Faire.

Individual level: Calls to action

The individual is called to action as a maker by the construction of both the magazine and the Faire. In the magazine, the most obvious rhetorical strategy for this call is the magazine's overall linguistic style and tone. The magazine uses both first-person narration and direct address constantly, in both the content produced by the staff and the staff-edited reader projects. The staff content, which primarily takes the form of columns and short departments at the beginning and end of the magazine, usually uses first person and refers to the reader as "you." These sections also typically contain the most clearly "motivational" content that often describes maker ideals and the vision for contemporary making as conceptualized by *Make*, though this content recurs often in the introductions to the projects later in the magazine.

Magazines have been noted for their use of direct address, which also reflects their presentation of opportunities for readers' self-actualization. As Machin and Van Leeuwen (2005) note, advertising

has "always sought to address you, personally, and so to transcend its nature as a mass medium... advertisements need to persuade readers and viewers to do or think certain things, and hence they are replete with imperatives (which also address readers and viewers directly)" (p. 589). The examples that Machin and Van Leeuwen provide, however, are from the editorial content of various global editions of *Cosmopolitan* magazine. It makes sense that magazines, as advertising vehicles, would also use direct address in order to impress upon readers the need for the products discussed in the magazine content and the surrounding advertising. As noted above, *Make* does not have a significant amount of advertising; however, the call to action – the persuasion – made implicit through the use of direct address does strongly support the drawing of readers into the "making" mission.

Readers are also drawn into articles and thus into the projects they propose through the use of rhetorical questions in article leads. For example, two back-to-back projects for pets proposed in one issue of the magazine ask these questions in their leads: "Our dog, Maggie, loves to run around in our big yard. But how do we fence her in?" (C. Noe, J. Noe, J. Noe, & T. Noe, 2009, p. 141) and "Would you let your guests crap in a box on your floor? No? Then why would you let your cats?" (Klein, 2009, p. 144). These questions about problematic pets pull readers into the situation presented and encourage them to solve such problems with the projects that follow.

At the Maker Faire, the calls for the individual to participate are much more concrete. Throughout the Faire, opportunities to participate in hands-on activities and workshops were available, as described above. Moreover, a variation on the notion of "hands-on" at the Faire was that as soon as an attendee wished to participate in an activity, he or she had to sign a waiver of liability, and then a special blue wristband was provided. The wristband indicated that its wearer was then permitted to use tools and do other potentially risky activities offered at the Faire. Though the practical nature of this requirement is obvious – no doubt it was an insurance requirement – it also allowed the Faire attendee to wear his or her "makerness" throughout the event, declaring that he or she wasn't just a spectator, but

also a hands-on participant. Though attendees didn't actually have to do anything beyond signing the form to obtain a wristband, it did mark some individuals as those who sought the opportunity to become makers at the Faire in at least some small capacity.

All of these calls to action operate at the individual level within the magazine and the Faire, relying upon a reader's responsiveness to the ideas presented, particularly his or her innate curiosity, to ensure that he or she continues reading and seeking out opportunities to participate in making. Further motivation is also provided by the magazine and Faire through the linking of these intrinsic motivations to the larger project of making as a national-level enterprise, with significant extrinsic motivations to participate, as will be discussed in the next section.

Macro level: Technology as national hope

Visible throughout *Make* and the Maker Faire is the feeling that though humanity may have strayed from scientific ideals of reason and drifted toward ecological destruction, it will be possible for people to save themselves through the ingenious application of technology. Moreover, the *Make* paradigm suggests that it is indeed individual makers, like the readers of the magazine and Faire attendees, who have the potential to create that technology. *Make* offers a unique opportunity for self-actualization for the individual reader, with his or her distinct past experiences, appreciation for the making tradition, thoughtful consumption and natural curiosity. This opportunity is contextualized in *Make* with a larger and even somewhat nationalistic American enterprise of making for a purpose. In fact, that purpose is nothing less than the good of the nation and humanity. The theme of technological utopianism is thus evoked in the magazine, with the individual maker a necessary participant in this enterprise.

Interestingly, this particular thematic approach doesn't manifest strongly in the sampled issues of the magazine until volume 16, published in 2008. In this issue, the editor cites the economic crisis as a reason for makers to deepen their involvement in their crafts:

The DIY mindset celebrated in this magazine must again become an essential life skill, rooted once again in necessity and practicality. Our future security lies in knowing what we're capable of creating, and how we can adapt to change by being resourceful. A challenge like this can bring out the best in us. We need everyone, because every person has something to contribute. We need a showing of all hands. (Dougherty, 2008a, p. 13)

The economic crisis, the editor argues, points to the necessity of making as an essential means of coping with economic insecurity, both for the individual makers, who must be more self-reliant, and for the nation as a whole, in which all makers must band together to find solutions to large-scale problems.

Another article in the same issue on the Large Hadron Collider project reaches into this realm as well, arguing that makers have the opportunity to add their own insights and creativity to such innovation: "we makers find a wondrous joy and pride and fulfillment in contributing part of the puzzle...It gives me hope that we can actually solve humanity's larger challenges: water, energy and sustainability. Make something beautiful. Make it work" (Griffith, 2008b, p. 27). Though most of the projects offered by the magazine operate on a much smaller scale than these larger challenges, they are presented as contributing to possible solutions. The next issue once again refers to the economic crisis as a time of great opportunity for makers:

maybe, just maybe, [the economic crisis is] the best news ever...as we sit, unemployed and fearful of the unknown future, perhaps there is something beautiful to occupy makers. We can do the Fahrenheit 451 of making, each of us picking up a legacy trade or skill and learning it to a degree that it can be taught and passed on, and introduce a more human face to the technology we take for granted. (Griffith, 2009, pp. 26-27)

This example also invokes the idea of making as an intergenerational project, involving families and generations, as mentioned above. In this way, the magazine begins to reframe the economic crisis as a positive situation that allows makers a chance to demonstrate their creativity and to embrace the skills of the past, present and future – and also reinforces the need for the magazine and maker identity in their lives.

Following this initial reframing, the ensuing issues of *Make* develop this perspective even more explicitly, while adding a new contextual consideration: the election of President Barack Obama and

the potential revitalization of the nation around a "new hope." In fact, the second issue of 2009, the first that would have been prepared following Obama's inauguration, is themed "Remake America," and features a photo of an LED display on its cover that is illuminated like a U.S. flag. This issue plays strongly upon these lines in Obama's inaugural address:

In reaffirming the greatness of our nation we understand that greatness is never a given. It must be earned...it has been the risk-takers, the doers, the makers of things – some celebrated, but more often men and women obscure in their labor – who have carried us up the long rugged path towards prosperity and freedom. (Obama, 2009)

The editors of *Make* zeroed in on this theme of the address, and it became a defining feature of both the ensuing issues of the magazine and of the Maker Faire in May that followed the inauguration. The last line of the quote above, in fact, was printed on numerous posters placed around the Maker Faire that I attended, and was also on free stickers that some attendees wore or took home as souvenirs. The Remake America magazine cover was made into posters, as was the entire introductory page from the issue (described in the next paragraph), and both were displayed at various locations around the Faire. The Remake America issue's cover was also available in sticker form at the Faire; another sticker said simply "Remake America," with the added lines "Building a Sustainable Future, May 30 & 31, 2009, makerfaire.com." These stickers, like the wristband described above, gave Faire attendees the chance to publicly wear signs of their approval of the *Make* mission and perspective. Finally, a large plywood wall was erected at the Faire with the Remake America logo and Obama quote painted on it. Below these, sheets of butcher paper and markers were available for Faire attendees to write comments about their hopes for making in America. Many attendees wrote comments on this theme, though some doodled pictures and others wrote off-topic comments. As a whole, the Faire made available the opportunity to not just wear, but also to publicly declare support for, this nationalistic expression of the making project.

Therefore, not only do the makers have the chance to use their innovation for the purpose of

resolving environmental and economic issues, they are also invited to do so in a specifically American context and to connect their efforts to the nation as a whole, making this enterprise appear distinctly American. A special introductory page in the "Remake America" issue invites readers to

Imagine a better country, a better world for our children and their children...I believe that makers offer one of the best hopes for the future. Makers have the knowledge and skills paired with the energy and enthusiasm to lead the way...Together, we'll begin to make considerable progress on this giant, multi-generational DIY project, which we're calling ReMake America: Building a Sustainable Future. (Dougherty, 2009a, p. 1)

The addition of an element of nationalism to the making effort, in the name of strengthening and sustaining the nation, further complicates what might otherwise appear to be a simple assemblage of mainstream, somewhat geeky do-it-yourself projects in this magazine. Later in the same issue, readers are reminded that their projects have a greater purpose: "We're betting on solutions to big problems coming from innovative makers working in their basements, garages, and workshops" (Dougherty, 2009b, p. 36). In other words, the stakes are higher than your average hobbyist might have previously considered.

Macro level: Technology and nostalgia

While the makers' enterprise is presented as critical for the future of the nation, it is also seemingly backwards-looking and nostalgic at the same time. The magazine and *Faire* both feature not just the technology of today, but also hold the technology of the past in great esteem. Examples of this trend are numerous throughout the magazine and *Faire*. An article titled "Post-Industrial Idyll" seems to invoke this trend explicitly: "Each generation lays claim to the past with much the same force as it imagines the future. Sometimes we look to a period in the past and call it the Golden Age, whether it's the Golden Age of TV or the Golden Age of DIY" (Dougherty, 2008b, p. 46). When *Make* lays claim to the past, it is often through adding historical context to the presentation of a contemporary project, or through providing instructions on how to build an anachronistic project today. For example, an article suggests ways to make digital photographs "look as if your great-grandfather took them" (Kadrey,

2008, p. 91). Another shows how to build a phonograph that plays sound recorded on cylinders, as in Edison's time (Maybery, 2008). A third explains how "anyone can make their own flaming, fuming, booming DIY chemistry set as good as those from the golden age" (Hammond, 2008, p. 38).

The references to the technology of the past in the magazine seem to stem from two primary forces: first, the nostalgic appeal of understanding the ways past makers did their making; and second, the feeling of freedom makers may feel when operating outside contemporary restrictions that may accompany projects using more modern technology. As one article expresses, "technologies from the dusty attic of the past can have as much mystery, excitement, and allure as those we imagine are just over the horizon. Today's amateur techno-historians don't just want to read about the gadgets of yesteryear, they want to build them, to interact with their constituent parts, right down to the rivet heads and hand-blown triodes" ("Lost knowledge," 2009, p. 51). This kind of nostalgia, defined by Kitch as "a social experience, a form of recollection based on shared ideas about the past and present and on cultural definitions of better and worse" (2005, p. 133), fills the articles that feature the technology of the past. This nostalgia presents an opportunity for makers to find historical context for their work, a sense of a bond and a "social experience" with past makers forged by recreating their work today. Once again, this repeated nostalgia for the past helps fit the making done by individuals today into a bigger enterprise that spans not just the nation, but millennia.

Second, understanding making as part of a historically relevant effort helps makers see their work as a reaction against some of the restrictions they may experience in their contemporary making efforts. For example, the Maker Faire included a significant contingent of exhibitors and attendees who identify with the "steampunk" movement, a celebration of retro-designed technology, fashion, music, fiction and other aspects of Victorian-era culture, which each participant expresses in his or her own unique mashup. The steampunk crowd had its own designated area at the Faire, including tents, a gathering space and exhibits of technology from that era. Steam-powered devices, such as a car and a

motorcycle, roamed the Faire on occasion. One of the magazine's columnists describes the appeal of steampunk as follows:

...it exalts the machine and disparages the mechanization of human creativity...It celebrates the elaborate inventions of the scientifically managed enterprise, but imagines those machines coming from individuals who are their own masters. Steampunk doesn't rail against efficiency – but it never puts efficiency ahead of self-determination...Here in the 21st century, this kind of manufacture finally seems in reach: a world of desktop fabbers, low-cost workshops, and communities of helpful, like-minded makers puts utopia in our grasp. Finally, we'll be able to work like artisans and produce like an assembly line. (Doctorow, 2009, p. 14)

In other words, contemporary making combines the artisanal creations of the past with the high-tech efficiencies of today, leading to a "utopia" for makers. Therefore, the repetition of nostalgic mentions of past technology not only reinforces the significance of making by placing it in a historical context, but also establishes the "self-determination" of today's maker, who has the luxury of applying modern technology to achieve his or her individualistic making aims efficiently and within a larger community of makers. That larger community exists partly due to the availability of modern technology. The maker is also freed from any “assembly-line” sense that he or she may experience as a cog in the machine of the regular workforce in everyday life, and is instead an “artisan” when making at home in a garage or workshop. Through the confluence of these themes, the contemporary maker is elevated to a societally significant problem solver, working on behalf of the nation and world, and within a community of makers, but still an individual who determines his or her own path.

Macro level: Intellectual property and the maker

Finally, just as the individual maker is called to action to fulfill his or her own desires through the magazine's use of direct address and rhetorical questions, he or she is also simultaneously drafted into a larger enterprise of knowledge creation and called to contribute knowledge through *Make's* repeated mentions of the significance of sharing intellectual property.

Make's discussions of intellectual property began early in the magazine's existence. Its first issue included an article on creating an open-source car, conducted in much the same manner that open-

source software has been crafted (Griffith, 2005). Open-source software is frequently used in *Make's* projects, such as Arduino, software that is used to control interactive objects like small robots. Projects that make their schematics and components open-source are often celebrated in the magazine. For example, one issue included an article on the development of open-source farm equipment, which was described as part of an effort "designing a sustainable village for the future" (Connally, 2009, p. 20). By implication, non-open source designs would be considered unsustainable. Finally, a Maker's Bill of Rights, first published in the fourth issue of the magazine and repeated at intervals thereafter, proclaims individuals' right to "accessible, extensible, and repairable hardware" ("The maker's bill of rights," 2009, p. 31). Clearly, things that make their components available and manipulable are valued.

The significance *Make* places upon sharing intellectual property was especially in evidence at the Maker Faire, where prominent booths featured representatives and materials from Wikipedia, ccLearn (a Creative Commons effort for education), and the Electronic Frontier Foundation. Sharing knowledge was also key to the many workshops and hands-on participation opportunities made available at the Faire. Additionally, and perhaps surprisingly, Faire visitors were also welcome to take photographs of Faire exhibits and displays, despite the fact that some might consider this to infringe upon the intellectual property of the many designers and inventors whose work was shown. The Faire had an atmosphere of free and open innovation, where creative makers could share their ideas with one another in order to improve their work collaboratively.

Overall, the emphasis on knowledge and design as something to be shared openly, rather than restricted for the purpose of individual monetary gain or esteem, suggests another way that *Make* draws readers into the enterprise of making. Though the text and Faire call the individual maker to action through innovative projects that reflect their self-determination, the individual is also constructed as a unique and significant part of a larger effort to improve the body of shared knowledge available to all makers, and to use that knowledge for the betterment of (American) society, as have generations of

makers before them.

Making New Narratives for an Uncertain Future

To summarize and synthesize the results above, the implications of the content of *Make* and the Maker Faire experience appear to manifest on two levels. First, the magazine and the Faire both suggest a certain type of self-actualization that is available to the readers and participants, which they can access when they engage with the different types of "making" proposed by *Make*. This fulfillment is represented as arising through the satisfaction of lifelong dreams and family traditions, as well as through the consumption of items that are specially selected to correspond with these goals and the assumption of the value of environmental protection. The use of repeated invitations to participate, implied through the construction of the magazine's editorial content and of the Faire, further enhances the individual reader's desire to act upon this desire for self-actualization through the means suggested.

Second, the magazine and the Faire both play upon this desire by linking it to larger ideologies – thoroughly embedded in American culture – that reinforce *Make's* unique approach to this self-actualization. Specifically, the magazine suggests that technology can solve humanity's social and ecological problems, and that the effort to develop that technology is integral to the American enterprise. Making, in this perspective, is also a proactive response to social and economic change. This appreciation for technology is not limited to the technology of today and the future, however; innovations from throughout history are acknowledged in the magazine and at the Faire, creating a compelling mixture of technological aspiration and nostalgia. Finally, this activation of ideologies is reinforced by the repetition of a theme of the value of open intellectual property that insists upon the reader's participation in this enterprise as more than just an individual. Instead, the maker is represented as part of a larger movement of shared knowledge that can communally enable far greater innovation than just one independent creator alone might achieve.

Make and the Maker Faire both appear to conform in many ways to the technological

utopianism narrative described by Nye. *Make* promises a variety of types of self-actualization and community-building, all within a nationalistic American mindset. In doing so, *Make* appears to mimic Nye's "second creation" narrative observed in so many retellings of American accomplishments, though with perhaps a new, contemporary twist. Nye (2003) argues that typical American creation stories describe the triumph via technology of an individual or group over nature. As described above, these people apply the power of technology to tame nature and then prosper by building upon the landscape, but once they have transformed that landscape into something unrecognizable, they move on to fresh territory to begin the process again.

Make magazine and the Maker Faire both suggest that technology is a means to restore economic and even ideological supremacy, and that it can therefore elevate humanity by resolving our current social and ecological problems. However, there is no mention of moving onto new territory within *Make*, simply because there is very little new territory to be had on the Earth today, and all of it is subject to increasing ecological devastation. Perhaps *Make*'s "second creation" story is a new tale we will begin to see as environmental degradation continues: a narrative of the effort to *restore* existing territory through technology. Rather than using technology to achieve the goals of manifest destiny, the Makers seem to hope to reclaim what can be salvaged from ecological disaster through the application of technological tools. This hope for reclamation is evidenced, among other places, in the redefined concept of consumerism promoted by the magazine that is described above, in which the reuse of existing objects and the preference for repairable objects is suggested to be superior to other types of purchasing habits. We might call this revision of the second creation narrative a "technological rehabilitation" narrative, with the roots of the word "rehabilitation" especially relevant: a return to "former privileges" of use of environmental resources, as well as the restoration of moral purity (Oxford English Dictionary Online, 2009). Such a narrative is powerful, as it offers some hope in the face of unrelenting bad news about the state of the environment, especially for the justification of the

continued use of resources by humans. Who would not want to be identified with such a project, whose goal is nothing less than saving humanity while also maintaining a comfortable way of life?

With regard to *Make* and the Maker Faire, creating such a powerful identity for readers and participants is not merely a symptom of technological utopianism, which to a large degree is a theme present throughout American culture. The magazine is still a product, and this narrative and the proposed Maker identity can also be recognized as part of a circulation management strategy. Though it may not be a consciously developed approach, these themes may still be operating effectively to retain and recruit readers, even if these were not outcomes specifically sought by the publication's owners. In a time when magazines and other print media are desperately seeking measures to retain their existing audiences, much less attract new ones, the possibility of engaging readers in a mission of perceived personal and global significance holds powerful appeal for publishers.

Much of the magazine business today is strongly focused on developing and maintaining powerful, well-recognized brands that can be utilized in a variety of ways, well beyond just print publications. Magazines today are "extending their brands" into many other realms. They license their names and content formulas to international magazines that mimic their domestic success; they license their names to a variety of products; they develop multimedia properties, such as websites, TV shows, mobile applications, and so on. Other magazines have developed real-world events that, like the Maker Faire, offer the opportunity for readers to unite around the magazine's carefully crafted communal identity. These events are quite diverse, ranging from Parenting Magazine's Fit Generation Run/Walk and Fitness Festival in Orlando, FL; to the New Yorker Festival, which draws thousands of attendees; to Oprah's exclusive \$375-per-ticket Live Your Best Life Weekend in New York City, led by authors from *O, The Oprah Magazine*.

All of these are additional revenue sources for magazines who find their print publications to be less and less profitable. Though *Make* has been successful, an increasingly challenging publishing

environment makes it extremely important that the *Make* brand, like any magazine brand, possess a positive reputation, and the resonance that the technological utopianism and rehabilitation narratives provides to the *Make* audience is an asset just as much as a physical object. In this way, *Make* holds a lesson for both magazine producers and for researchers with regard to using rhetorical strategies and thematic appeals to develop readers' engagement with content.

However, it is worth examining the consequences of this branding strategy a bit further, especially in light of Andrejevic's call for "Critical Media Studies 2.0" that requires media critics to ask why and how various media and technologies may or may not lead to real social change. *Make* promises its audience self-actualization through participation in a narrative of technological utopianism and rehabilitation, and part of that self-actualization is framed as resistance to corporate and capitalist power. The Maker's Bill of Rights, presented as a call for less proprietary control of products, seems to suggest that Makers will enjoy greater independence from corporate control if such a Bill of Rights were taken seriously by major manufacturers. Additionally, the magazine's desire to activate its audience as "artisans," individually creating new things in their individual garages and sharing their intellectual property freely, suggests the possibility of further freedom from corporate control.

Yet to some degree, we might question whether this theme as presented in the magazine and the Faire, and likely in other cultural forms, is, in fact, co-opting some of the language that might be used to create and encourage real resistance against the corporate control of technology and American life, turning "making" into just another act of consumption that removes real opportunities for resistance from individuals. Though not likely a deliberate act on the part of *Make*'s creators, this removal may be an unfortunate side effect of the magazine's development of the technological utopianism and rehabilitation paradigm and of its implications as a branding strategy. Addressing the rhetoric surrounding "interactivity" and its democratic possibilities on the Internet, Andrejevic (2009) writes, "What if...the modality of control can itself shift, in ways that incorporate the very forms of critique

that once sought to challenge it by undermining and deconstructing it?” (p. 37). In this case, what if engaging in the act of “making,” as endorsed by a corporate enterprise for whom making has also become (intentionally or not) a powerful branding strategy, diminishes or removes its potential as a critical act? Once identified with the *Make* community, a maker is just another Maker, one of a branded, imagined community, feeling that he or she is acting against the powers that be, but in fact often simply acting in just the kind of small ways that don’t threaten those powers.

In some ways, the development of this Maker movement, as presented through *Make*, may end up paralleling the rise and fall of the Arts and Crafts movement of the pre-World War I era, in which those suspecting that great cultural change would result from the impending Industrial Revolution initiated a call for the public’s return to the values of small-scale artisan production.ⁱⁱ William Morris, one of the Arts and Crafts movement’s leaders, viewed the craftsman as “a builder and maker of things useful to the hand, as well as pleasing to the eye” (Morris, c1910, quoted in Boris, 1986, p. 28). Like the Maker movement, subscribers to Arts and Crafts ideals were reacting to the diminished quality of manufactured products available to the public, and sought to inspire people to return to handicraft and individualized production as a way of reintegrating art into their lives and of elevating their human existence. The steampunk movement of today, as described in *Make*, similarly prioritizes “self-determination” over efficiency (Doctorow, 2009). An additional similarity is that Californian Arts and Crafts adherents adopted the Flemish craftsman’s phrase *Als ik Kan* (roughly meaning “To the Best of My Ability” or “As Best I Can”), used as a trademark by Arts and Crafts furniture maker Gustav Stickley. However, the Californians transformed and Anglicized the slogan into “We Can!” (Lambourne, 1980, p. 157). The familiarity of this rhetoric brings to mind *Make* and the Maker Faire’s use of the similar “Yes We Can” call to action following the campaign and election of U.S. President Barack Obama in 2008.

Given these similarities, we might look to the deterioration of the Arts and Crafts movement to

anticipate the possible cultural success of the themes promoted by *Make*. The Arts and Crafts movement was ultimately derailed by World War I and the increasing ability of manufacturers to mimic artisan qualities in mass-produced goods, which were snapped up by middle-class consumers “who furnished Craftsman bungalows with Morris chairs from Sears” (Crawford, 1990, p. 60), and in which the labor of production became invisible to those not personally engaged in it (Boris, 1986). The movement’s goal of changing labor practices and elevating humanity was instead subsumed by the public interest in the aesthetics of the movement’s products, not the philosophy behind them, and in the acquisition of Arts and Crafts objects (Crawford, 1990). Consumerism won out over artisanship, and much of the ideology underlying the Arts and Crafts movement faded away. The experience of craftsmanship was ultimately limited to those with the luxury of time and resources to expend on such making, and the statements regarding labor that the Arts and Crafts movement initially intended to promulgate were taken up by other social movements. Indeed, the last 20 years of William Morris’ own life were dedicated more to socialist movements than to artisan production (Boris, 1986). The ideal of the American craftsman as possessing a special ability to express his or her humanity, however, persisted, as reflected in C. Wright Mills’ statement of 1958: “Human society...ought to be built around craftsmanship as the central experience of the unalienated human being and the very root of free human development” (quoted in Boris, 1986, p. 192).

Make has united this persistent concept of craftsmanship as self-actualization – the culmination of human development – with a new narrative, unforeseen at the time of the Arts and Crafts movement, that incorporates the then-unknown realities of ecological collapse with the alleged potential of artisan workmanship and creativity for resolving these significant problems. Time will tell whether this narrative of the opportunities for technological restoration will be culturally resonant enough to avoid the fate of the Arts and Crafts movement. If nothing else, however, this narrative of technological utopianism and restoration, when reproduced in media messages with little critical context, is surely a

distraction from some of the more serious issues surrounding the application of technology to the resolution of humanity's social and environmental challenges.

Winner (2004), in his discussion of technological utopianism as a recurrent theme in American public discourse, ultimately calls for "better ways of talking about technical devices, more reliable ways of imagining their possibilities and problems" (p. 46). Media can play a powerful role in developing and disseminating these "better ways of talking." As Jensen suggests, "In the future we will have to make [do] with far less energy, which means less high technology and a need for more creative ways of coping. Journalists have to tell stories about what that kind of creativity looks like" (2010, p. 3).

Though some of the content of *Make* and the Maker Faire describes creative low-tech and low-impact technological solutions to real-world problems, Jensen's larger point about the need for new narratives about technology still applies. The idea that technology alone can lead us to self-actualization and social and ecological rehabilitation is misleading and unrealistic. While individuals can create small-scale tools to contribute to ecological improvements, a greater attention to political and economic forces that more powerfully alter the environment must also be included in the type of narratives that will truly address the challenges that face us. Otherwise, the role of the individual Maker or artisan may simply be co-opted, as it has in the past, for the benefit of consumer culture. *Make's* creators likely have the best of intentions in crafting its content and are benefiting from the success of the branding strategies necessitated by today's capitalist media system. However, a critical perspective on the magazine and Faire reveals the insufficiency of our culture's dominant narratives about technology, and the need for journalism in magazines and elsewhere that provides alternative ways of thinking.

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ⁱ I am indebted to one of the anonymous reviewers of this article for this connection.

ⁱⁱ Once again, I am grateful to one of the anonymous reviewers of this article for making this link.