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## News media strategic visions and speculative futures

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**T**he French philosopher Gaston Berger (1957), well known as the father of French forecasting, pointed out that if current events reflect decisions of the past, future events will be the result of decisions of the present. Although this mental attitude enables one to prepare for the future, it is not always in the minds of people and institutions. The ability to survive in a world of accelerating change and challenge calls for even greater creativity in our thinking and for more effective strategic planning and foresight. “Mankind [sic] has always had tremendous concern about the future” (Orwell, 1982). That concern is even greater today for the news media industry as the rate of change accelerates, technological innovations are crowding in on it, breaks with the past are multiplying, and an impression of chaos is taking over from the well regulated order of the industry. These trends of technological change in the news media industry are anticipated to accelerate with the rapid advance of the digital economy (e.g., the Internet of things, the cloud computing paradigm, and big data) and the advance of futuristic urban logistics and smart city designs.

Imaginative/qualitative approaches to forecasting, foresight, and futurism may be nothing new. But we are currently observing a movement toward more creative and imaginative involvement in “future hunting,” whether related to technology, firm innovation, smart city design, or digitally enhanced news firms. Creative prototyping is embedded in the ideology and subjunctive boundaries of science fiction (SF). Prototypes set out to do many of the same things SF does but in a more concrete way, by introducing real physical

objects or real sets of rules and scenarios that require the participation (direct or indirect, voluntary or involuntary) of users beyond just their day-to-day emotional and intellectual engagement.

In this way, prototyping can “test” objects, tools, or storylines. SF has (in general) been a fixed text until very recently, and though readers have enjoyed many different readings and interpretations, the author has not been able to adapt or react to their responses. Fictional prototyping further allows the inventor or storyteller to adapt scenarios as they evolve and as the users or participants give their reactions. However, the design of prototypes is challenging as they require the developer to be both a scientific and technological expert—in this case, to have critical and tacit knowledge and understanding of the news media sector as well as the skills to be able to write compelling fiction.

Imaginative speculations about the future cannot be counted on to offer consistently accurate forecasts. Prototypes, however, can provide “an arena for the exploration of ideas unavailable elsewhere,” as Thomas Hine writes in *Facing Tomorrow: What the Future Has Been, What the Future Can Be*. Historians, scientists, and others who have seriously addressed the future usually have preferred to call on reason and the scientific method, rather than pure artistic creativity or pure imagination, as their tools of choice. “Imagination” critics suggest it is the play of children—“Don’t let your imagination run away with you!”—not the serious thought of adults. But in doing so they discount the powerful use of the imagination that characterizes the best of speculative, creative, counterfactual representations of the future.

Fictional prototyping enables forecasters and futurists to have a creative and imaginative dialogue with a breadth of stakeholders. Dry theory or survey instruments are less potent tools of engagement than that of sharing “visions” and future creative “imagery.” Prototyping enables everyday citizens to have a say in their future, including the future of their news supply. Creative prototyping could be claimed to be an emerging foresight technique that attempts to analyze the future as a multiple reality. The aim of this chapter is therefore not focused on the new age or utopic culmination. Instead, we set out to demonstrate that prototyping is something that could be strategically visionary, and that prototypes can be used to shape future conversations from all members of society about the news media industry, something that is guided more by logic and intuition than by ideology.

The ability of the developer ultimately relies on their tacit knowledge about science, technology, people, institutions, narrative structures, the creative process, and proper presenting and critiquing skills. The problem with relying on tacit knowledge for foresight is that one vision is going to be infected with unexamined biases and may confirm what you want to know rather than

challenging and transforming your vision of the future. The main check against such bias is the scientific expertise of the other participants (for instance, reviewers, colleagues, coauthors, and SF writers) involved in the prototype development process, who can check the validity of the original scientific principles under examination.

## Establishing links between SF and fictional prototyping

The thing that makes SF uncomfortable for the disciplines of strategic foresight and futurism is its “subversiveness”—its attack on reality and fact. SF suggests illogical, counterfactual possibilities. A future based on such possibilities may threaten logical people who have thought of the future as something that can be rationally determined. In this chapter, we are driven to answer this question: Can SF really offer anything important and fresh to current debates on the long-term future viability of the news industry?

In the recent past, we took hints from visionaries such as George Orwell—mostly from the book *1984*. We tried to ignore the now silly pneumatic tubes that sent stories spinning through the Ministry of Truth, a representation of the University of London’s Senate House Library at war time. Instead, we focused on Orwell’s conception of news as propaganda. We became cautious of the potential for news to be written and rewritten by the cynical masters. *1984* also showed us problems with burnt-out and disaffected journalists. There were also lessons in Orwell’s ideas about the impoverishment of language as a form of censorship and control. Contemporary newsroom workers often identified, not happily, with Winston Smith. Reporters in Orwell’s vision were not tasked with discovering truths but with delivering products at the demand of the powers that be.

We have also taken notice of Neil Postman, who argued in *Amusing Ourselves To Death* (1985) that our world is less that of Orwell and more that of Aldous Huxley’s *Brave New World* (1969): A world filled with distractions from and suppressions of truth, progress, and advancement; a world not of “no” but equally not of too much “yes”; not a world so filled with hate, but a world in which we are overcome by petty passions. As Postman put it, “Huxley feared we would become a trivial culture, preoccupied with some equivalent of the feelies, the orgy porgy, and the centrifugal bumble puppy.”

These two insights were both ahead of their time and represent in a varied form the issues that we face today. While not rewriting history, governments of all types are expanding their surveillance of citizens. In

the United States, we see a nation divided on which news and information issues are the most important and to whom. Division on issues has had its part in the parliamentary bipartisan gridlock, with neither party willing to focus on agreeing. As a result, the news industry has begun to fragment into appeasing smaller groups of audiences with specific agendas. Novels are not the only forecaster of the future. Comic-strip and comic-book depictions and SF speculations can also serve as a barometer. In these outlets, we can examine the cultural context in which the presence of news and reporters exists, and we can examine the futuristic technologies in which the news is transmitted and received.

Imagined twists on society could change everything about the news. What would happen if we lived in a world in which one man could fly or swing from spider webs? Or, less magically, a beautiful woman reporter could and does become involved in international intrigue? Accepting these questions as partly ludicrous is a must. Yet asking these questions and learning how the news might change is another practice of brainstorming toward innovation.

Looking back at three comic-strip news reporters—Superman, Spiderman, and Brenda Starr—we see a trend we would not have expected in the newsroom of the 1940s. The adventurous reporters and their newspapers have succumbed to change.

Brenda Starr, who had inspired so many adventurous women to take up reporting, left the United States for India in 2009. When she returned to the United States, she found that her paper—where she had begun work in 1940—had become a free paper. And to her shock, the paper had a blogger on the payroll. The owners of her beloved *Flash* had become involved in various scandals and were in disrepute. It was too much, for even a hardened international reporter. In January 2011, she left the profession. We last see her walking out the door holding a black orchid—a sign from her mysterious lover.

Superman, who as Clark Kent had been in the news business since 1940s, has also had enough of the news, or at least enough of the *Daily Planet*. In October 2012, Kent left the paper in a huff with unclear intent for the future. He has been rumored to be working on a blog, a Drudge-like news site, or a *Deadliest Catch*-like reality show, or even to be joining the *Huffington Post*. Like many aging male journalists, his job dissatisfaction has affected all parts of his life. His marriage to Lois Lane came to an end and he was last seen—according to one storyline—in the romantic company of Wonder Woman.

Spiderman, as Peter Parker, has faced even more drastic change. The news photographer left the *Daily Bugle* and joined a think tank, Horizon Labs. Despite starring in popular movies, joining the New Avengers, and changing his job, trouble of the kind only found in comics overtook Parker. The web slinger's mind was installed in the body of his long-time nemesis, Doctor

Octopus. Doc Ock is of no mind to stay in the low-paying business of news photography. While there are signs at the time of this writing that Parker will somehow return to his body in the near future, his interest in the news as a profession remains in limbo.

## The dystopic future

These comic-strip representations of newspapers and news reporters reflect the reality of news in our society today. Our heroes and their day jobs are going the way of the papers themselves. Comics obviously do more than reflect facets of reality. They depict heroes and forecast possible futures.

As comic strips mature into comix or graphic novels, we begin see the futuristic heroes of journalism. Be warned, these depictions are bleak or dystopic; not bleak as regards journalism itself, but as regards the future of society, government, and the human condition. Still, despite the departure from Star Trek's optimistic SF view of the future, we still see strong nods toward an optimistic future for journalism. As we will see, journalism itself, in lieu of other heroes, becomes the hero. Future "newies" are depicted as a group of people who become solely interested in discovering and uncovering truth. We see journalists that do so through technological reporting advances that have not yet become technological reality. In this vein, we hope here to hedge our bets on the literature's complete abandonment of utopian society and focus more on how these journalistic heroes are able to report news in the bleakest of conditions.

One dubious future can be seen in the evolution of Hunter S. Thompson. Fiction has painted him in transition from a conventional journalist, to a New Journalist, to a Gonzo, to self-mythologizing reporter, to a movie subject, to an alternative life as the drug-addled international opportunist Uncle Duke in *Doonesbury*. Finally, in *Transmetropolitan*, Thompson's character is celebrated in the form of "Spider Jerusalem," a journalist bent on exposing the corruption of a now completely dystopic United States. At each stage of his representation, Thompson and his avatars become more ironic, more active and open in their drug use, more profane, and less tolerant of corruption.

At each stage of performance, Warren Ellis and his representations of Thompson are larger than life. Thompson is transformed into a legend of the gonzo style of journalism. Throwing away journalistic norms such as detachment and objectivity, Spider Jerusalem reports with personality, emotion, and agenda. His unfiltered style of narrating stories as he lives through them makes him some type of celebrity. His audience and market value are that which Clark Kent or Peter Parker could only dream of. Kent,

Parker, and even Starr were company men and women for the most of their careers. Jerusalem shows open contempt for oppression of any sort, whether it be by the villainous government or his editors. In *Transmetropolitan*, Jerusalem to a large degree picks his own assignments. He acts as a nearly free agent, even when on a specified job. His voice and actions are celebrated for their inherent spin. His reporting is engaged to the point of endangering his person.

Moreover, Jerusalem does not get paid to write stories like a journalist does today. His income comes from subscriptions to his *feed*, which is a live stream of consciousness. This stream is then syndicated by his editor, who acts as a broker for Jerusalem. Constant reportage comes in the highly personal, highly gonzo, highly obscene, and often just plain high-on-drugs form. But what shines through in Jerusalem's completely over-the-top reporting is his personal dedication to the truth. Here, the society Jerusalem lives in has been altered so that truth is a commodity. His readers follow his feed for this truth and for his personality.

So what might we take from Ellis's Spider Jerusalem example? Should we return to the days of journalistic exploits, when the likes of relentless self-promoters such as Henry Morton Stanley and Lowell Thomas were celebrated? Society today shows that there is very much a place for a star reporter—part fact uncoverer, part personality, part brand, part textual stylist, and part adventurer. The path to *High Adventure* will, we hope, be more that of Thomas than Thompson.

Exploits, drama, or drugs aside, we can be sure that Thompson/Jerusalem points to a kind of personal branding through a personality driven spin. This may work in the future for a certain kinds of journalist. There may well be the few who are able to sell their feeds, just as Lowell Thomas sold his newsreels as cinema entertainments. At the time of writing, media outlets such as YouTube have begun to implement paid channels for exclusive content. These channels incorporate inexpensive and easy to subscribe payment options. If the barriers for consumers to use these paid streams continue to drop, journalists may begin to find it economically feasible to support themselves via these routes. Can you imagine paying one dollar a month to access exclusive reporting from a journalist who reports on issues you care about, with the style and tone that suits you? Or you may already be paying, as specialty blogs like Andrew Sullivan's derive income from a core set of subscribers. Other bloggers and online news sources such as Talking Points Memo do quite well on advertising sales, just like newspapers of old.

Recall Chapter 3 and its discussion of new media types. Does the vision in *Transmetropolitan* follow a more aggressively evolved version of vertical

media? Imagine news that not only reports to users given their interests and social communities, but imagine news outlets that adopt fierce personalities to complement their readers. Jerusalem is not just another Fox News, reporting with a bias to its constituents. He is an attack force fighting for change. His audience's internal anger about injustice matches his external actions in his reporting. Is it possible that vertical media will continue to adapt themselves until they are external fighters for the goals of their audience?

Other sources aside from fictional comics depict journalism as mixes of entertainment and personality. Art Spiegelman's groundbreaking *Maus: A Survivor's Tale*, subtitled *My Father Bleeds History*, sparked a period of innovation for graphic novelists. *Maus* slowly transformed from an insert stuck inside a *Raw*, a comix magazine, in 1980 to a two-volume hardback that won the 1992 Pulitzer Prize. Spiegelman's ambitious, deep, and historical account of the Holocaust came into being largely from interviewing and from transcribing his father's personal accounts. Well researched and artful, the books challenged and influenced young illustrators to include personal accounts.

Serious stories, personal and deep, began to appear in a new section of bookstores, called "graphic novels." Some illustrators even became journalists and in doing so became their own incarnation of Spider Jerusalem: news seekers with personal adventures.

More accounts of storytelling and drawing with consequence has resulted. We have even begun to see writing without direct organizational or corporate support. Joe Sacco has been touted by many as the first of the first in the new "comics journalism" movement. His books on Palestine (1993, 1996, 2001, 2009) and the Bosnian war (1998, 2000, 2003, 2005, 2009) have given comics a new purpose. Sacco's claim to journalism is made overt and direct in the title of his 2012 book *Journalism*. Sacco, while an editor at Fantagraphics, created a graphic magazine that was perhaps too new for the time. *Centrifugal Bumble-Puppy* directly referenced Huxley and Postman with its title. During its brief eight-issue life in 1987 and 1988, this new kind of magazine was designed to have a social focus. Yet Sacco ironically proclaimed on the cover of the first issue that *Bumble-Puppy* was "A VERY FUNNY MAGAZINE." Engaged and serious, this kind of comedic style owes as much to Spiegelman as to Huxley.

Reaching back into time, we see that Sacco and Spiegelman are fulfilling Horace's instruction to poets: Be both sweet and useful. For journalism, we might say "educate and entertain." In one way, the fusion of comics and journalism gives us a world of narrative and personalized infographics. Here, visual imagination meets experience, data, and memorable storytelling;

a complicated mix but a palpable one, and not just a *Centrifugal Bumble-Puppy*.

“Within thirty years, we will have the technological means to create superhuman intelligence. Shortly after, the human era will be ended.”

—*The Coming Technological Singularity* by Vernor Vinge (1993) (now predicted to be achieved by 2030).

Writing without graphics can also be both visual and memorable. Since Jules Verne, speculative fiction (or science fiction) has been the genre in which adventure and engineering were mixed. The result is a variety of futures. Not all speculative fiction writers, however, predict the future world with astounding accuracy. Orwell’s pneumatic tubes in the Ministry of Truth vanished and were replaced with copper and then optical fiber. But certain predictions stick. We grasp onto these imaginaries and mold the visual metaphor into our daily lives. If we do not obsess over the inaccurate technical details concerning Orwell’s monitoring devices, we see some bold predictions: his rewritten histories, his manufactured news, his distractions for the masses, and of course the management of language. All of these things, to varying degrees, have been issues of our modern world.

The idea of modern hackers using and liberating hidden information, like the real-life “Anonymous,” can first be found in Vernor Vinge’s *True Names* (1987). Set in Vinge’s near future, hackers living quite common lives in very usual places have access to an alternative world of avatars, databases, and networks through their home-built computer systems. Once in that world, they have access to counter power. Here the hackers have a means for resistance to the “Great Adversary,” their corrupt government. This influential work forecasted the cyberpunk movement. *True Names* also influenced the creators of our current technology infrastructure. Vinge’s vision was celebrated in a republication, *True Names: And the Opening of the Cyberspace Frontier* (2001), with essays of appreciation by leaders in supercomputing, artificial intelligence, virtual reality, and free software; and by cryptographers and other writers. Regardless of the massive bits of freed information, in the end they did not free Vinge’s protagonist, Mr. Slippery (the Edward Snowden of this story?). However, the information set free by Mr. Slippery freed the minds of inventors and network policy makers for decades to come.

A general trend can be seen from these illustrations. As information becomes digitized, its barrier to access is decreased. When security mechanisms are digital and not physical, they can be circumvented by clever code and ingenuity. This makes renegade computer scientists into information providers like journalists have been at one level. We break to the current moment and see

that groups like Anonymous take often private information and share it with the public. When an individual or a company does not abide by Anonymous's moral code, they may be subject to an attack. Using the tools of computational know-how and unauthorized access to computer databases, Anonymous has performed detective work and identified members of otherwise hidden groups. There is no reason to think that this kind of vigilante journalism will not increase, as more and more groups employ computer-savvy generations to obtain information. Teens, graffiti artists, rogue journalists, and others who live outside the dystopic cultures of control may seem like near twists on investigative journalism. However, we can relate because at least they appear to uphold the four pillars of journalism: drinking, cursing, cynicism, and gossip.

Vinge also forecasted unauthorized access to databases. In his very first effort, *Bookworm, Run* (1966), he depicts the networked brain of a chimpanzee. Norman, the chimp and hero, is to become connected to a wireless network, which is designed to provide Norman with much greater intelligence and direction. Through a glitch in the computer network's security system, Norman is given access to America's most sensitive databases. Like Adam confronting the tree of knowledge, Norman realizes that he can ask for everything in the database. Like Adam, he is driven by curiosity and by a thirst for knowledge. Once more, like Adam, he finds himself changed to the wrong side of power. While Norman was no news chimp, his feed was both his news source and his archive.

Norman's feed and Mr. Slippery's databases turned into a "Network of A Million Lies" in Vinge's Hugo-winning novel *A Fire Upon the Deep* (1993). In this story, Vigne's focus turned to the first internet discussion forum, USENET. Shortly after its creation, USENET became a place for gossip, fiery opinion, insider slang, and occasional revelations. While still celebrating the virtues of the polyvocal feed, *A Fire upon the Deep* provides a critique of crowd-created and crowd-sourced news. Somewhere within the "Network of A Million Lies" lies just enough truth. Vinge does not just depict USENET as a collection of discussion boards and newsgroups with participants. Here he foresees the problems of current incarnations of gossipy and mud-slinging networks. The result is error, distortions, and factual deviation. Vinge's depiction forecasts the disparity we can observe on contemporary news-site commentaries and on opinion-fueled sites like Reddit.

In M.T. Anderson's young adult novel *Feed* (2002), the information flow has become not vox populi, like USENET, but a required source of distraction and control. Consider it as a *Centrifugal Bumble-Puppy* with a bite. Disconnection from the feed results in death. People mine data for the government. In what sounds like a digital marketer's dream, individual preferences are recorded and uploaded to the powers that be. Every action is monitored, deciphered,

and evaluated so potential consumer behaviors can be exploited. People in the world of feed can communicate in a near direct telepathic way using *m-chat*, but even those communications are later data mined by corporations seeking profits. The feed is searchable, centrally controlled, disempowering, and unavoidable. One of the protagonists here is the only human without an implanted feed. He is depicted as a professor of the history of programming languages. He wears a backpack and accesses the feed through his glasses. And he is largely misunderstood. Not just because he is not wired into the feed, but also because he is the father of one of the main characters in this decidedly young adult novel.

In Vinge's next Hugo-winning novel, *Rainbows End* (2006), access to the feed is not by way of embedded devices but through smart clothes. The world is seen through contact lenses connected to the feed called virtual retinal displays or VRDs. The feed is not just data or video or text but an ongoing augmented reality. In addition to auditory and visual encounters with the feed, characters in *Rainbows End* can experience haptic feedback from their experiences in the augmented reality. Things are networked. Virtual and physical become the same. The news and the world itself are no longer just things to be accessed and shared but new worlds to be experienced. Bodies have new lives—the protagonist, Robert Gu, is a former poet and English teacher brought back from Alzheimer's disease. Virtual reality gaming is both a way to pass time but also a way of living. Libraries have become power centers. And the novel's sinister presence has as its avatar a rabbit or a disembodied voice. There is no separation between the feed and the lived world.

What is it to say that news media could not be more experiential or a part of reality? While this prediction may still be far from landing, it is no secret that interactive news is the future of online media presentation. Static news representations are giving way to the dynamic customization of content. If we remain on this continuum, we may find that we end up in a completely immersive reality, the ultimate customization. We may find news as a portal to experiencing things beyond our perception, similar to the way Vinge forecasts news as a temporary transportation of reality that is all encompassing and pervasive.

*Rainbows End* also describes beings/avatars like the Blanks of the television world of 1980s TV cult *Max Headroom*. In this story, the Blanks come in the form of people who choose laptops, keyboards, and old-school computer programming to create and modify the games of life that others are experiencing as well as the worlds in which they are living. Like the Blanks—who are people who have either fallen off the information nets or taken themselves off deliberately in the *Max Headroom* world—the rogues

in *Rainbows End* operate outside the main feeds, games, and worlds. Unlike the Blanks, who are merely seeking personal freedoms, the characters in *Rainbows End* have the will to change the world, not by reporting on the world, but by building and forming an augmented world.

There are others who offer differing takes on augmented realities. Tim Maughan depicts the intersection of the real world with virtual interfaces. His novel "Paintwork" (2011) weaves differing visions together. Like the world of *Rainbows End*, Maughan's augmented world is viewed through lightweight glasses that overlay the virtually constructed world onto the physical world, creating a complex experience. The result is a reality that is more than real and more than virtual. Google Glass offers the beginnings of a real-life version of a vision of the future, allowing continuous recording, uploading, and sharing. We now also know that content can be overlaid onto whatever we see. Technological innovations such as Google Glass give us a clear indication that our current technologies are not far away from creating an immersive augmented reality.

Maughan explores the problems that augmented worlds bring to reporters, punks on the street, celebrities, and governments, and even to the creators of the augmented reality (AR) experience. In one of his visions, "Paparazzi," documentary maker John Smith is contracted out by a media organization to infiltrate the elite online gaming world, which exists solely in augmented reality. Smith must enter the augmented reality in order to report on the comings and goings of a celebrity, who is famous as a video game star. A documentary reporter at heart, he finds himself enslaved to the virtual version of the paparazzi, stalking the private life of the celebrity using an online avatar.

In another vision, "Havana Augmented," he describes an international gaming team that provides Google Glass-like headgear to the entire population of the capital of Cuba so that everyone can watch their own giant androids battle in the streets. Maughan illustrates what might happen in a world where news and gaming intersect. The spectacle-like device in "Havana Augmented" holds the same basic premise that simple iPhone apps such as Yelp's Monocle do. Augmented realities are not a diversion, but they are a way for the public can enhance their world. They are a way to understand a recorded or lived event from several positions. The reporting, broadcasting, and viewership possibilities for news are immediate and immense. A feed may be used to help inform or even create a virtual world of reporting. Moreover, the augmented world can let the glasses wearer experience enhanced worlds. Real but not quite real, virtual but contextualized, augmented realities mediate reality. This mediation is not limited to games and SF; it will permeate day-to-day life.

But humans, as news consumers or reporters, are not the only augmented creatures. In Maughan's story "Paintwork," we also see automated bugs,

like roaches, that subvert characters. Today, research is already underway to explore the potential of augmented creatures at North Carolina State University (NCSU) and in other engineering groups. Instead of using expensive conventional hovering drones, NCSU researchers have created large cockroaches with wireless biological interfaces attached to their backs, for example. These cockroaches were modified or augmented to allow them to be guided as necessary, to carry a small microphone, and to enter hostile environments for search and rescue purposes.

Now specialist US journalism schools have started drone journalism labs, designed to train reporters on how to fly, hover, or crawl their way into otherwise impenetrable places. When in search of a hidden polluted stream or an encampment, these augmented roaches could assist when reporting from difficult to assess areas. These roaches can easily slip into rooms through cracks or under a door, literally bugging the room in real time. Biorobots or augmented beetles not much larger than a quarter could become, even in the near future, a part of an investigative or crime reporter's tool kit.

As seen in the SF movie *The Fifth Element* (1977), there are some problems in using insects. In the movie, when an insect is sent to bug the president, it is flattened, smashed, and squashed like—well—like a bug. Any device, be it a not-very-secretive hovering Journo-drone or a creeping augmented cockroach, faces the possibility of being discovered, compromised, and/or destroyed, as we saw at Gezi Park in Istanbul in 2013 (<http://vimeo.com/68156381>).

Content is king, but content of news—as John Berger said about art—is now ubiquitous, ephemeral, insubstantial, available, valueless, free (*Ways of Seeing*, 1972). More importantly, news has become mutable and unstable. Perhaps the best, and again a dystopic, interpretation of the near future of content control wars, of news and culture in a changing environment, is Cory Doctorow's *Pirate Cinema* (2012). Doctorow takes on our culture's recent fascination with news remixed as comedy. Like *The Daily Show*, Reddit, YouTube, and Auto-Tune, The News in Doctorow's world—both the practice of sharing and remixing culture and news—is more extreme. The litigious reaction is also more overreaching—but not by much. Play and seriousness collide in the creation, interpretation, and unauthorized remix of popular news.

Reporters can do ground work at a superhero level, as comic-strip reporters like Kent, Starr, and Parker once did; they can no longer control the transmission and forms of presentation, representation, and re-presentation of their work. Journalists, much the same as these SF writers and artists foresee, are being presented with new languages, new opportunities, and new ways to be heroic and creative. Even Huxley's (and later Postman's and then Sacco's) Centrifugal Bumble-Puppy can carry the news in an effective and entertaining way. Part

satire, part information, humor and news go together in SF. This type of humor knows no boundaries and takes no prisoners. Journalism for Cory Doctorow, Sacco, and even Ellis (with Spider Jerusalem) is at the intersection of facts and entertainment.

Many ask “Where’s the money? Where is the market?” We agree with the creator of “Paintwork,” Tim Maughan: “The ties binding innovation to the market ultimately cast a dark cloud over the *present*.”

But, as we suggest in our disruptive innovation chapter (Chapter 3), we cannot be afraid of change simply because of a bottom line or the lack of current revenue streams. In our studies here, we still see a role for investigative journalism. Journalism retains a role that is very central to balancing government and corporate misuse. This suggests that, in whatever form, journalism will exist even in the most dystopian of visions.

In addition to the important role we see journalism playing in SF, we see an advent of new technologies. Augmented reality puts reporting on top of our everyday experiences. Journalists gain celebrity followings, and people pay for access to their streams of consciousness. Investigative journalism goes rogue and literally employs “bugs” to get the truth. In a world of gratification, journalism becomes entertaining.

As we have mentioned, the current state of SF can paint a world that has fallen from grace. If such predictions were taken as straight facts, journalism’s future would be the least of our worries. Fortunately, even the authors themselves know that their depictions are fiction. What we can take solace in is that, even in the most disjointed future, we see a demand for journalism and its power-checking role, plus a plethora of technological innovations that will fuel the next generation of journalists. All of the theories mentioned elsewhere in this book posit that the combination of demand and disruptive innovation can keep industries alive. These two observations give us a tempered feeling of support for what will come.

## Fictional prototyping

Working with prototypes, especially in the context of innovation management, is not new.

The relevance of prototypes in the process of innovation management, and in particular with regard to experimenting and learning from these experiments, has been emphasized earlier in this chapter.

If we acknowledge that the future cannot be predicted and that we are increasingly unable to rely on past experiences, we require new approaches to deal with the evolving future. Prototyping explores the future by

experimenting with, or engaging in experimental exploration of, something new. Furthermore, prototypes are significant for innovation since they often encompass the essential characteristics of the final products.

SF stories, movies, and comics have been created for over 100 years based on science and technology facts. However, SF prototypes differ in that they utilize fictional creations solely for the development process. Regardless of the profession or industry, SF prototypes enable the future to be imagined and envisioned in a completely new manner. Furthermore, the purpose of dealing with SF prototypes is to explore the implications and/or effects of the part of science or technology they are based upon.

SF prototypes can be used as design tools in the development of technology to provide a virtual reality in which a technology can be explored and, most importantly, a new perspective on the technology itself. SF prototypes can cause such an upsurge in creativity that new paths are discovered and possibilities that were never before imagined become apparent in a fictional setting.

SF has not only inspired generations of scientists, but also, more specifically, SF has influenced the design of products. There is little doubt that items of modern technology, whether mobile telephones or portable computers, stem in form and function from SF. SF prototypes have enhanced the creativity of designers, engineers, scientists, artists, students, and strategic planners. Being creative, or innovative, is essential for companies to survive and prosper. SF prototyping fosters creativity by generating new ideas, broadening perspectives, and revealing other solutions to problems.

## The global news prototype

In this prototype, we first proposed a strategic context that formed the futuristic basis for constructing our fictional narrative (which aimed to explore the human, social, and ethical consequences of future design, product, technology, and/or city landscape trends).

### *Strategic context*

In the spirit of speculative fiction, let us set a scene for a near future of news by first establishing a strategic context: an analysis of our projected scenario for the year 2037. We then follow this with a fictional vignette synopsis in order to illustrate the social, economic, and ethical consequences of future technology within this imagined but grounded 2037 global socioeconomic market context using the frame of the speculative fiction story “In the Year

2889” by Jules Verne and Michel Verne (1889). We have integrated literary narrative themes from the original story to take into consideration recent developments in future technology and the evolution of short-story narrative theory (the focus on strong character development, dialogue, point of view (POV) and reader “pay-off”).

US firms have established and maintained intense collaboration with companies across the world. The private sector has taken the lead in addressing the pressing issues of the day. Any attempt by governments to get involved in regulating business is seen as an unnecessary intrusion. Citizens trust markets and they are willing to allow them to “work the magic.” So far, their patience and confidence in market forces has paid off. The case in point is the now routine hassle-free immigration across most nations’ borders and the dramatic increase in global food production.

Traditional powerhouses such as Japan, Germany, and the United States no longer control the capabilities and resources needed to manufacture highly specialized, high-value products. Although developing countries are not yet on a par with advanced nations, they have found niches and are investing heavily in developing their industrial competencies. To exploit their comparative advantages, countries are specializing in producing what they do best and rely on other countries—halfway across the world in some cases—for everything else that they need. The interconnectedness and speed of this global market has a very clear downside as well: increased volatility. For example, a labor strike in South Korea can have huge ripple effects in a Madison, Wisconsin, manufacturing plant. As a result, firms are taking extensive precautions to keep the flow of goods both smooth and secure.

Affordable and seamless supply chains are encouraging companies to invest in global manufacturing capabilities, with most large firms using a mix of offshore and near-shore plants to remain low cost and flexible. The cost of moving goods anywhere in the world is very reasonable, primarily due to new and cheaper energy sources and technologies and nonobtrusive environmental regulations. Energy costs, although relatively low, remain extremely volatile because of the continual natural and manmade disruptions in the supply of oil-based fuels.

Raw materials and commodities are brought to the market from all over the world, as there are minimal trade barriers limiting their availability. The free flow of goods is, however, creating extreme volatility in commodity prices, which is a persistent problem for most firms. Therefore price, rather than access, is the key criterion for choosing a commodity item. Postponement of final product customization until the very end has led to higher value density in products being moved within the United States. Retail sales are predominantly conducted online, even for grocery vendors. With a significant

proportion of the US population living in large and dense cities, individual delivery to residencies is the norm in most retail transactions.

The collaboration between firms across national boundaries has further expanded the markets to the point that they have overlapped and blended into a single, global market, with a minimal set of regulations in place. It is said by cynics that, in this brave new world, “the only regulation is that there are no regulations.” Finally, a true global marketplace has emerged, where ideas, technology, labor, and goods are exchanged freely and quickly.

The next stage involved building a scenario of the news industry in 2037 grounded in this strategic context. We present the scenario with an accompanying prototype narrative analysis to illustrate the methods by which the prototyper can utilize fictional constructs in their theoretical extrapolations of the human consequences of future technological change. The segments of story narrative are presented in italics below.

### ***Earth Herald 2037***

While the Vernes’ story is set in 2889, our story explores a nearer future. We begin on the morning of July 26, 2037, by looking at the global market space scenario through a day in the life of Ted Chang, a managing editor of world’s largest city newspaper in New York (now called Centro space):

Chang, the director of the *Earth Herald*, recommenced his tour of twelve miles across his office. That evening, when his stock accumulator had been brought into action, it was at two hundred and fifty thousand dollars that it calculated the profits of that day—fifty thousand more than the day before.

In this prototype, we see one organization dominating the control of healthy news: a world beset by social division (two classes exist: the news media rich, supplied with a healthy information diet of actionable news; and the news poor, supplied with a malnourished news diet of gossip and distractions).

Through the intelligent workings of an artificial intelligence (AI) capture system (the so called “News Media Cloud” that now floats around the Earth’s major cities)—made possible by the incredible diffusion of robotic intelligence, singularity, sensor surveillance, and implanted tracking devices—the *Earth Herald* exists in an environment of ubiquitous storytelling. Every morning, instead of being digitally written as was the case in the antiquity of 2014, the *Earth Herald* is “spoken” through machine imagery, which is then converted into conversation from story copy. A reader engages with the news through the producer-consumer engagement points located at regular two-meter points on the sidewalks.

The key plot point in the story is actions of a renegade group of hackers who manage to break down the barriers and Chang's autocratic control of news supply. They do this by creating an information worm hole that penetrates "the cloud."

In spite of the work of his RoboCop-style editors, who closed down the original worm hole, these holes proliferate to the extent that the cloud loses its social influence. The "worm hole" usurps the telephonic system within twenty-four hours. It is endgame for Chang. The story ends on the "*morning of the day, July 27, 2037, the director of the Earth Herald resigns, and the last copy of the Earth Herald fell from his fingers into the silence of the room.*"

This prototype using the underpinning Verne vision sought to extend the recent evolution toward the democratic empowerment facilitated by the rise of "civic era" news media technology. One consequence could be the ability of civic activists and hackers to develop news agendas more relevant to their local communities and in which everyday citizens could have more of a role in shaping their local news agendas.

## Conclusion

Our culture does not develop many cross disciplinary thinkers. The persistent problem of the two cultures—science and technology versus arts and humanities—identified by C. P. Snow will continue to be a deep problem for those planning future news media models. Yet SF, art, and design have a great deal to offer in shaping future news market spaces, not just technology, computer science, and engineering. How do we break the false dichotomy between these two approaches and get them interacting? SF in its various forms (the visual, not just the literary) allows researchers to conceptually "test drive" their future news plans, incorporating the human angle on technological change. There is a deep tradition of dystopian and utopian SF exploring the problems of future news production and consumption, including "In the Year 2889" by Jules Verne and Michel Verne from 1889; our reimagining of that scenario as "Earth Herald 2037" in 2014; and "Looking Backwards: 2000–1887" by Edward Bellamy from 1887. Prototyping could be the royal road to more joined-up thinking as it combines science fact with science fiction.

Prototypes do not try and predict the future they are designed to open up insights and debate on future technological trajectories and their perceived long-term human consequences. In answering the question of what contribution SF can make to the future of news, we suggest that it enables the completion of thought experiments that create worlds and characters that explore conflicting voices of the news media futures. It enables end users and everyday citizens to be drawn into future news media planning activities. It

provides a vehicle for the engagement and interaction of citizens in new news media model experiments, but more than a focus group, it participates in the cocreation of a new product, technology, or service.

Meanwhile, prototypes have a large element of subjective as well as objective evaluation. They are designed to make the reader aware of the need for criticality and balanced evaluation as opposed to blindly accepting the future technological visions of computer firms for the news industry, those with a vested interest in hooking people into their profit-driven ventures. This brave new world being envisaged of future smart city technologies and amplified news media profiles could be the continued preserves of the elite and rich in society, as the digital divide grows and the poor and disadvantaged are starved of the tools of democracy.

A countervision to that outlined in the prototype synopsis in this chapter could run along the lines of the availability on the Internet of infinite amounts of information, making professional news media obsolete, the human horse-drawn carriages of the twenty-first century. In pursuit of an audience will those journalists who survive, whether professionals or amateurs, redefine news to focus less on what we think of as reality and more on faux facts—make-believe news about society's sinners and celebrities that entertains but fails to edify? What reality or unreality will be the subject of the news media's work?

The novelist E. L. Doctorow (no relation to the Cory Doctorow previously cited) describes a secret of his imaginative writing craft. It is "a sentence spun from the imagination, that is, a sentence composed as a lie," but also, he continues, "it confers on the writer a degree of perception or acuity or heightened awareness that a sentence composed with the strictest attention to fact does not." Using the Big Bang theory of the origin of the universe as a metaphor, Doctorow attributes a little bang to writers' imaginations. Doctorow's description strikes the authors as an especially apt explanation of SF writing—of why the storytelling of speculative fiction, committed to the notion of extraordinary change in the world, may contain a significant measure of meaning and understanding about the potentially quite otherworldly future of news.

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