

BRINGING THE FUTURE TO LIFE

Pervasive Transmedia Scenarios and the World of Worlding

by

Trevor Haldenby

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Abstract

A technique is described for applying design processes associated with transmedia storytelling to the materialization of speculative future scenarios. How could this technique could be used to engage mass audiences in decision-making processes and experiences simulating different possible futures? A case study is used to demonstrate how an interdisciplinary team led by Trevor Haldenby called The Mission Business used this technique to create a nine-month transmedia story about the future of the biotechnology industry called *ZED.TO*. This pervasive transmedia scenario spread across numerous narrative channels, and engaged thousands of active participants from the general public to some acclaim. The performance of *ZED.TO* is explored in qualitative and quantitative terms, and the project's form and content are contrasted against the practices of contemporary designers, futurists, and storytellers.

Acknowledgements

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Thanks also go to fellow foresighters of my cohort at OCAD University, members of earlier cohorts who provided insight and feedback, and members of the cohorts following mine into the future.

To **Mom and Dad**, for supporting me when I insisted that a 9-month dystopian drama about the biotech industry was crucial research.

To my wife **Katya**, without whom a different kind of 9-month foresight project wouldn't have been possible.

To ByoLogyc CEO **Chet Getram**, 1978-2012.

Persistence. Potential. Perfection.

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Introduction

In this research project, I have investigated how practitioners of science fiction and foresight inhabit similar storytelling landscapes. In both domains, experiential immersion and narrative are understood to be powerful means of engaging large audiences with new and complex ideas. In both domains, innovation and experimentation serve as currency.

At the core of this project are two connected questions:

- **How are science fiction storytellers and futurists designing experiences that help 21st century audiences explore the implications of technological changes in our world?**
- **What kind of new, hybrid design methodologies and practices are emerging at the intersection of these two domains, and do they have the potential to transform the way we think about the future?**



Figure 1: Promotional image for ZED.TO (2012)

What is ZED.TO?

Throughout my reflection on these questions, I have explored the work of scholars and practitioners from across domains, as well as learnings gleaned from a project I created as part of a design collective called The Mission Business¹. The project, called *ZED.TO*², was a 9-month long pervasive transmedia story that used live-action and digital storytelling experiences to engage theatre audiences, game players, and the broader public in an exploration of what it might feel like to live in one possible future. In the speculative future scenario at the heart of *ZED.TO*, advances in synthetic biology and genetic engineering have been hastily commercialized by an innovative yet irresponsible fictional corporation called ByoLogyc. *ZED.TO* was delivered in 2012 as a pervasive experience incorporating live-action dramatic performances as well as online storytelling across multiple media platforms. It was a prototype exploration of how techniques from foresight, design, and science fiction storytelling could be synthesized in order to meaningfully engage mass audiences with the uncertain and potentially disastrous implications of a radical technological paradigm shift in the near future.

ZED.TO represented an attempt to hybridize the goals of researchers with the creative processes of artists and designers, as identified by educator and scholar Christopher Frayling. Frayling (1994) defines research as the proving or disproving of conjectures and hypotheses through a series of orderly principles, necessitating the

¹ The Mission Business is an adventure laboratory founded in 2011, dedicated to helping you tell stories, solve problems, and disrupt routine thinking: <http://www.themission.biz>

² *ZED.TO*'s website: <http://www.zed.to>

“submersion of subjectivity and personality” (p. 3). Alternately, the creative processes that Frayling (1994) associates with artists and designers — imagineering, visual archaeology, intuitive searching — are conducted “in an expressive idiom, rather than a cognitive one” (p. 3).

In mid-2010, as I prepared to begin my studies in strategic foresight and innovation at OCAD University, I spent much of my free time creatively brainstorming with a group of friends and colleagues interested in solving problems that spanned multiple domains — including theatre, game design, and strategic foresight. We asked ourselves how new technologies and narrative aesthetics could engage audiences and stakeholders in new ways. How could mass audiences be engaged with stories exploring the social implications of emerging technologies? How could we design interactive experiences that solved these problems in the context of multiple creative domains? Four of these colleagues expressed particular interest in the creation of a single project that would incorporate our interdisciplinary skillsets in an attempt to answer these questions. Together, we incorporated a design collective called The Mission Business.

The founders of The Mission Business hail from diverse creative backgrounds. David Fono, a freelance software architect and designer, brings a passion for creating virtual and real-world gaming experiences, as well as experience conducting human-computer interaction research at Queen’s University’s Human Media Lab and the University of Toronto. Martha Haldenby, a development officer at the Luminato

Festival³, contributes experience administering business operations and managing the development of complex public arts projects, as well as skills as a theatrical performer. Byron Laviolette; a dramaturg and director at UNIT Productions⁴, and PhD candidate in interactive performance at York University, brings experience creating original independent artistic productions along with extensive doctoral research into the historical underpinnings of storytelling. Elenna Mosoff, a director and social entrepreneur, brings experience collaborating with the innovative UK theatre company Punchdrunk (creators of the immersive fantasy theatre experience *Sleep No More*), as well as a design process developed during her MFA studies at the University of Ohio. As the final founding member of the team, I bring skills in the development and design of interactive digital storytelling experiences, honed between 2004 and 2012 at the Canadian Film Centre's Media Lab, the Finnish game development studio Sulake, the environmental education organization Earth Rangers, and a series of consulting roles with organizations including Arup, the National Film Board of Canada, and the Department of Canadian Heritage.

This team assembled for the purpose of exploring how a complex speculative future scenario could be materialized as an independent entertainment project. Between 2010 and 2012, we conceived and iterated the core themes and stories of *ZED.TO* through a diversity of methods. These included un-conference style workshops open to members of the public, private design sessions between founders of The Mission Business, and collaborations with the *ZED.TO Army* — a liquid network of dozens

³ The Luminato Festival was launched in 2007, and is one of Canada's largest celebrations of the arts. <http://www.luminato.com>

⁴ Up Your Nose and In Your Toes Productions, creators of *Morro & Jasp*, is a non-profit theatre company dedicated to breaking social norms and identifying the flaws that we, as a society, work hard to cover up. <http://www.morroandjasp.com>

of artists, designers, scientists, and performers. That said, the development process of *ZED.TO* is not the focus of this major research project. The focus of this project is to identify connected methods and design practices utilized across a number of disciplines to materialize and narrativize speculative future scenarios. Once identified, I will evaluate how *ZED.TO* and other projects have synthesized these methods and practices in order to generate meaningful engagements and interactions with mass audiences. By examining the execution and positive reception of *ZED.TO*, we can begin to articulate new approaches to forming and communicating visions of the future, and using them to influence social change in an era of digital connectivity and potentially transformative technologies.

Research Methods

- **Literature review**
- **Interviews with experts and practitioners**
- **Qualitative observations of designed environments**
- **Quantitative analysis of digital behaviour**
- **Data visualization**

Similar to many other foresight projects, the backbone of this project was an extensive literature review involving a survey of scholarly research from the 20th and 21st centuries. As a project concerned with the narrative practice of foresighters and futurists, much of this survey related to digital storytelling, and the materialization of speculative future scenarios. Many of the works included in this literature review

were written by scholars and practitioners in the fields of foresight and futures studies. Others were written by scholars and practitioners from emerging fields of design concerned with the creation of objects, media artifacts, and narrative systems that provoke critical commentary about possible future scenarios. I chose these works in an attempt to establish a meaningful context in which to situate my conjecture and critical reflection on *ZED.TO* as well as other projects. A full bibliography is available at the end of this paper, citations are provided where needed within its text, and footnotes illuminate the definitions and meanings of new and unusual terms as they are introduced.

Where the literature review raised questions that were not adequately addressed or explored, additional semi-structured interviews were conducted with expert professionals in strategic foresight, design, and transmedia storytelling. Interviews were also conducted with my colleagues at The Mission Business, and with members of an extended network of creative collaborators that straddled the line between *ZED.TO* project participants and active co-creators. Engaging this network of collaborators and participants in the research process was essential to understanding *ZED.TO*'s performance in terms of meeting the stated goals of transmedia storytelling: engaging audiences as co-creators, building a story world, and weaving the story of ByoLogyc across media. A guide to the questions included in these semi-structured interviews is included in an appendix at the conclusion of this paper.

Qualitative observations and multimedia documentation of the theatrical performances and design artifacts that made up the backbone of *ZED.TO* have also been collected and included. These artifacts demonstrate the richness of *ZED.TO*'s

storytelling, and the meaningful engagement of audiences and other stakeholders with the fictional world of the ByoLogyc scenario. Much of this textual and visual content is contained within Appendix C.

Quantitative analysis of *ZED.TO*'s digital platforms — including social media, websites, and online communities — is employed as another approach to demonstrating the cross-media engagement of audiences with the project. Particular attention is paid to the project's use of Twitter as a medium of social engagement. A network map visualizing interactions and relationships between audiences and performers was created using the open-source software tool Gephi.

This project has benefitted greatly from the work of three of my colleagues from the Master of Design program in Strategic Foresight and Innovation program at OCAD University: Karl Schroeder, whose paper *Safety Glass* investigates the communication of foresight findings through fiction; Zan Chandler, whose paper *From Consumer to Collaborator* frames the emergence of a new paradigm of audience engagement; and Jonathan Resnick, whose paper *Materialization of the Speculative in Foresight and Design* presents a survey of how immersive experiences, artifacts, and disruptive social practices are used to communicate future scenarios.

Why
explore
the
world
of
tomorrow?

We live in an era defined by the emergence of exponential technologies⁵. Since Gordon Moore (1965) observed that the performance of silicon transistors per dollar doubled approximately every two years, we have grown more comfortable with framing our conception of progress through the lens of logarithmic increase. Human population, levels of atmospheric carbon, global computational capacity, the power of individual supercomputers, the cost and time required to sequence a human genome; all are technologically influenced trends and drivers characterized by exponential change. The exponential roadmaps of various technologies in terms of raw performance or cost can often be forecast and visualized with reasonable accuracy and to significant insight, but the implications of these emerging technologies across social, economic, environmental, and political spectra are much harder to predict⁶.

⁵ The wiki for Shift Happens, a presentation about the impacts of exponential change on human civilization, is updated annually. <http://shifthappens.wikispaces.com>

⁶ A new kind of academic institution has emerged in an attempt to try. Singularity University, operating out of NASA's Ames Research Centre in California, exclusively delivers curricula associated with exponential change across technological and social domains. <http://singularityu.org>

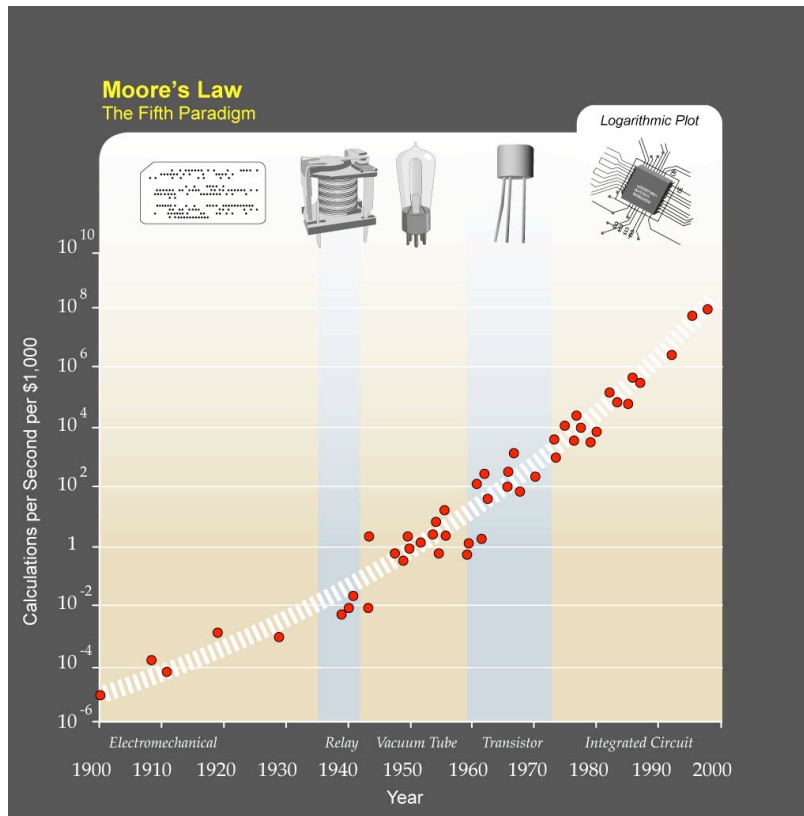


Figure 2: A graph depicting Moore's Law, a measure of the exponential increase in computational capacity, by Ray Kurzweil (CC BY 1.0)

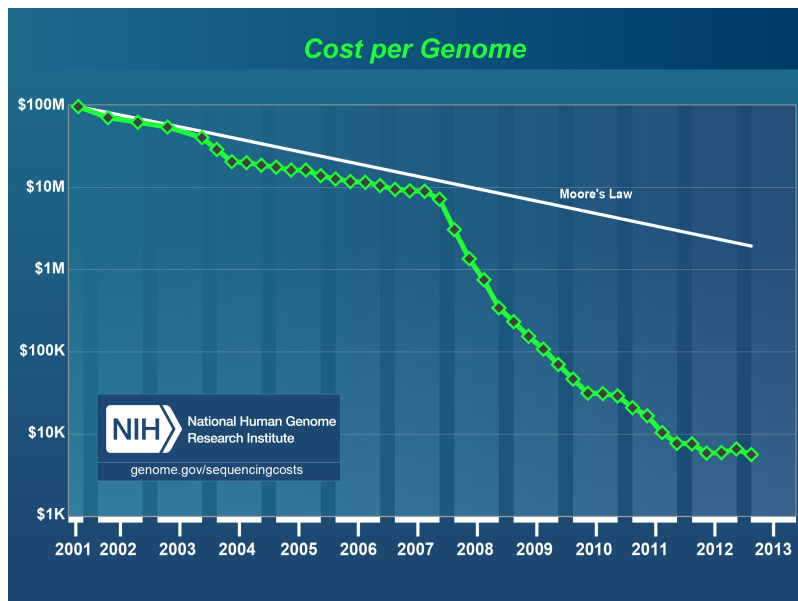


Figure 3: Graph depicting the exponential decrease in the cost of sequencing a human genome. Image courtesy of the National Human Genome Research Institute.

The ingredients and components of our technologically driven world are known to us; but their flavours, interactions, and emergent effects are highly uncertain. In the 19th century, our nascent ability to extract hydrocarbons buried beneath the earth's surface marked the beginning of a global revolution in terms of agricultural production, transportation, and technological infrastructure. We had discovered energy sources hundreds of times more powerful than those on which we had evolved. But along with the food security that came with our use of industrial fertilizers, the beneficial ability to keep our homes heated, and the opportunity to travel great distances via the locomotive, the automobile, and the jet plane, came unintended consequences. Our agricultural conversion of the planet's surface has become increasingly destructive, and our manipulation of the global environment through the introduction of dangerous levels of greenhouse gases into the atmosphere may be shifting the planet into an uninhabitable state for human beings and many other species. Many scientists now believe that climate change, overpopulation, and desertification are leading us past a tipping point into the planet's 6th great extinction⁷. The exponential increases in efficiency and power that stemmed from our shift to a hydrocarbon-driven global economy have come hand-in-hand with destabilizing crisis, and the emergence of a number of *wicked problems*.

A wicked problem, known for ten unique features identified by design theorists Horst Rittel and Melvin Webber and generalized by Jeff Conklin (2005), is a dilemma that is novel and unique, difficult to understand until a solution is attempted, and for which any attempt at a solution tends to increase the complexity of the problem.

⁷ This infographic from the New York Times visualizes the decimation of Earth's biosphere currently underway. <http://www.nytimes.com/interactive/2012/06/01/opinion/sunday/are-we-in-the-midst-of-a-sixth-mass-extinction.html>

Climate change, social injustice, and the spread of a global pandemic are all examples of wicked problems. Thomas Frey, founder of the DaVinci Institute and author of *Communicating with the Future*, suggested in a recent blog post that our addiction to a quick fix in healthcare may be a wicked problem. Frey (2012) notes that “according to a study by the Institute for Families USA, the average number of prescriptions per year/per senior citizen grew from 19.6 in 1992 to 28.5 in 2000” while “a recent headline casts an even darker shadow: Prescription Drugs Kill 300 Percent More Americans Than Illegal Drugs.”

While our first foray into the territory of exponential growth on the back of a fossil fuel economy is widely recognized as rife with wicked problems, it was not our last. In his 1995 book *Being Digital*, Nicholas Negroponte introduced the idea of a civilizational *paradigm shift*⁸ “from atoms to bits.” Has this 20th century exploration into new exponential advances come with its own set of wicked problems? The proliferation of connected gizmos and electronic information management systems in businesses, homes, and now our pockets does seem to have been accompanied by a number of unforeseen social and environmental implications. We spend more and more of our time connecting virtually rather than building meaningful real-world social connections, as explored in Sherry Turkle’s research (2012), and deliberately addressed (arguably in a band-aid fashion) by new wearable technologies, such as the Pebble watch and Google Glass (TED, 2013). We have overloaded landfills in developing nations with toxic e-waste that destroys ecosystems and burdens communities with long-term health impacts.

⁸ The idea of a paradigm shift, a transition between basic assumptions in science, was first suggested in 1962 by philosopher Thomas Kuhn in his book *The Structure of Scientific Revolutions*

We have crammed a dense spectrum of electromagnetic radiation full of digitally encoded information, to questionable and uncertain medical ends. Our transition to a global fossil fuel economy led to surges in affluence and abundance of energy — but at a tremendous cost, and accompanied by a rise in global risks and wicked problems. Our transformation into an information civilization has afforded some of the same benefits in terms of affluence, abundance, and convenience; but the outcomes in the long term are just as unclear. Will accelerating digital technologies continue to benefit the rich at the expense of the poor? Will the so-called law of accelerating returns propel us towards a technological singularity as suggested by futurist Ray Kurzweil (1999), or will we outstrip our capacity to understand the changes in play in our world? The jury is out.

The wicked problems and uncertainties of today might only be the beginning. What does a whole new paradigm of technological innovation have in store for us? The 21st century may reveal that the exclusive reign of the bit, as heralded by Negroponte and others, will be short-lived. Just last year, George Church, a synthetic biologist at Harvard Medical School, uncovered the secrets of storing digital information in DNA, the chemical code underpinning the functionality of all living cells within our own bodies (Bohannon, 2012). Even earlier, on May 20th in 2010, Craig Venter of Synthetic Genomics announced his team’s successful creation of the world’s first artificial organism — a bacterium called *Mycoplasma laboratorium* conceived to “boot up” using genetic software written by a team of human scientists and engineers (Sample, 2010).



Figure 4: Trinity Test, the context in which modern scenario planning was born.
Image is in the Public Domain.

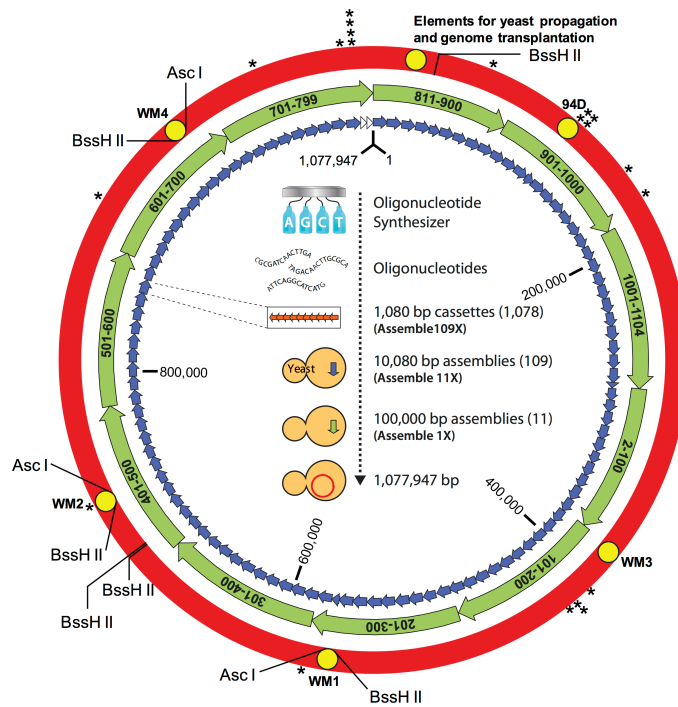


Figure 5: The context in which foresight must evolve -
Craig Venter's process for synthesizing *Mycoplasma laboratorium*.
Figure from Gibson, D. G., J. I. Glass, et al. 2010.

Across the globe, a myriad of scientists, entrepreneurs, and researchers are exploring the possibilities of a new paradigm of exponential advance, one that replaces the digital bits of the 20th century information economy with the genetic code within the cells of every living organism. We are in the early days of what could be a rapid transition from a civilizational identity of tool-making religious primates, to a new one where we take god-like control over our very bodies, initiating a systemic overhaul of biology as we know it using a largely unfamiliar toolkit. Juan Enriquez (2009), the celebrated author and biotechnological entrepreneur behind Venter's company Synthetic Genomics, refers to the next generation of human beings as *Homo evolutis* — the hominid that systematically redefines its own evolution within the timeframe of a single generation, rather than across geological time.

At this point, our poor track record at framing the implications of emerging technological paradigms must prompt us to stop and critically assess the opportunities and risks of the biotechnological future expanding before us. What stories are we telling ourselves about the innovative landscapes into which we are beginning our exploration, and how might we retell them to better communicate the significance and uncertainty of the times in which we live and innovate?

Design is a discipline through which humans make sense of and manipulate the expression of emerging technologies, shaping them to solve problems and meet social, economic, environmental, and political needs. Through design, we make sense of changes in our environment, giving meaning to the observed data, systems, and interactions between systems that rapidly change in the face of an emerging technological paradigm. In her paper *Sense-making theory and practice: an overview of user*

interests in knowledge seeking and use, information science researcher Brenda Dervin (1998) advocates a new approach to managing change and transformation based on deep-seated human skillsets: listening, designing interaction in a community of thinkers, and creating public information products. By telling stories about how we perceive the world around us, Dervin suggests that we can develop more rigorous and sustainable social and perhaps technological frameworks. Designers rely on a toolkit of empathy and understanding in order to cultivate meaning and order these changes, using the human capacity for telling, listening to, and entering into stories as a foundation on which to build contexts for the objects, structures, and systems we create. There are few more universal tools in the human kit for communicating insight and probing uncertainty than stories. Scientists often use narratives, as well. Bruno Latour (1986), the sociologist and philosopher of science, introduced the idea of a scientific “black box” in his book *Science in Action*. The concept suggests that science, like any other approach to knowledge-making, is a rhetorical and social process, one that arrives at conclusions not from some absolute truth, but through the formation of a network of allies who witness representations of facts that lead them to accept new ideas as accurate portrayals of nature. The stories we tell about our world determine how we frame reality, and the realm of possibility into which we move with the passage of time.

Futurists are a special breed of designer who focus on telling stories about the future in order to make sense of the world of tomorrow, and bridge gaps between speculative futures and the world of today. Futurists design narratives and processes of analysis that help people and organizations play out the implications of emerging technological, social, political, environmental, and economic changes. But the stories

told by futurists are often unoptimized in terms of their socialization. Leading futures practitioners such as the Global Business Network and the Institute for the Future have been designing meaningful scenario narratives and dramas into their futures work for decades (Gregory, Harris, Ogilvy, 1997). But many of the most widely used methods in the futures toolkit, as explored by Rafael Popper, a scholar of foresight methods, veer away from the physical and interactive, towards analysis, evidence, and expertise (Popper, 2008). This research project asks how we can use new 21st century approaches to storytelling and creative collaboration through narrative to bring a much-needed dose of creativity and interactivity to our ways of thinking about the future.

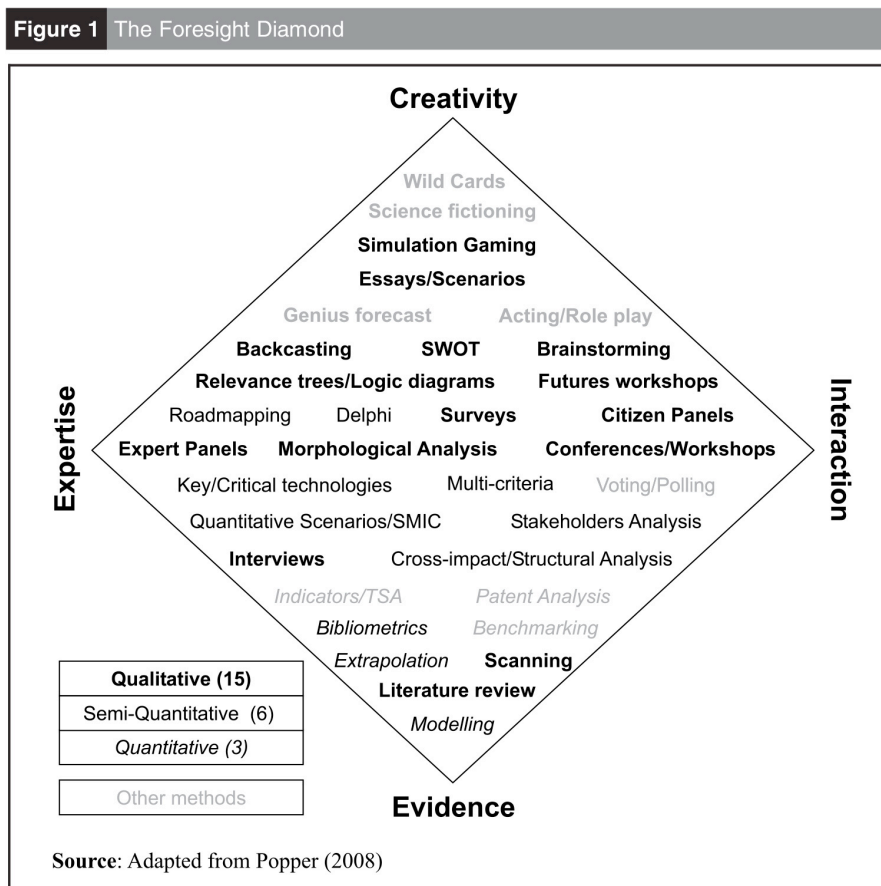


Figure 6: Rafael Popper's Foresight Diamond (2008)

As technologies evolve and paradigms change across industries, one transformation is of particular value to this research project — the adaptation of story-consuming audiences towards a new kind of storytelling. Media scholar Henry Jenkins (2008) calls this emerging aesthetic *transmedia storytelling*, and defines it in *Convergence Culture*:

Transmedia storytelling refers to a new aesthetic that has emerged in response to media convergence, one that places new demands on consumers and depends on the active participation of knowledge communities. Transmedia storytelling is the art of world making. To fully experience any fictional world, consumers must assume the role of hunters and gatherers, chasing down bits of the story across media channels, comparing notes with each other via online discussion groups, and collaborating to ensure that everyone who invests time and effort will come away with a richer entertainment experience. (Introduction)

Drew Davidson, author of *Cross Media Communications* and Director of the Entertainment Technology Center at Carnegie Mellon University, defines the term cross-media as closely related to transmedia:

Cross-media communications are integrated, interactive experiences that occur across multiple media, with multiple authors and have multiple styles. The audience becomes an active part in a cross-media experience. It is experiences that occur across the Internet, video and film, broadcast and cable TV, mobile devices, DVD, print, and radio. The new media aspect of the cross-media experience typically involves some level of audience interactivity. In other words, it's an experience (often a story of sorts) that we “read” by watching movies, dipping into a novel, playing a game, or riding a ride. (2008, Preface)

In a blog post titled *The Revenge of the Origami Unicorn*, Jenkins (2009) highlights the multiplicity of terms — including transmedia, cross-media, and deep media — similar in their use of what he refers to as the “seven principles of transmedia storytelling.” Jenkins suggests that Spreadability and Drillability are the first essential characteristics — the ability for stories to be circulated across networks and channels in order to increase their economic and narrative value. Continuity and Multiplicity allow fans to “take pleasure in alternative retellings” (Jenkins, 2009) of popular

stories. Immersion and Extractibility evoke the importance of all-surrounding narrative worlds in engaging audiences, as well as the opportunity to pilfer elements from them for the journey back to reality. Worldbuilding is identified as another of the core principles of transmedia storytelling — the idea of creating a context from which stories can emerge, rather than a single linear narrative. Seriality and Subjectivity round out the list, alongside Performance — the notion that in a transmedia narrative, fans and audiences are encouraged to insert their own stories into the world, either explicitly, or implicitly.

In the next chapter, I will explore how both science fiction storytellers and creative designers working on the fringes of foresight are already embracing this transmedia aesthetic, weaving stories about the futures of emerging technologies that actively immerse and engage 21st century audiences in new and exciting ways.

Stories of
tomorrows
in the
world of
today

Across the densely connected fringes of the domains of foresight, design and storytelling, numerous practitioners are exploring the social implications of emerging technologies through rich and participatory narratives.

Inspired by the writings and theories of media scholar Henry Jenkins, I have identified three core pillars of transmedia storytelling:

- **Worldbuilding — building story worlds, not linear narratives**
- **Cross-media Ecologies — spreading a story across multiple media**
- **Audiences into Co-Creators — engaging fans inside the story world**

These three design rules have proven valuable to science fiction storytellers in the communication of their futuristic visions, and could prove tremendously relevant to foresighters and designers in communicating theirs.

While science fiction storytellers have been exploring transmedia aesthetics and design processes for decades, practitioners of strategic foresight and design are only beginning to recognize the value of this emerging approach to engaging audiences and stakeholders with narrative.

Science Fiction Storytelling

Since the 19th century, around the same time as our plunge into the first era of exponential technological acceleration, science fiction storytellers have been telling stories that demonstrate the human perils and pleasures of possible future worlds.

Perhaps one of the 20th century's best known science-fiction storytellers is Steven Spielberg. Over the past four decades, the filmmaker's oeuvre has bracketed the present with increasingly visceral and immersive depictions of both the historical past, and the medium-term future. Like Stanley Kubrick, another design-minded visionary who explored the social implications of emerging technologies and the technological implications of emerging social value systems, Spielberg brings an incredible attention to human detail and focus on audience engagement to his storytelling. But his work isn't just science fiction fantasy. In fact, in the production notes for his 1993 film *Jurassic Park*, for more than a decade the world's most popular and high-grossing film, he noted⁹ that he preferred to think of the film as "science eventuality" — a way to explore through an easily accessible narrative experience the cross-spectrum implications of commercialized genetic engineering. The film, based on Michael Crichton's best-selling novel of the same name, follows a cast of characters as they come to understand the awesome power of this new technological paradigm through their experiences at a futuristic theme park where cloned dinosaurs have been recreated... to catastrophic ends. Importantly, the characters in the story go through the same process of realization as the audience does — the film's central technologies are presented as more than just incremental advances, as

⁹ Production notes for *Jurassic Park*: <http://www.ibiblio.org/samneill/films/jppn.txt>

keys that can unlock a fundamentally transcendent experience for humanity, as Dr. Alan Grant experiences the first time he views the Brachiosaurus cloned for display in *Jurassic Park*. Crichton's novel dives deeper than Spielberg's film into the emerging domain of commercial biotechnology, including a compelling backstory that sets the tale within a larger context of fractal mathematics, complexity theory, and business innovation. The story of Jurassic Park hints at a transmedia design philosophy — it's not just about the experience of the characters on a narrative arc, it's about a complex world where technology, business, and social forces all interact. Spielberg's film brought Crichton's words and world to life — visualizing his dinosaurs and settings in high-definition, using a revolutionary new set of technologies themselves on the cutting-edge of public understanding — computer-generated imagery and complex animatronic engineering. Stephen Prince, an author who has explored the narrative significance of visual effects in film for over twenty years, argues that “the key to understanding the reality effect¹⁰ [of computer-generated imagery] is not to consider filmic images as conforming to referential reality, but rather, that they are perceptually realistic” (as cited in Kirby, 2003). Through the use of these new storytelling tools, Spielberg encouraged his audiences to invest and engage in his science fiction world, furthering this investment of belief through an extensive marketing campaign that saw the film's brands extend into the real world in the form of toys, apparel, and theme park attractions. Spielberg's adaptation of a story depicting a futuristic theme park gone awry was the *tentpole*¹¹ for a much larger ecosystem of stories about society interacts with technology. It was an early

¹⁰ Prince borrows the term *reality effect* from French semiotician Roland Barthes, who originated its use in his 1968 essay “The Reality Effect”

¹¹ A term utilized in transmedia scholarship to refer to a central media experience beneath which other media platforms and narratives are organized.

expression of a transmedia design aesthetic, where the story contained in the film is only one platform through which the world of *Jurassic Park* is explored. Uniquely for the time, *Jurassic Park*'s transmedia extensions into the real world often retained a similar context and treatment to their origins within the film. The *Jurassic Park River Adventure* theme park ride at Universal Studios simulates an attraction that could believably exist somewhere on the story's Isla Nublar, the exact toys and trinkets on sale at shops across the country in 1993 were highlighted in the film during a melancholy tracking shot across the Park's gift shop, and the visual icons that appeared on the shirts and hats so popular following the film's release are identical to those brandished by the film's characters.

But Spielberg's work exploring the future wasn't completed with *Jurassic Park*. Several years following its release, Spielberg established a trend of visualizing and narrativizing the future with *AI* (Artificial Intelligence), adapted from a script initially developed by Stanley Kubrick¹². *AI* showcases a consumer android who develops real emotions, a robotic prostitute, and violent riffs of discord between the world of humanity and the emerging domain of its cyborg creations. *AI* also features a rich story world that comes to life upon a foundation of just-around-the-corner technological innovations, from zero-emissions vehicles to Flesh Fairs where a subculture of anti-robot humans convene to torture and dismember captured artificial life forms. The trend continued with 2002's *Minority Report*, a film that explored the social and political implications of a technology called "pre-cognition" that allowed any violent crime to be semi-accurately predicted by a group of empathic American humanoids that were the result of pregnancies conceived under

¹² Brian Aldiss's short story *Super Toys Last All Summer Long* (1969) is *AI*'s narrative inspiration.

the influence of a dangerous designer drug. Adapting the film from a story called *The Minority Report* by science fiction author Philip K. Dick, Spielberg conceived the futuristic world of the film's setting with the assistance of a group of noted futurists — designers, strategists, and artists who claimed expertise in identifying weak signals in the world of the present that had the potential to amplify into disruptive social, technological, and economic trends in the world of tomorrow. During the pre-production process on *Minority Report*, Spielberg convened a famous gathering of futurists (Wired, 2012) to design the world of his story. This gathering was not tasked with summoning the same marketing and promotional blitzkrieg as on *Jurassic Park*, but for the purpose of building a valid and believable future within which his story could unfold to maximum effect. This collective of influencers was populated by Bruce Sterling, Stewart Brand, Jamais Cascio, Douglas Coupland, and a number of other futurists; resulting in binders and *story bibles* that informed to various degrees the production design of the film. Alex McDowell, production designer on *Minority Report* as well as *The Lawnmower Man*, and John Underkoffler, MIT technologist and *Minority Report's* primary science consultant, have discussed at length the blurry boundary between science fiction and technological innovation that framed their working relationship on the film. Underkoffler has even commented on how his approach to designing the film's famous gestural interface was to frame it as research and development for the real technology in his lab, going so far as to design flaws and believable bugs into the system. Upon the film's release, Underkoffler was approached by defence contractor Raytheon to develop a working product, through his company Oblong Industries. (Kirby, 53) On this film we can again see the influences of a transmedia design process — the creation of *Minority Report* is equally an exercise in linear narrative storytelling and technosocial world-building. Through

Jurassic Park, *Artificial Intelligence*, and *Minority Report*, Spielberg utilizes classical narrative tropes to bring futuristic cinematic stories to audiences: the Frankenstein monster, the robot gone awry, and the detective forced to prove his innocence. These stories of future worlds extend out into the real world through both transmedia marketing campaigns, and connections to technologies emerging at the time of their production. *Minority Report* famously introduced the gestural user interface to mass audiences years before the iPhone's mainstreaming of multitouch technology and the Kinect's gesture-driven game platform.

This relationship between science fiction and science fact in the realm of entertainment was not unique to the 1990's. Arthur C. Clarke, the award-winning science fiction novelist, was well known for crossing the boundaries between science fiction and science fact with his writings; famously introducing the concepts of geostationary satellites, the internet, and space elevators; only to see them enter into the real world as military and academic research projects years later. Throughout research that has bridged the domains of evolutionary genetics and science communication, David Kirby, of the Centre for the History of Science, Technology, and Medicine at the University of Manchester, has made a career exploring the diversity of ways in which science fiction and the Hollywood storytelling industry have influenced one another. Kirby's 2009 publication *The Future is Now: Diegetic Prototypes and the Role of Popular Films in Generating Real-world Technological Development* aligns closely with the research of Lucy Suchman of Lancaster University in the study of prototype technologies in Hollywood films and television series as performative artefacts (Suchman, Trigg, Blomberg, 2002) that demonstrate the "necessity, normalcy, and viability" (Kirby, 2009, p. 43) of a technology in a

socialized context of benevolence and benefit. It's difficult to imagine the dystopic cyberpunk technologies of author William Gibson or the rampaging dinosaurs of Spielberg's *Jurassic Park* fitting neatly into those sedate criteria, but much of Clarke's utopian fiction certainly aligns well.

Since the 1990's, Hollywood's approach to science fiction storytelling has kept pace with the influences of a changing media ecology, evolving to match advances in cinematic technologies and also new appetites for audience engagement in the era of transmedia culture. A new form of entertainment experience called *alternate reality gaming* has emerged out of Hollywood studios and numerous marketing agencies in the 21st century, promising to extend audience interaction with stories into the real world, and across multiple media platforms in an elegant fashion — the true manifestation of a transmedia design process. The alternate-reality game, or ARG, has been popularized through projects such as *The Beast* (2001), *I Love Bees* (2004), *World Without Oil* (2007), and *Conspiracy For Good* (2010). Unlike traditional entertainment experiences, the ARG is a format that shifts the action of the narrative away from movie and television screens, splintering it into shards, and distributing narrative access points across real and virtual worlds. Through puzzles, social challenges, distributed online narratives, and clever jams of existing *media ecologies*¹³, ARGs present audiences with a hidden world just beyond that of the everyday. Some of the most well-cited examples of the form exist as elements of marketing campaigns for more established entertainment brands. *The Beast* was a

¹³ The concept of a media ecology was first proposed by philosopher Marshall McLuhan in 1964, and formalized by media theorist Neil Postman in 1968. The theory suggests that our media define our culture, and we are presently living in an Electronic Age that encourages global community and the systematic management of information.

transmedia marketing campaign executed by game designers and story architects at Microsoft to promote Spielberg's 2001 film *Artificial Intelligence. I Love Bees*, that project's spiritual successor, was used to launch Microsoft's videogame title *Halo 2*, encouraging hundreds of players to criss-cross the United States hunting for payphones that would deliver clues about the status of a fictional artificial intelligence stranded in another dimension. But not all ARGs exist as marketing tools in support of traditional media. *World Without Oil*, an ARG presented by Independent Television Service, funded by the World Bank Institute, and designed by Ken Eklund in collaboration with Jane McGonigal (now of the Institute For The Future); invited players to engage creatively in a web-based narrative that explored the implications of a peak-oil world. Players were invited to contribute videos, blog posts, and tweets that shared their experience of a hypothetical peak-oil collapse scenario, and were rewarded by having their contributions integrated into a larger online narrative that unfolded over the course of several months. In some cases, ARGs are even designed specifically to influence positive change in the real world. *Conspiracy For Good*¹⁴ was an "alternate reality drama" created by Tim Kring (creator of *Heroes*), funded by Nokia, and produced by The Company P of Sweden. The project was a prototype for a new form of *social benefit storytelling* that immersed players in the trials and tribulations of a fictional multinational corporation in order to raise funds to build libraries, and provide educational scholarships to girls in Africa. In a research paper exploring the design of the *Conspiracy for Good* experience, Finnish and Swedish researchers found that the project succeeded admirably at its goals, but struggled to find a mode of storytelling "integrating narrative and gameplay" (Stenros, Holopainen, Waern, Montola, Ollila, 2011). More recently, the

¹⁴ Conspiracy for Good website: <http://www.conspiracyforgood.com>

Office of the Director of National Intelligence in the United States launched a request for information around a new program called *UAREHERE* through its Intelligent Advanced Research Projects Activity, suggesting the perceived value of using alternate reality games to explore social and behavioural contexts and cultivate a unique intelligence advantage (IARPA, 2013).

Strategic Foresight & Scenario Planning

In contrast to science-fiction storytellers, practitioners of strategic foresight create stories about future hypothetical situations (called scenarios) not for entertainment purposes, but to influence and manage change. Their purpose is to help organizational and public stakeholders imagine the implications of strategic and design decisions made in the present — often around highly uncertain or poorly understood emerging technologies.

The connections between the world of foresight and scenario planning and the world of science fiction storytelling are rich and plentiful. Two of the earliest and most widely recognized developers of scenario planning were Herman Kahn and Leo Rosten, of the RAND Corporation and the Stanford Research Institute. In his paper *How We Learned to Pluralize the Future: Foresight Scenarios as Design Thinking*, Greg Van Alstyne (2010) outlines the initial breakthroughs that necessitated Kahn and Rosten to begin “thinking about the unthinkable” (Van Alstyne, 2010, p. 77) and examine the human implications of nuclear weapons, nuclear proliferation, and the space race. In order to create a more accessible, literary, and mythical engagement

with the difficult-to-comprehend situations that they were trying to analyze, Kahn and Rosten employed the use of narrative “scenarios” rather than dry quantitative datasets to explore possible futures. Through these scenarios Kahn and Rosten found a way to explore what various nuclear futures might feel like (though, as Van Alstyne notes, in a nihilistic fashion), as if heard on the nightly news or reported in a particularly apocalyptic morning newspaper. By shifting his focus from the quantitative prediction of possible futures to the qualitative exploration of what those futures might feel like through stories, Kahn can be seen as the godfather of modern scenario planning. The adaptation of terms like “scenario” from the film industry into the lexicon of strategic planning is extensively explored in futurist Stuart Candy’s PhD thesis, *The Futures of Everyday Life*.

The evolution of Kahn and Rosten’s scenario planning methodology into a sustained commercial practice is understood to have happened in the realm of strategic planning and consulting at Royal Dutch Shell in the 1970’s. Shell consultants and employees Pierre Wack and Art Kleiner are widely identified as having led this transformation (Kleiner, 1996). The scenario planning methodology continued to evolve through the narrative-heavy toolkit of the Global Business Network (GBN), a consultancy co-founded by a group including Stewart Brand and Peter Schwartz (who later served as a consultant on the nuclear war and artificial intelligence film *War Games*). Global Business Network specialized in the identification of emerging trends and the evolution of business strategy through the creation of scenarios about different possible futures (Schwartz, 1996). Stewart Brand, has a long history in extending the conversation about possible futures outside the business context into a social, narrative, and participatory design activity.

In *From Counterculture to Cyberculture*, writer Fred Turner (2006) explores the history of Brand's influence on American innovation, through his involvement with Ken Kesey's Merry Pranksters, his organization of multimedia happenings on the west and east coasts of the United States in the 1960's including the Trips Festival, and his creation of the *Whole Earth Catalog*. Brand was known for organizing workshops, retreats, and technologically mediated dialogues to tackle wicked and interdisciplinary design problems. In this sense, he can be seen as a future-facing transmedia designer, a visionary who understood that problems and breakthroughs were best framed and approached through mythical spectacle and collaborative storytelling, spread across media in a way that actively engaged stakeholders in a communicative dialogue. Brand is even known for his participation in one of the 20th century's most visionary examples of a future scenario come to life — Douglas Engelbart's *Mother of All Demos*¹⁵ in 1968. In the demo, Engelbart (with Brand as his cameraman and technician) mocked-up the computer of the future, demonstrating features including networked file structures, video telephony, and advanced miniaturization to an audience that wouldn't see such functionality commercialized on a significant scale until some three decades later. In this sense, Brand and Engelbart can both be seen as transmedia visionaries as well as sociotechnological innovators — bringing their stories about the future to life through community dialogue, multimedia engagement, and the imagination of complex worlds and networks of stories rather than linear narratives.

¹⁵ A video of the Mother of All Demos is available on YouTube: <http://www.youtube.com/watch?v=yJDv-zdhzMY>

But today's futurists, even those working within large corporations, still often use written stories to communicate their visions, bright and grim, of the world of tomorrow. Brian David Johnson, futurist for the Intel Corporation, employs science fiction storytelling as a design tool in his employer's digital product and technology development process, as documented in his book *Science Fiction Prototyping*. In his book, Johnson (2011) advocates the use of science fiction storytelling complete with illustrations in the design and forecasting of emerging technologies and their socialization, as science-fiction stories provide an accessible vernacular with which engineers, designers, and marketers are all familiar. They provide a shorthand for talking about the social impacts of emerging technologies without having to incorporate all of the complex analytics and data associated with specialized trades and disciplines. These stories facilitate collaboration and dialogue between highly specialized people who often have little in common besides their passion for building exciting new technologies, and telling stories about their vision of the future. In an interview I conducted with Johnson in Vancouver in November of 2012, he reaffirmed the importance of including a human emotional perspective at the foundation of stories about different possible futures, "not bloodless hairless things that live in somebody's bland imagination." Johnson went on to suggest that the blessing and the curse of written future scenario methods is "that they're based on the experiences of a single person, at a single point in time, with a single simple problem." In order to explore the extreme possibilities of unpredictable futures, Johnson insists that designers need science fiction's freedom. "We did one at Intel which we will never release because it digs into some really nasty things, things that only a science fiction story could do. We kill people, we have very bad things happen to very good people. But that allows us to sit down with our engineers, and our legal

counsel, and all these different people who can then look at a very nasty problem and talk about it.” The balance between vigour (the creative exploration of the unintended consequences of emerging technologies) and rigour (basing the scenario on real-world science and engineering challenges) has to be carefully tuned in order to stimulate a useful and iterative design process. “You have to say, ‘this was the model we originally created.... here’s how people reacted to it... here’s how we’ve altered the model.’ You also have to be aware of what you’re designing for. Do you want people to like the story experience you’re creating for them? Do you want them to NOT like this experience? Getting a diverse base of inputs so that you can say ‘If you do this, you will freak people out... if you don’t do this you won’t freak people out’ is important.” (Johnson, personal communication, November 2012).

As an interesting parallel to the science fiction cinema introduced earlier in this chapter, a number of designers and futurists, independently and within corporations, are actively engaging in the creation of short cinematic narratives that explore the implications of various emerging technologies. Design teams at Apple, Microsoft, RIM, and Corning have all produced short videos highlighting the socialized use of products currently in their developmental pipelines, for the purpose of marketing and testing their visions of the future. Corning’s video series *A Day Made of Glass*¹⁶ has achieved particular popularity on YouTube with over 21,000,000 views; while Apple’s *Futureshock*¹⁷ concept video has been widely recognized as demonstrating the lifestyle computing product eventually released as the iPad, more than a decade

¹⁶ Corning’s *A Day Made in Glass* video is accessible at: http://www.youtube.com/watch?v=6Cf7IL_eZ38

¹⁷ Apple’s *Futureshock* video showcasing the Knowledge Navigator: <http://www.youtube.com/watch?v=3WdS4TscWH8>

before its time. But just as independent cinematic storytelling is increasingly disrupting the big budgets and infrastructure of Hollywood, some consumers of Corning and Apple's visions of the future are producing their own cinematic scenarios. Heather Schlegel, a futures researcher at the University of Houston with whom I met and collaborated during a design futures workshop at the American Professional Futurists meetup at OCAD University in 2012, has produced a short film called *Fly Me to the Moon*¹⁸ depicting the future of cashless transactions in the Space Age 2.0. The design collective Superflux has produced a meditation on the future of hyper-connected technologies called *Song of the Machine*¹⁹. Both of these videos are short but high-quality explorations of possible futures that approach the quality of the more expensive and elaborate corporate productions mentioned above, and demonstrate the disruption underway by consumer technologies in Hollywood and Silicon Valley. Futurist Noah Raford provides a survey of independently produced narratives from the future in a post on his blog titled *On Glass and Mud: Good and Bad Design Fiction* (Raford, 2012). Theorists like David E. Kirby have even begun to map out a new language of critical reference for cinematic works that prominently feature hypothetical emerging technologies, referring to these futuristic product placements as "diegetic prototypes" (Kirby, 2009) — attempts to materialize speculative technologies that are believably and benevolently socialized within the world of their story.

But the most interesting breed of scenario planning futurists are those working at "bringing the future to life" through immersive and interactive stories. These

¹⁸ Heather Schelegel's *Fly Me To The Moon* short film: http://www.youtube.com/watch?feature=player_embedded&v=pbZu1WNJNLQ

¹⁹ Superflux's *Song of the Machine* film: <http://superflux.in/work/song-machine>

experiences, designed for 21st century audiences, are sometimes not unlike alternate reality games designed for entertainment audiences. They integrate complex narratives delivered across multiple physical and virtual media platforms, and are built to engage socially and sensually as well as intellectually. Unlike many ARGs, however, these experiences are not delivered in support of a larger entertainment property or brand, and are often developed in the context of academic research institutions and not-for-profit organizations rather than Hollywood studios.

Stuart Candy and Jake Dunagan are two of the best known progenitors of *experiential futures*²⁰, a domain of practice within foresight which advocates the creation of immersive dramatic experiences where participants are confronted with a future scenario that seems to come to life around them. Candy and Dunagan began their experiential futures practice at the Hawaii Research Centre for Futures Studies at the University of Hawaii in Manoa. While completing doctoral research there, the two produced a series of experiential futures events including an election set in 2050 for a new Governor of Hawaii where participants were invited to choose between two corporations, and the construction of a hypothetical criminal court prosecuting audiences for “Crimes Against the Environment and Future Generations” (Candy, 2010, p. 98). This kind of work is typical of the HRCFS program, established by Jim Dator with a particular emphasis on “images of the future”, and the exploration of archetypal scenarios through playful and participatory means. The design process behind these “experiential scenarios” is explored in Candy’s PhD dissertation, *The Futures of Everyday Life* (2010), and has figured deeply into his work since its

²⁰ For an introduction to the term, and its connection to design fiction, see Noah Raford’s article in the Association of Professional Futurist’s 2012 ebook, *The Future of Futures*

publication as a Research Fellow at the Long Now Foundation and as a Futurist employed by Arup, the global engineering consultancy. While participating in the Emerging Futurists Symposium organized by the HRCFS in Manoa in December of 2012, I was able to meet and participate in the workshopping of a new experiential futures game by John Sweeney, a current doctoral student at the University of Hawaii. Dr. Jose Ramos, the keynote presentation at the Emerging Futurists Summit, wrote a blog post introducing the game and its creators complete with short videos²¹. In a paper published by the Journal of Futures Studies in March of 2013²², Sweeney chronicles the “excitement and inspiration floating around the room due to the keynote given by Dr. Jose Ramos” (Sweeney, 2013, p. 107) before introducing a series of abstracts that characterize the diverse and playful attitudes of students passionate about exploring new modes of storytelling in the context of strategic foresight research at the HRCFS. I was invited to submit an abstract of my own, exploring the representation of diegetic prototypes in science fiction cinema for biotechnologies capable of inducing altered states, which was also published in the same issue of the Journal of Futures Studies (Haldenby, 2013, p. 117).

Jake Dunagan’s work has taken him to the not-for-profit organization Institute for the Future, where he is collaborating with futurists Jamais Cascio and Jason Tester, as well as game designer Jane McGonigal, on the development of a platform with the Office for Naval Research called *MMOWGLI* (Jensen & Tester, 2012). *MMOWGLI* (Massive Multiplayer Online Wargame Leveraging the Internet) enables participatory

²¹ Jose Ramos’ blog post introducing two HRCFS PhD candidates Aubrey Yee and John Sweeney, and exploring their experiential scenario-based game: <http://actionforesight.net/media/2012/10/19/aubrey-yee-john-sweeney-and-gaming-with-the-futures/>

²² Proceedings of the Emerging Futurists Symposium are available on the JFS website: <http://www.jfs.tku.edu.tw/sarticles.html>

“open foresight” activities that engage online audiences in the co-creation of future scenarios, and the exploration of their implications. Thus far, *MMOWGLI* and the *Foresight Engine* platform on which it is built has been used to explore the complexity of wicked problems such as Somali piracy, global black markets, and naval energy systems. The IFTF’s work on *MMOWGLI* and other massively multiplayer forecasting games built on the Foresight Engine platform, such as *SuperStruct*,²³ represent the emergence of virtual participatory scenario planning exercises — crowdsourced stories about the future that incorporate diverse perspectives and solicit feedback through online text and social media submissions. *Superstruct* was a game run in 2008 that encouraged players to create a profile of themselves from the future, before watching 3-minute videos depicting various disaster scenarios from different possible futures, and “adopting” one of the threats identified in the videos as a learning crusade (Institute For The Future, 2010).

Through techniques and methods advocated by *design fiction*²⁴ theorist and practitioner Julian Bleecker, the future is also coming to life in the material world of objects. In an online essay published on the website of his firm Near Future Laboratory (Bleecker, 2009) the artist and technologist advocates for the design and manifestation of artifacts from the future. These artifacts are prototypes of technological products and services from the future that enable us to explore their alignment with our current social values, built environments, and political systems. Bleecker’s work in design fiction is situated within a dense landscape of likeminded

²³ Game designer Jane McGonigal introduces the rules of Superstruct in a YouTube video: <https://www.youtube.com/watch?v=208OA6YT29w>

²⁴ A term referring to the deliberate use of diegetic prototypes to suspend disbelief about change, and popularized by science fiction author and theorist Bruce Sterling.

artists and designers who practice the creation of visual and tangible manifestations of the world of tomorrow in the world of today. For an excellent overview of practitioners connected to the domain of design fiction, I recommend consulting Jonathan Resnick's major research project at OCAD University's Strategic Foresight and Innovation program, titled *Materialization of the Speculative in Foresight and Design* (2012).

Through the creation of physical artifacts, interactive environments, cinematic narratives, and social communities, futurists with varying approaches and goals are telling stories that make speculative scenarios more engaging to non-specialist audiences. Interestingly, by focusing on the creation of context-rich worlds rather than linear narratives, collaborative structures for active co-creation, and the spread of these scenarios about the future across multiple media, many of these practitioners and theorists are aligning themselves with the same transmedia design process rising in prominence in science fiction storytelling. In the next chapter, I will explore the power of a transmedia design process in engaging mass audiences with a speculative future scenario. As a case study, I will use *ZED.TO*, a project I created as part of a collaborative team called The Mission Business in 2012.

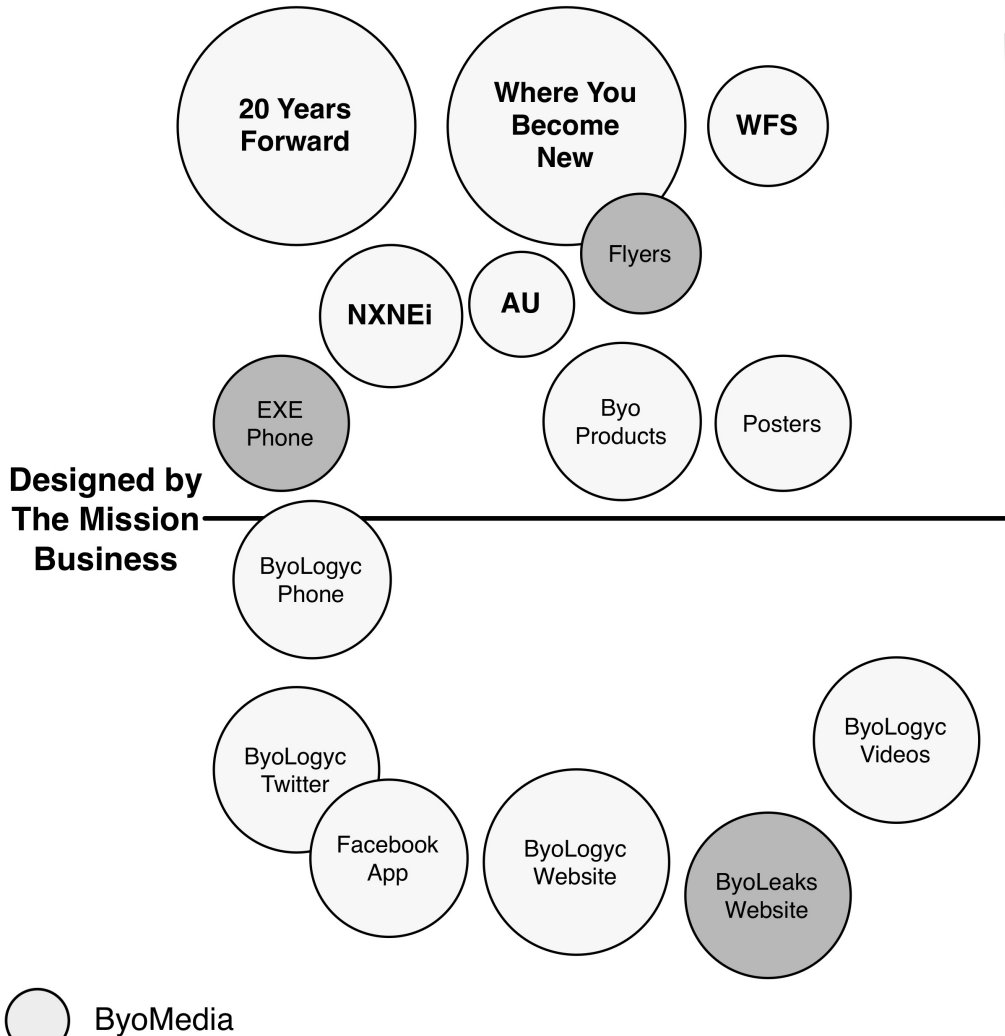
Extensive information about the story, design process, and reception of *ZED.TO* can be found in Appendix C.



Overleaf

Figure 7: A diagram depicting the media channels across which ZED.TO's story spread, indicating whether produced content was physical or virtual, and whether it was created by The Mission Business or co-created with ZED.TO participants. (2012)

PHYSICAL PLATFORMS



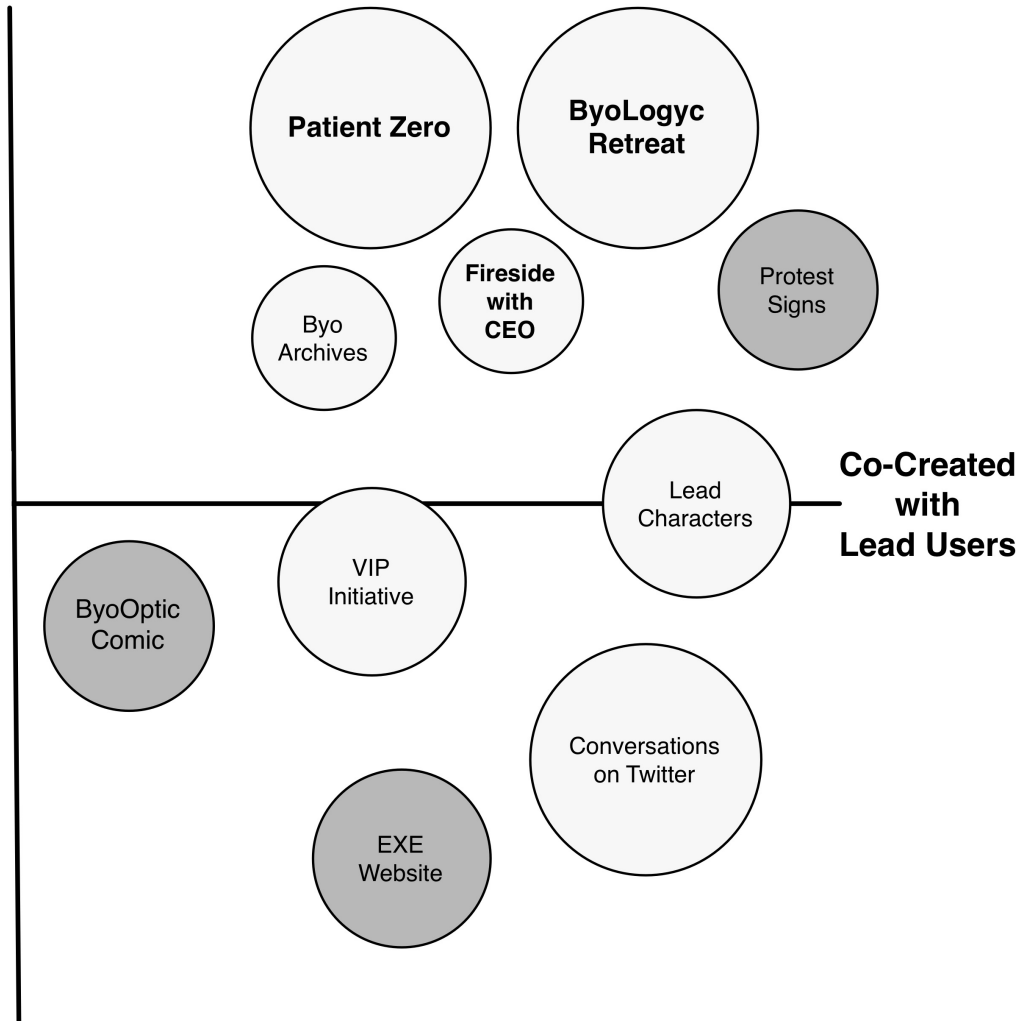
○ ByoMedia
Media channels
operated by ByoLogyc

● Anti-ByoLogyc Media
Media channels
operated by EXE / Other

Bold = Live Performance Event

DIGITAL PLATFORMS

PHYSICAL PLATFORMS



DIGITAL PLATFORMS

Was
ZED.TO's
story
about
the future(**s**)
contagious?

Various stages and events in the development, production, and documentation of *ZED.TO* offered qualitative and quantitative indications that the project meaningfully engaged audiences. Through reviews, awards, financial contributions, and extensions of the ByoLogyc story, audiences and a larger network of stakeholders entered into a complex conversation about the implications of trends in emerging technologies, and immersive interactive storytelling. For a thorough exploration of *ZED.TO*'s pervasive transmedia scenario and strategies for audience engagement, please consult Appendix C.

IndieGoGo Crowdfunding Campaign

Before *ZED.TO*, the story of ByoLogyc's rise and fall, had even launched, *The Mission Business* produced and ran a successful crowdfunding campaign on the online platform IndieGoGo to fund initial stages of the project's production²⁵. Crowdfunding is an online approach to securing finances and activating communities around a creative project, usually at an early stage in the project's development. Websites like Kickstarter and IndieGoGo allow artists, designers, and social innovators to solicit an audience of potential customers and stakeholders for the funds to develop an idea, often using a multimedia demonstration or proof of concept, as a way of bypassing venture capital investment and other traditional streams of startup funding. In exchange for microtransactional contributions to the project, funders are offered perks including early access to the finished product,

²⁵ *ZED.TO*'s IndieGoGo Campaign: http://www.indiegogo.com/projects/zed-to?website_name=zedto

recognition and acknowledgement in the credits, or exclusive promotional items. Since their launch in 2008 and 2009, the popularity of sites like IndieGoGo and Kickstarter has surged. Kickstarter, according to its statistics page²⁶, has launched over 92,000 projects that have raised more than \$450,000,000. The *ZED.TO* crowdfunding campaign on IndieGoGo generated \$21,700 in funding over 60 days, outperforming the majority of theatre campaigns on the site, and attracting contributions in amounts ranging from \$10 to over \$1,000 from 330 individuals. Campaign success rates between Kickstarter and Indiegogo across categories are roughly comparable, and in the theatre category *ZED.TO* raised more funds than 97.5% of all campaigns. Of all Kickstarter campaigns across all categories, *ZED.TO* raised more funds than 90% of campaigns. Perks offered to contributors included mention on the *ZED.TO* website, ByoLogyc promotional materials like stickers and prototype products, and even custom-created roles in live performances. The campaign was labeled as one of IndieGoGo's "Hot" campaigns during the final weeks of its run, and was promoted in the organization's newsletter and social media feeds. The *ZED.TO* IndieGoGo campaign earned the project and The Mission Business recognition in the media from science fiction author Cory Doctorow on a blog he co-authors called BoingBoing²⁷; as well as on Twitter from Margaret Atwood, the legendary Canadian author of science fiction classics including *Oryx and Crake* and *The Handmaid's Tale*.

²⁶ <http://www.kickstarter.com/help/stats>

²⁷ *ZED.TO* on BoingBoing: <http://boingboing.net/2012/02/23/futuristic-toronto-arg-raising.html>

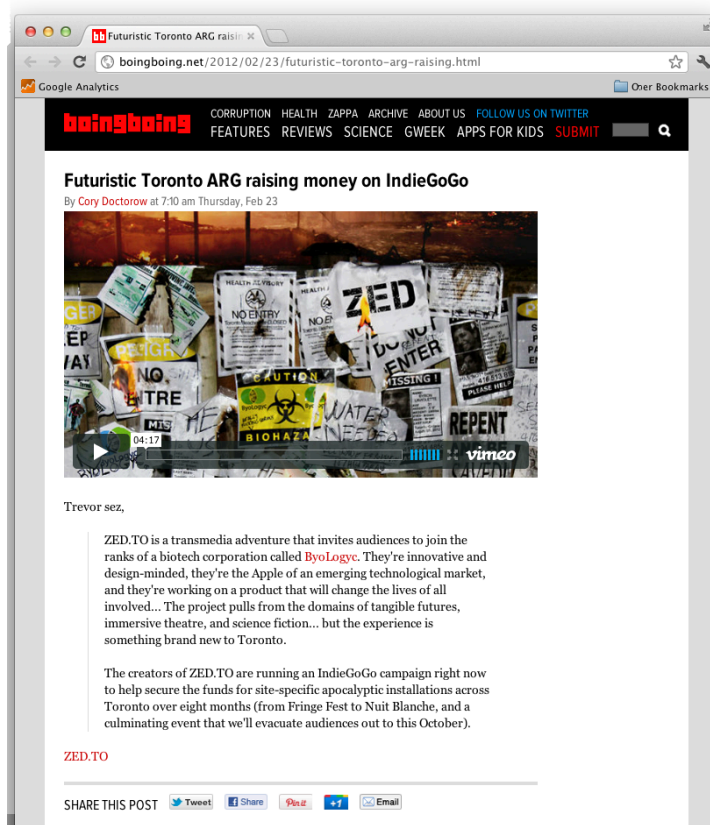
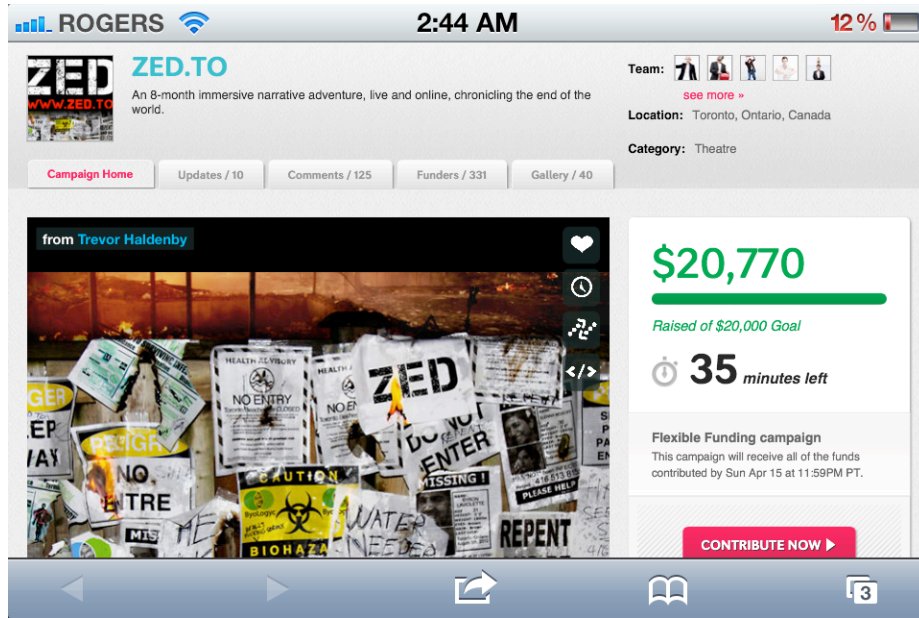


Figure 8: Screenshots and press from ZED.TO's crowdfunding campaign on IndieGoGo (2012)

Attendance at Performances and Online Engagement

Another indicator of the success of *ZED.TO* at cultivating audience engagement with a story about the future was attendance at live performance events, and corresponding surges in traffic to ByoLogyc's online properties.²⁸ Over the course of the project, *ZED.TO* attracted more than 4,000 live participants to its pervasive and immersive experiences materializing moments from a speculative biotechnological future, and generated more than 35,000 online engagements.

ZED.TO attracted 60 influencers in the Toronto arts, design, and research communities to its first live performance event — *ByoLogyc: 20 Years Forward*, at Ingram Gallery in Toronto on March 20th, 2012. During the week of the performance, visits and unique visitors to ByoLogyc web properties increased by 169% and 155% respectively compared to the preceding one week period.

ByoLogyc: Where You Become New, unfolding within the context of the Toronto Fringe Festival, attracted approximately 850 attendees who paid \$10 per ticket to attend the event as ByoLogyc interns. Ticket sales averaged 45 participants per night on average for the first seven performances, and increased to an average of 105 participants per night for the final six performances. This increase can be attributed to the generation of positive buzz among attendees of the Toronto Fringe Festival, as well as positive reviews of the performance in local media.

²⁸ Website performance statistics for ByoLogyc.com were tracked using Google Analytics, and compared against the previous week's traffic and unique visitor analytics unless otherwise noted.



Figure 9: *ByoLogyc: 20 Years Forward* — Design fiction artifacts and VIP guests (2012)

NOW Magazine, The Grid, Mooney on Theatre, and the Fringe Festival blog all positively reviewed the experience. During the run of the performance, visits and unique visitors to ByoLogyc web properties increased by 191% and 203% respectively compared to the preceding two week period.

ByoLogyc: Patient Zero, a free event situated within the Scotiabank Nuit Blanche all-night public art festival on September 29th and 30th, 2012, attracted approximately 3,250 participants over 12 hours. The number of attendees was calculated using the images captured during the final stage of the installation, where participants were photographed after being asked whether or not they had consumed the ByoRenew pill. None of these participants paid for access to the performance, though many participants stood in line for as long as two hours in order to experience it. During the week of the *Patient Zero* performance, ByoLogyc web properties experienced an increase of 122% in visits, and an increase of 196% in unique visitors compared to the preceding week.

For the final performance in the *ZED.TO* series, *ByoLogyc: Retreat*, participants were required to purchase tickets in advance. Over 335 tickets were sold, at prices ranging from \$39.99 for a discounted Evacuee ticket, up to \$99.99 for a seat on ByoLogyc's Board of Directors. Of the four levels of tickets, the highest-priced board member tickets saw the greatest uptake and sold out for all four performances across two nights. While there were significantly fewer tickets available at the Board of Directors level compared to the base Evacuee level, inferences can be made about the desire of participants to invest more income in order to secure a "premium" experience.



Figure 10: *ByoLogyc: Patient Zero* — EXE protest camp outside the Church, and CEO
(2012)

Ticket levels were described using an experiential shorthand in promotional materials — the Evacuee ticket was associated with “Adventure”, the EXE ticket with “Action”, the SCD ticket with “Power”, and the Board Member ticket with “Privilege.” Of all the live performances, *ByoLogyc: Retreat* involved the least connections with in-narrative online media, and correspondingly, web traffic to ByoLogyc properties saw a minimal increase during the run of the performance — by only 3% in terms of visits, and 25% in terms of unique visitors. When *ByoLogyc: Retreat* launched in November of 2012, sustained web traffic over the preceding three weeks was also already quite high compared to any point in time since July, decreasing the significance of the relatively minor spike in online traffic.

Examining the performance of ByoLogyc’s websites and social media platforms in isolation is also valuable in attempting to understand the degree to which the project facilitated or encouraged a social conversation. Between its launch in February of 2012, and the conclusion of *ZED.TO*’s narrative in December of 2012, the official ByoLogyc website was accessed by 7,046 unique visitors over 16,000 visits, generating 82,833 pageviews, and an average time-on-site of over 5 minutes. In contrast, the *ZED.TO* project website, which was publicized in media coverage and promotion of the project rather than highlighted in-narrative, was accessed by 13,391 unique visitors over 19,500 visits, generating 31,518 pageviews, and an average on-site time of approximately 1 minute and 30 seconds. The *ZED.TO* website consisted of a single page for the majority of this period — a simple credits and acknowledgements page was added during the performance of *ByoLogyc: Where You Become New* in July of 2012.



Figure 11: A screenshot of the ByoLogyc website's page about ByoRenew (2012)

That the *ZED.TO* site experienced a higher number of unique visitors than the ByoLogyc site is indicative of its role in promotion and project information, but the stickiness of the ByoLogyc website was significantly greater. Stickiness is a term used in website marketing to refer to a variable combination of unique visitor, visit, page view, and time-on-site metrics. While the ByoLogyc site had approximately half the unique visitors of the *ZED.TO* site, its time-on-site performance metrics were twice as high, and it featured more than twice the number of total page views. Although a smaller number of people were visiting the ByoLogyc site compared to *ZED.TO*, they were more actively engaged with site content, and consisted of more repeat visitors.

Other sources of online performance metrics were ByoLogyc's Versatile Intern Program portal, and the ByoLogyc Protect Facebook application. These online destinations allowed participants to create online profiles for themselves as interns at ByoLogyc, and then compete through quizzes and various social challenges to earn points that could be exchanged for virtual and tangible rewards. Over the course of the Versatile Intern Program's existence, between April and November of 2012, more than 580 accounts were created and then activated — a significant number for a closed online community that was only promoted via ByoLogyc channels. Of these, 259 members linked their Versatile Intern Program account to their Facebook account, indicating a desire to socially share their progress and contributions. During the months that the Versatile Intern Program was active, email newsletters with exclusive videos were sent to members and a monthly newsletter called ByoSphere, delivered exclusive story content, as well as content contributions from Versatile Intern Program members.



Figure 12: A collage depicting the videos produced for ZED.TO about ByoLogyc

(2012)

48 members actively engaged in dialogue with ByoLogyc characters involved in managing and communicating through the Versatile Intern Program, including Marie Leclerc, head of Public Relations, and Henry Chan, head of Human Resources. These engagements were literal conversations that occurred either through textual communications via the Versatile Intern Program portal, or through the submission of images to ByoLogyc staff.

These performance metrics give us powerful information about the degree to which audiences responded positively to the ByoLogyc story. For a wider spectrum of digital performance metrics and third-person user scenarios of *ZED.TO*'s live performance experiences, please consult Appendix C.

Visualizing Engagement on Twitter

On Twitter, a social media platform widely utilized for conversations between individuals and larger communities, a complex network of communication and engagement emerged within the ByoLogyc network. @ByoLogyc followed a total of 373 accounts on Twitter, and was followed by a community of 458 users. The following visualization was produced using the software tool Gephi, a data visualization suite that aims to become “like Photoshop for data.”²⁹ The visualization depicts the network of connections that existed between the accounts attached to @ByoLogyc and @ByoLeaks on Twitter (blue), accounts attached to the online terrorist organization EXE and its mascot Paul Fisher (red), the accounts

²⁹ <https://gephi.org>

representing the members of ByoLogyc’s senior management team (grey), and the accounts of Twitter users who followed ByoLogyc or its senior staff and mentioned one of them at least once (green). The thicker the edges connecting two nodes, the more frequent the mentions back and forth between the two accounts. The size of the nodes themselves indicates the amount of Twitter activity related to the account or hashtags for ByoLogyc. The positioning of a node is optimized relative to the pattern of its connection. Twitter users with connections to multiple ByoLogyc staff members, for instance, are represented spatially within the ByoLogyc staff cluster. Twitter users with connections to ByoLogyc CEO Chet Getram alone are clustered together in the top-middle of the visualization — their proximity together indicates a likeness in behaviour, not dense connectivity with each other. Some effort has also been made to increase the space between clusters of nodes, to increase legibility. The ForceAtlas2 algorithm built into the Gephi software was utilized to arrange the nodes and edges connecting them. This method of mapping *ZED.TO*’s transmedia narrative utilizing data visualization software was inspired by the work of Marc Ruppel³⁰, whose transmedia network visualization and analysis of the television series *Heroes*³¹ utilized the software suite NodeXL to map how the series’ transmedia story unfolded over time across multiple media platforms. Ruppel differentiates the nodes and clusters in his network by media platform, visualizing how *Heroes* spread across television broadcasts, graphic novels, telephone systems, and websites. In the case of *ZED.TO*, visualizing the emergent network of profiles representing ByoLogyc customers, followers, and characters was more valuable than data-mapping the different media platforms utilized.

³⁰ <http://marcruppel.net>

³¹ <http://marcruppel.net/tmvis/>

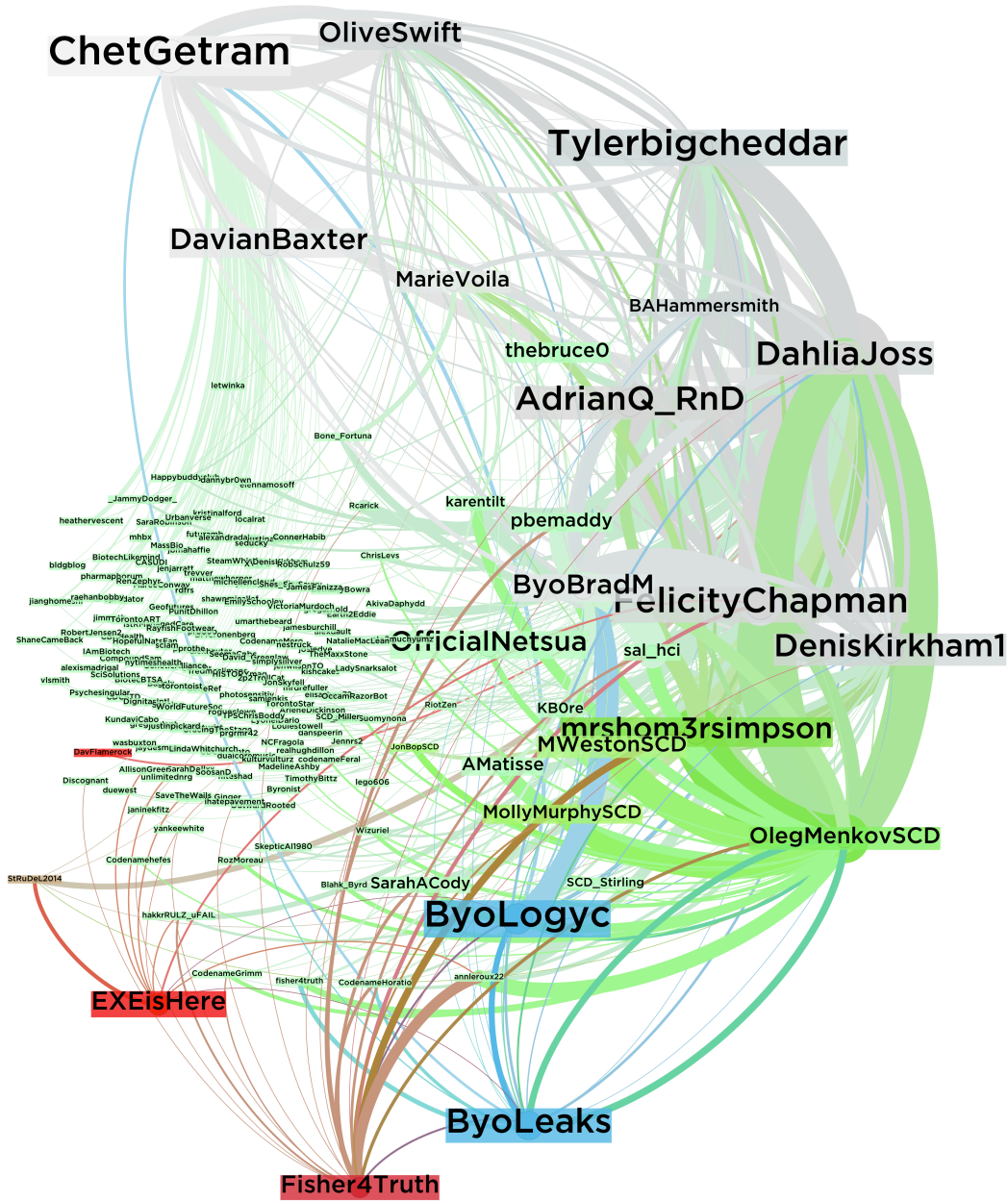


Figure 13: A Gephi visualization depicting the network of interactions on Twitter between ByoLogyc staff (grey), ByoLogyc websites (blue), EXE (red), and ZED.TO participants (green). (2012)³²

³² A high-resolution version of this visualization is available for download at: <http://www.trevorhaldenby.com/data/byologyctwitter.pdf>

In this diagram, it is clear that the most densely interconnected group of characters in the ByoLogyc story world was the fictional company's senior management team. Through hundreds of tweets, ByoLogyc's senior management utilized Twitter as a primary platform through which to present complex and often improvised social interactions. This approach to encouraging social interaction made the story of ByoLogyc more authentic and engaging, using the interactions of characters at live performances as a foundation for continued conversations with audience participants online. Indeed, the most interesting and well-connected group outside of ByoLogyc's senior management team were the "lead users" (to borrow a term from Eric Von Hippel's framework of understanding open innovation³³), or "ambassador players" (to borrow alternate-reality game player Carrie Cutforth-Young's term for alternate-reality gamers who deeply integrate themselves into the story world as characters). The green nodes representing these lead users are scattered throughout the bottom half of the visualization, illustrating their frequent conversations inside the story world with ByoLogyc senior staff members, and with each other. When cross-referencing the lead users identified in the Gephi Twitter visualization with the most active and engaged participants in the live-action theatrical performances, a significant overlap can be noted. Of the approximately 30 lead users represented by green dots in the bottom half of the Gephi visualization, more than 20 were present at more than two (or all) of the live action theatrical performances, involved as active participants portraying characters within the story world live and online, and nearly all were active participants in ByoLogyc's online Versatile Intern Program. This information was confirmed in interviews with members of The Mission Business,

³³ Eric Von Hippel is a professor at MIT's Sloan School of Management, and specializes in research related to the formation and sustainability of open innovation and distributed cognition. <http://web.mit.edu/evhippel/www/books.htm>

the design collective that produced *ZED.TO* and created the story of ByoLogyc, and in conversation with Carrie Cutforth-Young³⁴, a professional alternate-reality game player who attended all of the performance events in the ByoLogyc story. Cutforth-Young suggested in an interview conducted during November of 2012 that The Mission Business' design of a pervasive narrative that spread across live events and online media in *ZED.TO* represented the creation of a ever-expanding and adapting “story horizon” in contrast with the concept of a defined and bounded story world. A thread dedicated to *ZED.TO* and the story of ByoLogyc on the popular ARG-tracking site UnFiction.com supports this claim³⁵, with over 39 pages of community dialogue dedicated to exploration of and speculation about the pervasive transmedia scenario.

Dozens of collaborators entered into the ByoLogyc universe first as casual online players or performance audience members, before graduating to fully-fledged creative collaborators or active characters. This suggests that Young's observation of an expanding “story horizon” was accurate. Musicians, documentary filmmakers, video artists, computer science researchers, and even real entrepreneurs in the fields of synthetic biology all found their way into the story. Critically, none of these participants began their journey with ByoLogyc at the level of involvement or active participation that they reached by the project's conclusion. The widespread creative and collaborative involvement of audience members and other stakeholders in *ZED.TO* confirms the project's success at adapting the third pillar of transmedia storytelling — creative audience engagement — into a foresight context.

³⁴ <http://queenspade.com/tag/carrie-cutforth-young/>

³⁵ *ZED.TO*'s thread on UnFiction.com, a popular messageboard frequented by ARG players: <http://forums.unfiction.com/forums/viewtopic.php?t=34113>



Figure 14: *ByoLogyc: Where You Become New* — The marshmallow challenge (2012)

Awards and Recognition in Popular Media

ZED.TO received numerous awards, and significant recognition in popular media, another set of metrics by which the success of the project at materializing a transmedia scenario and engaging audiences can be gauged. The project won a series of industry awards recognizing its contributions to the changing entertainment landscape, as well as audience choice awards recognizing the form and content of the live theatrical performances.

During the Toronto Fringe Festival, hundreds of attendees voted *ByoLogyc: Where You Become New* the “most innovative” performance of the more than 155 shows included in the festival. Voting was conducted on Twitter by the organizers of the Festival, and on July 15th, 2012, *ByoLogyc: Where You Become New* was recognized with the inaugural Tosho Knife Arts Performance Innovation Award. *Torontoist*, a popular local news publication, noted that the performance was “crafted with obvious talent and energy, and if you’re willing to match even a fraction of said energy it promises to be a very fulfilling experience.”³⁶ *Mooney on Theatre*, a popular website reviewing Canadian theatre productions, lauded the interactive aspects of the performance: “From simply standing in line to enter, the fact that this is a highly interactive experience that will bend your sense of reality becomes very apparent. Your experience grows the more you interact. You are not bored when you participate. You are a vital and integral part of the show. The fourth wall does not end in front of you, it extends and ends behind you so it is up to you as an attendee

³⁶ <http://torontoist.com/2012/07/fringe-2012-zed-to-byologyc-where-you-become-new/>

not to break that experience.”³⁷ Another Toronto news publication, The Grid, reflected that “[The] effort pays off—not a detail is missed. The corporate video is slick, the characters compelling, and at the end you’re jolted and left wanting more.”³⁸

Later that month at WorldFuture 2012, the annual conference of the World Future Society, ByoLogyc’s vision of the consumer biotechnological industry was brought to life through live performances from ByoLogyc’s senior staff, and live demonstrations of ByoLogyc products as a part of the conference’s innovation showcase, Futurists: BetaLaunch. Conference attendees were again invited to vote on Twitter for the demonstration most capable of changing the way we think about the future, and once again, ByoLogyc brought in the largest number of votes. ByoLogyc CEO Chet Getram and I accepted the Best in Show award from author and World Future Society content director Patrick Tucker. An editorial on the goals of the project and its reception at BetaLaunch appeared in The Futurist, the World Future Society’s newsletter, along with photographs of ByoLogyc CEO Chet Getram with open-source biotechnological innovator Andrew Hessel.³⁹

³⁷ <http://www.mooneyontheatre.com/2012/07/09/zed-to-byologyc-where-you-become-new-the-mission-business-2012-toronto-fringe-review/>

³⁸ <http://www.thegridto.com/culture/theatre/the-fringe-top-10/>

³⁹ <http://www.wfs.org/futurist-update/futurist-update-2012-issues/august-2012-vol-13-no-8>

Andrew Hessel is the founder of the Pink Army Cooperative, an organization dedicated to open-sourcing the cure for cancer through distributed research into personalized viral therapies. He is also a Distinguished Researcher at Autodesk's research group into Bio and Nano Programmable Matter. Over the course of the ByoLogyc story, Hessel would become more deeply involved in the project, providing informal insight into the evolution of emerging biotechnologies and guiding suggestions as to the depiction of ByoLogyc as a commercial biotech business.

Hessel became an informal science advisor to *The Mission Business*, and shaped the depiction of CEO Chet Getram's visionary personality in subtle but significant ways. Andrew Moyes, the actor playing Getram across *ZED.TO*'s run, had an opportunity to learn from Hessel at the World Future Society conference about the nuances of his character, his approach to selling a vision of futuristic technologies, and even his mannerisms and style of dress. This dialogue informed a more realistic portrayal of CEO Chet Getram, at the helm of ByoLogyc.



Figure 15: Trevor Haldenby, Chet Getram, and Olive Swift with Andrew Hessel, synthetic biologist and healthcare entrepreneur (2012)

Reviews for *ZED.TO*'s epic conclusion, *ByoLogyc: Retreat*, were broadly effusive and again highlighted the project's ability to cultivate deep reflection and engagement around the unforeseen implications of emerging technologies through an interactive entertainment experience. In their November 1st, 2012 print issue, the Toronto independent weekly newspaper *NOW* published the following in a feature article titled *Go Viral*: "Spreading like the fictional outbreak at the centre of their apocalyptic sci-fi story, *ZED.TO*'s ambitious experiment in large-scale interactive theatre is sweeping the city – and redefining the relationship between audience and performer in the process. On its surface, *ByoLogyc* is about the mistrust of big science and biotechnologies, but at a deeper level, it's about people and their lack of skepticism."⁴⁰ In his blog on *Wired.com*, *Beyond the Beyond*, science fiction author and design fiction theorist Bruce Sterling wrote about the project,⁴¹ introducing *ZED.TO* as "Experiential futurism in Toronto. And they sell tickets." Geek culture blog *Dorkshelf* reviewed the performance as "one of the city's most talked-about art events of the year"⁴², noting that "the organizers are using the cultural shorthand of the apocalypse to explore the impact of technological and social change in our society, and in the process, pioneering some wonderful new approaches to interactive entertainment."

Immediately prior to the *ByoLogyc: Retreat* performance event, I was invited to the *Merging Media* conference in Vancouver, a forum dedicated to the creative exploration of transmedia storytelling methodology, to present work on the project

⁴⁰ <http://www.nowtoronto.com/mobile/story.cfm?c=189459>

⁴¹ http://www.wired.com/beyond_the_beyond/2012/10/design-fiction-byologyc/

⁴² <http://dorkshelf.com/2012/10/31/preview-zed-to-presents-byologyc-retreat/>

so far, and insights gleaned in terms of the development of original independent transmedia intellectual property. The first half of my presentation at the conference, alongside transmedia innovators and entrepreneurs Yomi Ayeni, Alison Norrington, and Alex Mayhew, was delivered from within the ByoLogyc story world, extending *ZED.TO*'s story about the future into the context of the industry conference.

In December of 2012 at Autodesk University in Las Vegas⁴³ and in early 2013 at the TED conference in Long Beach, I was invited by Tom Wujec to present new story material from within the ByoLogyc story world. These keynote presentations took the form of award ceremonies from the future of the biotechnology industry, and were intended to engage designers, engineers, and business innovators in an experience encouraging imagination around the technological landscape of the year 2025. Winners in other categories included Brian David Johnson, Intel's futurist; Javier Verdura, head of design at Tesla Motors; and Alvise Simondetti, of Arup.. Stuart Candy, a designer of experiential future scenarios introduced in Chapter 3, and editor of the blog *the sceptical futurist*⁴⁴ reviewed the performance that took place at Autodesk University.⁴⁵ Candy noted that "in terms of experiential scenario craft, the clear standout was OCAD foresight student and budding experientialist Trevor Haldenby, reprising a role created for his transmedia theatre production *ZED.TO* last year [...] This was among the most accomplished solo-performance scenarios I've ever seen, smoothly checking off some of the key criteria for doing experiential futures (or design fiction) work effectively." (Candy, 2013).

⁴³ <http://www.youtube.com/watch?v=I2vHC15WD60&feature=youtu.be>

⁴⁴ <http://futoryst.blogspot.ca>

⁴⁵ <http://futoryst.blogspot.ca/2013/01/a-future-of-design.html>

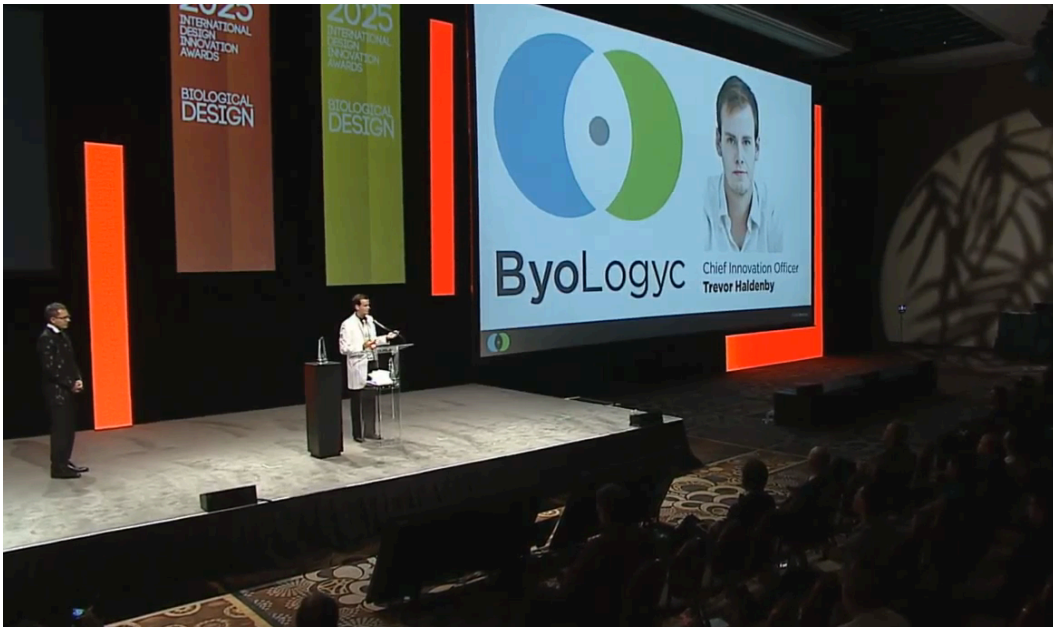


Figure 16: Trevor Haldenby presenting as ByoLogyc at Autodesk University (2012)

Conclusions & Further Research

ZED.TO was an entertainment experience that demonstrated a playful and participatory approach to engaging mass audiences and communities of designers with the implications of emerging biotechnology. It was a functional prototype for an approach to communicating future scenarios built upon the three pillars of transmedia storytelling outlined in my introduction. These three pillars — the creation of a complex world not a linear narrative, the spread of a story across multiple media, and the active creative engagement of fans and stakeholders — can facilitate deeply experiential and social engagement with speculative futures. By situating a conversation about biotechnological futures in a game-like narrative experience, *ZED.TO* shed light on important questions about the implications of this approach to both scenario planning and the design of immersive entertainment experiences. The efficacy of the project at cultivating interest and engagement is hard to deny — but further exploration is needed in terms of understanding how projects like *ZED.TO* could positively influence social change, demonstrate new approaches to conducting design research, and facilitate the exploration of futures in a peer-to-peer society.

ZED.TO was an independently produced design effort, operating at a scale and richness often associated with Hollywood blockbusters and slick advertising campaigns. It brought a new kind of story from foresight into the public domain — a scenario depicting the catastrophic emergence of a cluster of hastily commercialized technologies. It wasn't designed to solve the wicked problems of corporations, governments, and the human population. It was designed to test the application of a technique.

But how could *ZED.TO* and projects like it evolve to stimulate broader and more rigorous conversations about the implications of emerging technologies?

In the context of strategic foresight, *ZED.TO* adapted a cluster of methods from the top right of Rafael Popper's diamond, a methodology map depicting various approaches utilized in foresight featured in Figure 6 on Page 19. The project leaned heavily on the use of role play, acting, simulation gaming, and science fiction in its exploration of the future world of ByoLogyc. The creation of the ByoLogyc scenario also involved a scan of existing trend decks, literature, and forecasts of the future, particularly those related to healthcare, synthetic biology, and the quantified self. Integrating a transmedia story like *ZED.TO* into an expertise and evidence-driven foresight project could be a way of balancing the methodological scale towards a focus on the day-to-day intangibles of human experience — the mundane as well as the paradigm-shifting. Pairing an immersive and interactive experience with expert panels, quantitative models, and massive social datasets could be one way of generating broader insights and bringing more comprehensive analysis to foresight research.

Jim Dator, founder and director of the Hawaii Research Centre for Futures Studies, has often stated that rigorous analysis and prediction is but one aspect of futures research; and that imagining, designing, and creating images of alternative futures is just as important. Transmedia stories about possible futures like *ZED.TO*, experiential scenarios like those created by Stuart Candy, and the massively multiplayer foresight games designed by the Institute For The Future provide the

creative inspiration strategic foresight practitioners need to evolve, adapt, and experiment in the 21st century.

ZED.TO and other experiential futures works also demonstrate an exciting approach to introducing new and sometimes underrepresented stakeholders to the foresight conversation: game-players, audiences of immersive and interactive theatre, and fans of arts and culture. It is difficult to imagine a better suited cluster of participants. These are people who understand that role-play, immersion, storytelling, and experience design are essential tools for imagining worlds different from the one we inhabit at present. These are stakeholders who understand that communication toolkits and techniques derived from theatre and digital storytelling can be reapplied to social challenges — to the framing and solution of wicked problems. As futures studies continues to formalize as a discipline, we must be mindful not to shut out new communities that can help us shape the boundaries of how we define our domain, and how we conduct our research. In the words of Jamais Cascio, “With enough minds, all tomorrows are visible.”

The invitation of new stakeholders to foresight practice through game-like entertainment experiences is one opportunity, but the integration of ethnographic research methods and participatory design research exercises directly into the world of the future scenario is another exciting frontier. Breaking the “fourth wall” that encompasses the storytelling environment can be jarring, and during the production of *ZED.TO*, I struggled to find a way to transform game-like audience experiences into more rigorous and methodologically aligned research exercises. Sustainably integrating an entertainment experience and research practice is a tall order, and

proved to be outside of the scope of the project. By continuing to experiment with the integration of surveys, quizzes, photo diaries, user-generated content challenges, and other emerging participatory design research methods into pervasive transmedia scenarios, I believe we can find a way to achieve a better symbiosis between immersive entertainment experiences and rigorous research activities.

One promising area of future research activity is examining the benefit and value transmedia storytelling can bring to decentralized “peer-to-peer” communities and organizations. Imagine a community of activists or journalists passionate about exploring the implications of an emerging and allegedly benign use of technology adapting a pervasive future scenario like *ZED.TO* into a grassroots *future-jamming*⁴⁶ platform. It could be that the current surge in massively multiplayer scenario gaming represents a new wave of evolution in terms of how foresight is done. Beyond the academic institutions, and out from the wings of generous corporate sponsors.

While new approaches to conducting research and engaging communities through pervasive transmedia scenarios may be just around the corner, an array of ethical questions remain open to debate. Is it ethical to engage people in a playful experience that simulates a catastrophic disaster, as *ZED.TO* did? Is it ethical to collect participants’ personal data during such an experience, and then convince them that it has been preserved and analyzed even though no such analysis has taken place, and the original data has long since been destroyed? At a certain point, the suspension of disbelief that an experience like *ZED.TO* necessitates in order to create a compelling

⁴⁶ A practice suggested by Dr. Jose Ramos to represent the activist and communications parallel to academic critical futures studies. Suggested in his 2006 article in the journal *Futures*, “Consciousness, culture, and the communication of foresight.”

immersive experience begins to chafe against the ethical obligations of academic researchers. The solution becomes no less complicated when the context of design is changed from academia to the private sector. If the ByoLogyc scenario had been designed to test strengths and weaknesses or develop a new marketing strategy within a real and multinational pharmaceutical corporation, would I have enjoyed the liberties I did on *ZED.TO*? What if our client was the Red Cross, instead? *ZED.TO* engaged mass audiences in a future-jamming exercise designed to shift attitudes about the balance of power surrounding emerging technologies. In a corporate, commercial or NGO context, would such an initiative have been seen as an exciting opportunity, or more as an untenable risk?

Another area of concern is more psychological — and has to do with whether a dystopian story is the best way to influence public opinion and stimulate positive change. Intel's futurist Brian David Johnson suggests that stories about the future, or science fiction prototypes, require content for a more mature audience. He believes that the dry and detached air that accompanies much scenario planning output misses the mark in terms of meaningfully communicating human experience in a possible future. Johnson insists that it is through the grit and gristle of a narrative experience that we come to understand the true value of our relationships, the nature of our place in a complex system, and our capacity for action. The ByoLogyc story was a catastrophic warning, a cautionary tale — hardly an aspirational story. In future projects, I am eager to explore how modeling positive, transformational, and hero experiences as well as dystopias could increase the constructivity of experiential futures works like *ZED.TO*.

These topics aside, the most significant and immediate implication of my research is a call for additional cross-pollination between designers, storytellers, and futurists. Practitioners from all three of these densely connected domains are already embracing similar transmedia design processes and aesthetics in their work — already building experiences that emphasize the creation of complex story worlds, that spread out across multiple media channels, and that actively engage audiences and other stakeholder communities as curators and co-creators rather than passive consumers.

Stories are our oldest way of making sense of the complex world around us, across both space and time. By harnessing recent decades' amazing changes in technology, and media behaviour we can take our written scenarios off the page, beyond the image, and into the real world. These pervasive transmedia scenarios are new tools for imagining, designing, creating, and communicating alternative futures. In order for foresight to remain relevant, we owe it to ourselves to look into the world of tomorrow — not just for flying cars and data pertaining to demographic transitions, but for ideas and lessons about how we experience and understand the increasingly informative world around us. By experimenting with and embracing new developments in how stories are told, we can improve our ability to help people understand and decide which futures truly deserve to be brought to life.

By applying a transmedia design process to the communication of futures, we can bring scenarios off the page, and into the real world. Through these immersive and interactive human narratives, we can invite people to critically examine what possible futures might mean to them, and which really do deserve to be brought to life.



Figure 17: A fortune I received not long after starting my research. (2011)

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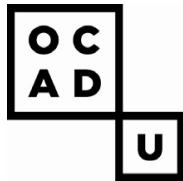
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APPENDICES

Appendix A: Research Ethics Board Approval



Research Ethics Board

September 24, 2012

Dear Trevor Haldenby,

RE: OCADU72, "Transmedia Narratives as Experiential Scenarios."

The OCAD University Research Ethics Board has reviewed the above-named submission. The protocol dated September 24, 2012 and the consent form dated September 24, 2012 are approved for use for the next 12 months. If the study is expected to continue beyond the expiry date (September 23, 2013) you are responsible for ensuring the study receives re-approval. Your final approval number is **2012-26**.

Before proceeding with your project, compliance with other required University approvals/certifications, institutional requirements, or governmental authorizations may be required. It is your responsibility to ensure that the ethical guidelines and approvals of those facilities or institutions are obtained and filed with the OCAD U REB prior to the initiation of any research.

If, during the course of the research, there are any serious adverse events, changes in the approved protocol or consent form or any new information that must be considered with respect to the study, these should be brought to the immediate attention of the Board.

The REB must also be notified of the completion or termination of this study and a final report provided.

Best wishes for the successful completion of your project.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Tony Kerr'.

Tony Kerr
Chair, OCAD U Research Ethics Board

OCAD U Research Ethics Board: rm 7520c, 205 Richmond Street W, Toronto, ON M5V 1V3
416.977.6000 x474

Appendix B: Semi-Structured Interview Questions

Guide for Semi-Structured Interviews

Trevor Haldenby, OCAD University, Principal Student Investigator
Research Project: “Bringing the Future to Life: Pervasive Transmedia Scenarios”

Do you understand that this interview or transcriptions of this interview will be stored to a password-protected computer?

Do you understand that your name and professional affiliation may be used alongside quotations and statements contributed during this interview?

Do you understand that you have the right to withdraw your participation in this study at any time, with no penalty or loss of benefits to which you are entitled? You may also withdraw your data at any time prior to October 31st, 2012 at which date data analysis commences.

What is your name, and current professional / organizational affiliation?

What past professional or organizational affiliations have you held?

How do you refer to your work? What is the history of the term?

Who are you trying to reach with your work? Who is your intended audience?

What effect do you hope your work will have on them?

Could you describe the design process associated with your work?

What is the role of 'making' in your work?

What is the role of 'story' in your work? Do you think that stories play a significant role in helping people understand possible futures?

How do you characterize the success of projects you work on?

What do you see as your most effective piece of work, and why?

What do the terms “design fiction”, “tangible futures”, and “critical design” mean to you?

Do you identify as a practitioner of any of the above? (design fiction, tangible futures, critical design)

Whose work in your field do you particularly admire? Do you have any favourite projects or practitioners? Who has influenced your work?

How do you think multiplatform or cross-platform storytelling methods are influencing the processes by which future scenarios are crafted and communicated?

What do you see as the most significant challenges facing practitioners of strategic foresight, futures studies, and scenario planning today?

Do you think it is more important for foresight practice to be defined by rigor, or vigor – professional use of methods, or active engagement with new audiences?

What interests you about the Toronto-based transmedia scenario project ZED.TO? Information about the project is available at www.zed.to, and information about the fictional biotech corporation at the centre of ZED.TO's story is available at www.byologyc.com

Do you have any questions about this research project?

Appendix C:

Exploring ZED.TO's
Pervasive Transmedia Scenario

In 2012, The Mission Business designed *ZED.TO*, a transmedia story about the future that synthesized the goals and methods of strategic foresight with those of science fiction. The project ran for 9 months, from March through November 2012, and engaged thousands of participants in a pervasive narrative experience that simulated the emergence of a synthetic biotechnological pandemic in the city of Toronto, Canada. The goal of the project was to design an entertainment experience that brought numerous aspects of a speculative future collapse scenario to life for audiences. Guided by a transmedia design philosophy, the project was designed to spread across a diverse media ecology, in a way that viscerally and sensually communicated the possible risks of hastily commercialized synthetic biology while engaging audiences through active co-creation and curation of a rich story world. *ZED.TO* launched a conversation with non-specialist audiences about the dangers of blindly embracing emerging biotechnological platforms often presented as offering utopian opportunity. The project illustrated the importance of exploring the social systems in which these technologies evolve in considering their possible impacts. To invoke the wisdom of Donald Rumsfeld, the goal was to identify through an accessible entertainment experience what “known unknowns and unknown unknowns⁴⁷” we might have to confront as emerging biotechnological platforms evolve and mature into powerful commercial industries.

⁴⁷ A comprehensive analysis of the infamous statement is available on its own Wikipedia page. http://en.wikipedia.org/wiki/There_are_known_knowns



Figure 18: Promotional image for ZED.TO (2012)

ZED.TO was built around a future scenario aggregated from forecasts and infographics exploring the Future of Science, Technology, and Well-being (Institute for the Future, 2010), Emerging Healthcare Technologies (Envisioning Technology, 2012), and the complex relationships between business design, social value shifts, and technological innovation that are explored in the National Bioeconomy Blueprint produced by the White House Office of Science and Technology Policy (2012). At the core of the scenario was a fictional *lifestyle biotech*⁴⁸ company called ByoLogyc⁴⁹. ByoLogyc incorporates a human-centred design philosophy into the creation of products and services that package innovative research in genetic engineering and synthetic biology into solutions that elegantly addressed wicked problems in healthcare in a desirable form. In an attempt to increase the accessibility of their products, both financially and psychologically, ByoLogyc delivers particularly complex technological solutions in wrappers that make them appear simple, easy-to-understand, and benevolent. The ByoLogyc brand was influenced by those of 21st century corporations including Apple and Starbucks that use slick marketing and brand communication to promote the power of choice and opportunity to an increasingly homogenous customer base. ByoLogyc represents the elegant simplification of biotechnological complexity in order to achieve the traditional goals of a corporation — to design and sell profitable products, build market share, and accelerate a feedback loop of growth.

⁴⁸ A term I coined and utilized throughout the ByoLogyc story world to refer to the commercialization of complex innovations in synthetic biology as consumer products.

⁴⁹ Learn more about ByoLogyc at their website: <http://www.byologyc.com>

ByoLogyc's portfolio of products includes a diversity of forms, each incorporating genetic sequences sourced from the animal and plant kingdoms. For example, a breath-freshening spray called ByoBreath harvests carbon dioxide out of the air a customer exhales in five delicious flavours, utilizing genes sourced from tissues found in the lungs of whales and dolphins. A libido-enhancing pill called ByoMate screens customers' sperm and eggs for harmful defects that could impact the innovative capacity of future generations, incorporating reproductive chemicals and enzymes from a diversity of species. A patch called ByoEnrich diffuses a cocktail of synthetic vitamins, minerals, and probiotic compounds into customers' bloodstreams for enhanced productivity around the clock. An ointment called ByoGrow manipulates the human body's hormone levels to either foster or retard the growth of hair, providing miracle cures for baldness and unwanted hair in a single product.



ByoLogyc

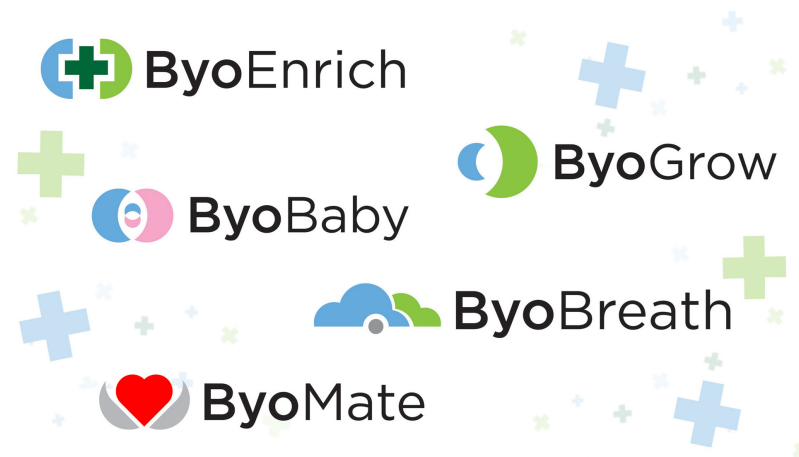


Figure 19: Logotypes for ByoLogyc and the fictional company's products (2012)

But the flagship of ByoLogyc's line is a personalized healthcare platform called ByoRenew — a “software update for your immune system” activated by ingesting one simple pill that procedurally generates healthy viruses in the bodies of customers to combat harmful pathogens and bacterial infections lurking in the world around us. Procedural modeling algorithms are already widespread in design software from companies like Autodesk and Adobe. In the near-future scenario of ByoLogyc these same technologies have been harnessed to create viruses that tactically eliminate cells under threat of infection, even by viruses and bacteria not yet discovered or fully understood by science. ByoRenew cures customers of as-yet undiscovered diseases, and the procedural immunity generated to defeat them is uploaded to the cloud for the benefit of all other subscribers. ByoRenew incorporates digital technologies associated with contemporary media software into a healthcare service. These technologies include proprietary DRM⁵⁰, back-channel communications (to surreptitiously communicate customer biometric data back to ByoLogyc), and a subscription business model that allows incremental activation of various immunity packages that meet specific user needs along with continuous refinement of the product at the expense of the occasional lead-user's immune system. While we are beginning to grow accustomed to these product features and associated business models appearing in our digital software and media, we are as of yet unfamiliar with the implications of their appearance in our bloodstreams. ByoRenew is promoted through slick branding and marketing reminiscent of Apple's lifestyle technology products, posing important questions to *ZED.TO* audiences about the future of commercial biotechnological solutions, and their place in our lives.

⁵⁰ An acronym referring to Digital Rights Management technologies; such as the Fairplay encryption used on digital movies, apps, and music sold through Apple's iTunes store.



Figure 20: Logotype for ByoRenew, a fictional ByoLogyc product (2012)

ZED.TO is the story of ByoLogyc's rise and fall — from human-centred biotechnological design titan, to desperate and reactive manager of a viral holocaust. A sabotage attack on ByoLogyc's production facilities for ByoRenew by the online anarchist organization known as EXE (modeled on the emergent hacker community known as Anonymous⁵¹) introduces a disastrous mutation into the product's source code. This mutation transforms ByoRenew from an enabler of subscription-activated helper viruses to a malicious platform capable of endlessly designing, replicating, and disguising viruses with no known treatment plan. By sabotaging the ByoRenew production lines, EXE creates the BRX Virus. The latter half of *ZED.TO*'s nine month story focuses on the spread of this fictional synthetic pandemic through Toronto, and ByoLogyc's increasingly desperate attempts to control the spread of negative information and infected customers.

⁵¹ Anonymous is a distributed and emergent community of anarchist pranksters known for their attacks on corporations and organizations with whom they take moral or ethical issue. Extensive information about the origins and activities of Anonymous is available on their Wikipedia page, which has thus far been able to survive their assaults: [http://en.wikipedia.org/wiki/Anonymous_\(group\)](http://en.wikipedia.org/wiki/Anonymous_(group))

YOU TRUST BYOLOGYC?

ByoGrow
 Hair Today, Regrets Tomorrow.
 - rapid or painful hair growth
 - growth of hair on wrong area of body
 - hair appearing to belong to someone else
 - muscular convulsions/seizures in 0.5% of users
 - secretion of fluid

yoBaby
 Cause It'll Rot Away The Insides Of You.
 - blood-red eyes
 high speed - biting animals & people "with a taste for living flesh"
 - baby struggling to escape from womb - failure to deliver baby



BYOLOGYC IS NOT HERE TO HELP YOU
 BYOLOGYC IS A PROFIT-DRIVEN CORPORATION THAT SELLS LIFESTYLE PRODUCTS. THEY ARE NOT A MEDICAL ORGANIZATION. DO NOT TRUST THEM WITH YOUR HEALTH. THEY WILL NOT PROTECT YOU FROM THE BRX VIRUS
LEARN THE TRUTH
CALL 647 931 4742 NOW

know the enemy...
 BYOLOGYC SENIOR STAFF

Chet Getram
 CEO
 MEGALOMANIC, PSYCHOPATH

Davian Baxter
 VP OF RESEARCH
 MAD SCIENTIST, EXPERIMENTED ON BABIES

Olive Swift
 FORMER VP
 FIRED FOR BRIBING HPFB FOR PRODUCT APPROVAL

Bernice Hammersmith
 CFO
 EMBEZZLING MONEY

Renata Reinger
 DIRECTOR OF SANITATION & CONTAINMENT
 "CLEANER" OF "MESSSES"

Dahlia Joss
 IT DIRECTOR
 CRIMINAL HACKER

Tyler Wyatt
 CREATIVE DIRECTOR
 ALLEGED SEX OFFENDER

Henry Chan
 SENIOR HR OFFICER
 STEALING RESOURCES FOR CHINESE GOVERNMENT

Brad Mitchell
 FACILITIES MANAGER
 CONTAMINATED DURING LAB MALFUNCTION

Adrian Quinn
 LABORATORY MANAGER
Denis Kirkham
 EXECUTIVE ASST. TO THE CEO
 STEALING RESOURCES TO START NEW COMPANY

Marie Leclerc
 PR DIRECTOR
 "NUMBER 27" EXPERIMENT

Felicity Chapman
 BYORETREATS MANAGER
 UNWITTING GUINEA PIG

death
 n.
 ndior
 use light
 l results
 roy
 ia
 laking
 - lack of energy
 - weight loss

YOU
 - potential 33 we
 - lurching disjoi
 - extreme sexual

ByoBrea
 - expulsion of blue tar from lungs
 - rapid breathing or lightheadedn
 others nearby
 - gurgling
 - lethargy
 - flatulence
 - balsamic & dark chocolate flavors
 ness in chest
 - proposed flavors withdrawn due to
 it test subjects
 - tobacco - collapsed lungs
 - avocado - fetal retardation during s
 - bacon - complete hair loss akin to s
 - strawberry - carcinogenic, aggressive
 throat & tongue
 - almond - incontinence

The Truth Is Only A Click A
<http://byoileaks.org>

SHOULD YOU TRUST

ByoMate
 ve Abnormality.
 pressed discharge
 nant erection
 esant odor
 ss or chafing
 n to inanimate objects

ByoBaby
 Because It'll Rot Away The
 week early delivery
 - blood-red eyes
 - biting animals & peop
 - baby struggling to escape from womb

ByoBreath
 eathe Toxin.
 gs
 stress - self and/or

ers may cause light
 to harmful results
 g pregnancy
 to alopecia
 ively attacking
 - lack of energy
 - weight loss

YOU'VE

WWW.EXEISHERE.ORG
@EXEISHERE

Figure 21: Scanned flyers distributed by EXE at ZED.TO performances (2012)

Live Performances

Pervasive Experiential Futures

ByoLogyc's story is told through a massive cast of 75+ characters occupying a story world that is rendered across many of the media channels that a large pharmaceutical corporation would use to engage with its customers. Immersive live-action theatrical performances, online communities built on user-generated content, and short promotional films were all used to bring the world of ByoLogyc to life for *ZED.TO* participants in a way that rewarded curiosity, exploration, active participation in the story, and critical reflection.

Continuation

March
2012



20 Years Forward
Corporate Celebration

Invitation-only performance
Upscale gallery setting
65 participants

Transformational

July
2012



Where You Become New
Product Launch Party

Ticketed festival performance
Night-club setting
850 participants

Disciplined

Sept
2012



Patient Zero
Immunization Clinic

Public art installation
Historic church setting
3,250 participants

Collapse

Nov
2012



ByoLogyc: Retreat
Corporate Refugee Camp

Premium ticketed performance
Post-industrial outdoor setting
335 participants

Figure 22: A simple chronology of ZED.TO performance events (2012)

Forming the backbone of *ZED.TO*'s transmedia story of the rise and fall of ByoLogyc were four live-action and interactive theatrical performances. These events manifested the ByoLogyc brand into the real world through the social systems making up the company, as well as those of its supporters and detractors. Each performance event was differentiated from the others in structure and context, exploring a different approach to engaging audiences, and bringing the future scenario to life. In the context of strategic foresight work, these live events most closely resembled the experiential futures work of Stuart Candy and Jake Dunagan (see Chapter 3).

In this appendix, each of *ZED.TO*'s four major live performance events are described in detail, and photographs that I captured during the performances themselves are provided to allow readers to imagine what it might have been like to step inside the worlds of these experiential scenarios.

The table on the preceding page identifies the core characteristics of each live performance event. The graph on the following page visualizes the placement of each live performance event on the trajectory of *ZED.TO*'s nine-month story, as well as in relation to the rollout of other key digital media platforms and ancillary live events.

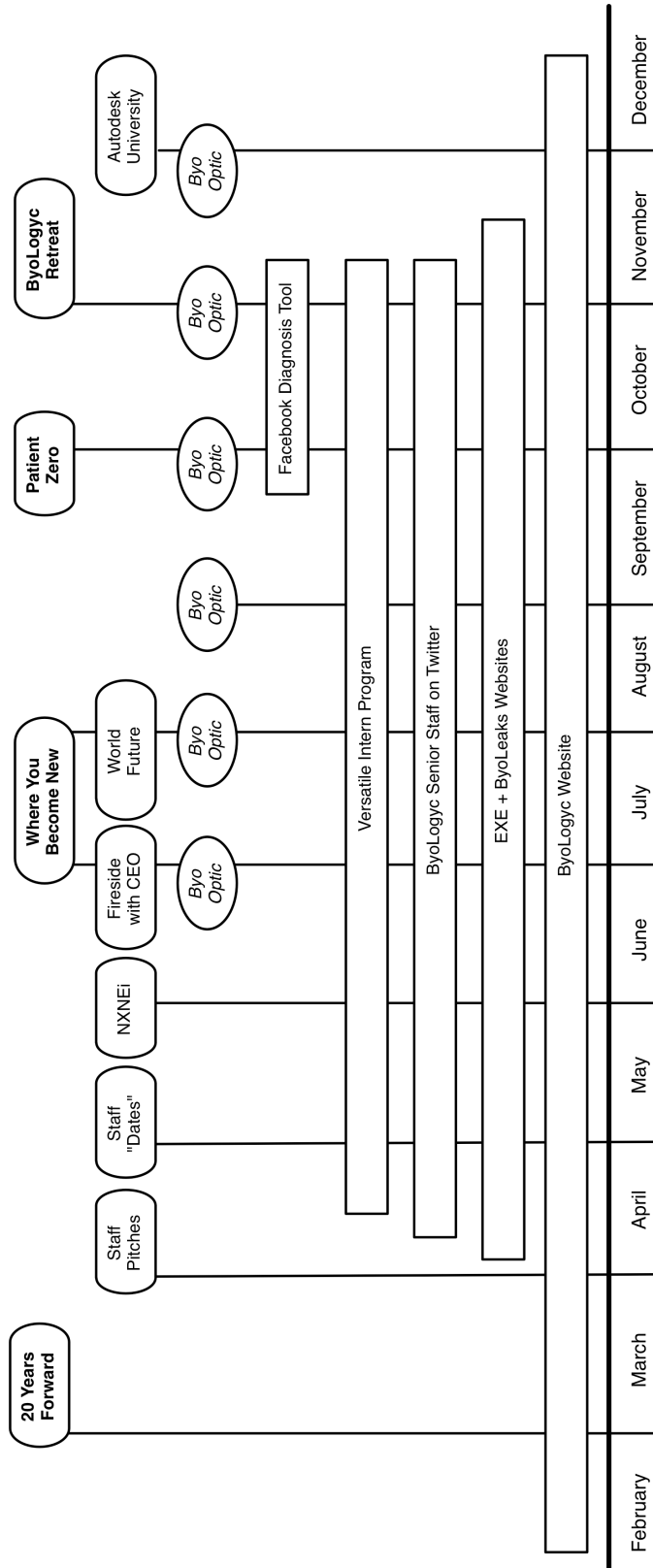


Figure 23: A timeline of ZED.TO performances and activity across media (2012)

The first performance in the series, *ByoLogyc: 20 Years Forward*, was a celebratory cocktail party hosted by the fictional corporation and held at Ingram Gallery⁵² in Toronto on March 20th, 2012. The guestlist for the event was comprised of a curated list of VIP influencers from the Canadian cultural industries; including artists, designers, journalists, and academic researchers. The purpose of the event was to introduce the ByoLogyc brand, and to experiment with strategies for focused one-on-one engagement with artifacts from the future.

⁵² <http://www.ingramgallery.com>



Figure 24: *ByoLogyc: 20 Years Forward*— Design fiction artifacts and VIP guests

(2012)

Physical prototypes of ByoLogyc's products were designed and produced by The Mission Business, and VIP's were offered opportunities to test them by a group of trained docents, or "booth babes", played by performers briefed about ByoLogyc's fictional corporate history. ByoLogyc's chief executive officer Chet Getram was portrayed by an actor named Andrew Moyes for the length of the story. Following product demonstrations and his arrival at the party, Getram gave an introductory address to VIP's, framing the company's focus on human-centred design innovation and his desire to break the masses from a cycle of historical monotony into a new era limited only by technological vision. An opera singer with whom Getram entered then performed an aria for the crowd.



Figure 25: *ByoLogyc: 20 Years Forward* — Performers and biometric sampling (2012)

While VIP's mingled, collected business cards colour-coded by department from the ByoLogyc staff in attendance, and sampled appetizers; their mouths and glasses were swabbed by a cast of volunteer performers portraying ByoLogyc scientists. The scientists reminded VIP's that by entering into the room they had agreed to sign over all biometric data generated during the event to the fictional corporation. Finally, a fictional media outlet called Catalysts & Cultures (intended to represent the ValleyWag⁵³ of the nascent lifestyle biotech industry) was violently expelled from the venue for asking inappropriate questions of CEO Chet Getram. A mysterious bartender began circulating cocktail napkins marked with a menacing message "You've Been Warned" before fleeing the venue and scrawling a similar anti-ByoLogyc message in chalk on the sidewalk in front of the building. VIP's were escorted out of the venue, and handed a pamphlet indicating that ByoLogyc would be pleased to have them in attendance for the release of its new flagship lifestyle biotech product at a special series of celebratory events in July of 2012.

⁵³ ValleyWag was a Gawker media blog that spread gossip about Silicon Valley startups and culture from 2006 through 2011.



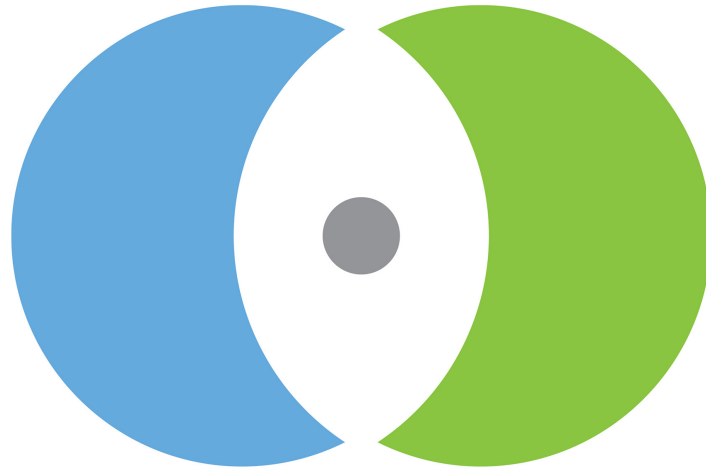
Figure 26: *ByoLogyc: 20 Years Forward* — EXE's intrusion and anarchist artifacts

(2012)

Four months later, in July of 2012, the story of *ZED.TO* and ByoLogyc continued within a performance featured in the Toronto Fringe Festival⁵⁴, a theatre festival that has offered a home to storytelling innovators in Toronto since the 1980's. *ByoLogyc: Where You Become New* took the form of a celebration for the release of ByoLogyc's newest product, ByoRenew.

⁵⁴ <http://fringetoronto.com>

Where **You**
Become **New**



ByoLogyc



1-866-BYO-6090
www.ByoLogyc.com @ByoLogyc

Figure 27: *ByoLogyc: Where You Become New* — Promotional poster for the performance (2012)

Representing the commercialization of research into viral therapies and subscription-based personalized medicine, ByoRenew was distributed to the event's 850 attendees over 13 nights in the form of a blue and green gel capsule matching the company's branding. While the capsule was empty, attendees were informed by insistent ByoLogyc staff that it actually contained a single molecule, suspended in a vacuum — a pluripotent stem cell of the company's commercial product. Upon arriving at the performance, which took place at a popular nightclub in downtown Toronto, attendees were lined up outside the venue and checked-in by performers portraying ByoLogyc customer service representatives. Shortly thereafter, attendees witnessed CEO Chet Getram spectacularly pulling into the venue at high speed, in a sportscar operated by a stunt driver. Upon entering the venue, attendees were assigned to one of ten departments within ByoLogyc's corporate hierarchy (including research and development, marketing, custodial services, and corporate strategy). Attendees were then assisted in filling out a Versatile Intern Program nametag which identified their departmental affiliation for the evening, and upon which they wrote their name in permanent marker, an important moment of induction into the liminoid space of ByoLogyc's corporate ritual. Attendees donned their badges, and were welcomed into the venue for a visionary speech outlining CEO Chet Getram's vision for the future of the company.



Figure 28: *ByoLogyc: Where You Become New* — Liminoid artifacts and the CEO's arrival (2012)

For the next 20 minutes attendees were invited to experiment with ByoLogyc's various products and converse with the heads of ByoLogyc's departments. These department heads were played by a cast of actors experienced in improvisation, forum theatre, and military simulation. Each one wore a ByoLogyc lanyard clearly identifying his or her name and departmental affiliation, and highlighting a large colour-coded icon associated with his or her department. Over the following sixty minutes, attendees rotated between three different departments within the company, through which they were exposed to the senior management team's spread of values and personal histories, which combined to create a composite corporate personality for ByoLogyc — one largely driven by ego, greed, and interpersonal competition. Some department heads engaged attendees in games that demonstrated the trial and error required to develop a pharmaceutical product, some used attendees to ferry confidential documents to the heads of other departments, some reviewed iterations of ByoLogyc branding, while others scrubbed bathrooms with the company's custodial officer and chanted ByoLogyc slogans: "Persistence, Potential, Perfection!" All of the teams were then invited to compete in a Marshmallow Challenge, a design game popularized by Autodesk's Fellow Tom Wujec in a TED presentation from 2008⁵⁵. The Marshmallow Challenge⁵⁶ highlights the importance of collaborative thinking and the creative framing of complex design challenges. The purpose of the Marshmallow Challenge was to emphasize ByoLogyc's competitive corporate values, and its obsession with turning under-utilized customers into active participants in the company's design process.

⁵⁵ Tom Wujec's TED talk introducing the Marshmallow Challenge: http://www.ted.com/talks/tom_wujec_build_a_tower.html

⁵⁶ A website for The Marshmallow Challenge, including instructions and documentation of participants: <http://marshmallowchallenge.com>



Figure 29: *ByoLogyc: Where You Become New* — The marshmallow challenge (2012)

The use of the Marshmallow Challenge amplifies *ZED.TO*'s transmedia design process — transforming passive audiences into active curators and creative collaborators. The team that won the Marshmallow Challenge was invited on stage to meet CEO Chet Getram, who presented each attendee with signed ByoLogyc posters, and custom-produced ByoLogyc swag including hats and keychains. Attendees then watched a 5-minute informational video introducing ByoRenew, and were presented with two paper cups — one containing a blue and green ByoRenew pill, and the other containing water. Following a prompt from CEO Chet Getram, participants were then invited to consume the pill, and to be among the first to join ByoLogyc on its transformative journey into the future of lifestyle biotechnology. As participants ingested the pill, CEO Chet Getram was yanked off stage into a private ante room by performers portraying ByoLogyc's head of Quality Assurance, Olive Swift, and head of Research & Development, Dr. Davian Baxter. Due to a microphone accidentally left on following Chet's speech, the conversation backstage was transmitted live over the room's loudspeakers, revealing for the first time that the initial production run of ByoRenew just distributed to attendees had been sabotaged by EXE. Dr. Baxter's associate Dr. Adrian Quinn then promptly invoked Protocol 57, one of a set of 100 protocols created by The Mission Business as shorthand for the different emergency response states to which ByoLogyc could be forced to react. Protocol 57 prompted the immediate photographic documentation and oral swabbing of all attendees, and their immediate evacuation from the venue. Attendees lined up at the venue's exit under red spinning emergency lights, while klaxons whined and a monotonous message explaining Protocol 57 droned in the background.



Figure 30: *ByoLogic: Where You Become New* — Protocol 57 and the ByoRenew capsules (2012)

Dressed as a ByoLogyc staff member, I then photographed each participant with a blindingly bright flash, before they were swabbed in the mouth by the members of ByoLogyc's research and development team that had earlier offered them demonstrations of the company's products. Remarkably few attendees refused the swab, indicating a high level of trust and investment within the world of the story. Upon exiting the venue, attendees were escorted past a dissheveled EXE operative handing out pamphlets detailing the company and its staff's "Crimes Against Humanity". Over the 13-night run of the performance, ByoLogyc staff attitudes towards this man became increasingly hostile, escalating to a carefully rehearsed combat sequence where he was dragged from the premises and his stack of pamphlets destroyed in front of attendees. This performance event marked the initial outbreak of the mutated version of ByoRenew that would come to be referred to as the BRX Virus.



Figure 31: *Bye Logic: Where You Become New* — EXE anarchy during the evacuation
(2012)

On September 29th, 2012, the third major performance in the *ZED.TO* story, *ByoLogyc: Patient Zero*, unfolded. It was presented as a part of Scotiabank Nuit Blanche⁵⁷, an all-night contemporary art event during which major public venues across the City of Toronto are transformed into a variety of interactive art installations from sunset through sunrise. At this point in the story, the BRX synthetic pandemic was becoming more difficult to track as it mutated and spread across the city's population. This third performance represented ByoLogyc's final optimistic attempt to control the disease's spread by offering a free Public Health and Community Wellness Clinic at the Church of the Holy Trinity, a 200 year-old house of worship located in downtown Toronto.

⁵⁷ <http://www.scotiabanknuitblanche.ca>



Figure 32: *ByoLogyc: Patient Zero* — ByoLogyc signage in the Church of the Holy Trinity (2012)

The Church was transformed into a twisting maze of plastic-wrapped corridors through which patients were guided, ostensibly being screened and offered protection through social and biometric analysis from the BRX Virus. Patients lined up around the Church, exposed to a rally organized by EXE, whose members waved anti-ByoLogyc propaganda, shared statistics on the deadly spread of the BRX Virus, and compelled patients to avoid interaction with ByoLogyc at all costs. CEO Chet Getram made his way up and down the line with a megaphone and security officers, insisting to patients that the protests were fear-mongering that failed to recognize ByoLogyc's disciplined attempts to control the situation.



Figure 33: *ByoLogyc: Patient Zero* — EXE protest camp outside the Church, and CEO

(2012)


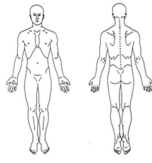
In small groups led by ByoLogyc staff, patients were then guided into the Church / Clinic itself. Proceeding through a maze of plastic-wrapped hallways, patient encountered six stations. At the first, patients were scanned with a laser system consisting of theatrical lights and a series of reflectors by a ByoLogyc security operative. At the second, patients were blasted from above with carbon dioxide gas and the concentrated output of a hazer for sanitization.



Figure 34: *ByoLogyc: Patient Zero* — Screening patients for BRX Virus symptoms

(2012)

At the third station, patients were interrogated at a table staffed with triage personnel wearing surgical masks and ByoLogyc labcoats. As the personnel asked patients various personal medical questions, they marked down answers on a custom-designed pamphlet with spaces for in-narrative diagnostic information. At the fourth station, patients were guided to a holding area where they were prompted to watch a new promotional video introducing ByoLogyc's luxury biotechnological spa facility, ByoRetreat. At the fifth station, patients were offered an "updated" ByoRenew pill that had been specially designed to counteract effects of the sabotaged production run distributed at *ByoLogyc: Where You Become New*.

ByoLogyc BRX PATIENT REPORT				LABORATORY USE ONLY		
				Report ID	PSI	
				Technician ID		
<small>SELF-REPORTED DATA MAY BE SENT TO SUPPORT@BYOLOGYC.COM. PLEASE FILL OUT AS MUCH INFORMATION AS POSSIBLE/AVAILABLE. BE ADVISED THAT THE CONTENT CONTAINED HEREIN IS THE SOLE INTELLECTUAL PROPERTY OF BYOLOGYC, INC. ALL VIRAL OR GENETIC CHANGES RELATED TO BYOLOGYC PRODUCTS, INCLUDING BUT NOT LIMITED TO MUTATIONS, EVOLUTIONS, AND/OR NEW LIFE FORMS, AND ANY OR ALL BIOLOGICAL INFORMATION THEY MAY CONTAIN OR COMBINE WITH, REMAIN THE SOLE INTELLECTUAL PROPERTY OF BYOLOGYC, INC. AND THE USER WAIVES ALL RIGHTS TO OWNERSHIP OR ROYALTIES OVER ITS USE.</small>						
Name		Age	If possible, please indicate the affected body areas. 			
City, Country		Sex				
Blood Type	Height	Weight				Gender
ByoLogyc products used						
ByoBaby	ByoEmrich	ByoMate				
ByoBreath	ByoGrow	ByoRenew (early access)				
Description of symptoms						
Are the symptoms triggered by any external or internal events/stimuli?						
What is the approximate frequency of the symptoms?						
Has the patient been examined by a medical professional? If so, what was the diagnosis?						
Average duration of urination						
WARNING: SUBMISSION OF THIS REPORT IS NOT A SUBSTITUTE FOR PROFESSIONAL MEDICAL ATTENTION						



Good Evening.

ByoLogyc needs your help improving the quality of our customer experience.

Please take photos and videos and upload them to Twitter and Facebook:

Twitter: #snbTO @ByoLogyc

Facebook: @ByoLogyc



Figure 35: *ByoLogyc: Patient Zero* — Profiling patients and screening for BRX symptoms (2012)

Patients were strongly encouraged to take the new ByoRenew pill, and were then ushered towards the sixth and final station — a photo booth at the installation's exit. If a patient took the pill, a photograph was taken of them in front of ByoLogyc branding, with an overlay added using a custom image processing application running on a nearby computer. The overlay read "This person is BRX-Free. Immunization Complete." If the patient had failed to ingest the ByoRenew pill at the previous station, a different message was overlaid on their photograph, reading "If You See This Person, Avoid Contact and Seek Safety". The photographs of those who had refused to take the pill were then projected on a large outdoor screen visible from the Church/Clinic's exit. Upon exit, patients were approached by a member of the EXE protest, and invited to join a sign-making workshop or to conduct an espionage activity through which they became one of the protestors initially encountered by patients lining up before entering the clinic. Over the course of the evening, more than 3,250 patients made their way through the Public Health and Immunization Clinic. Of those, a database of photographs collected from the final station indicated that more than 50% had ingested the ByoRenew pill.

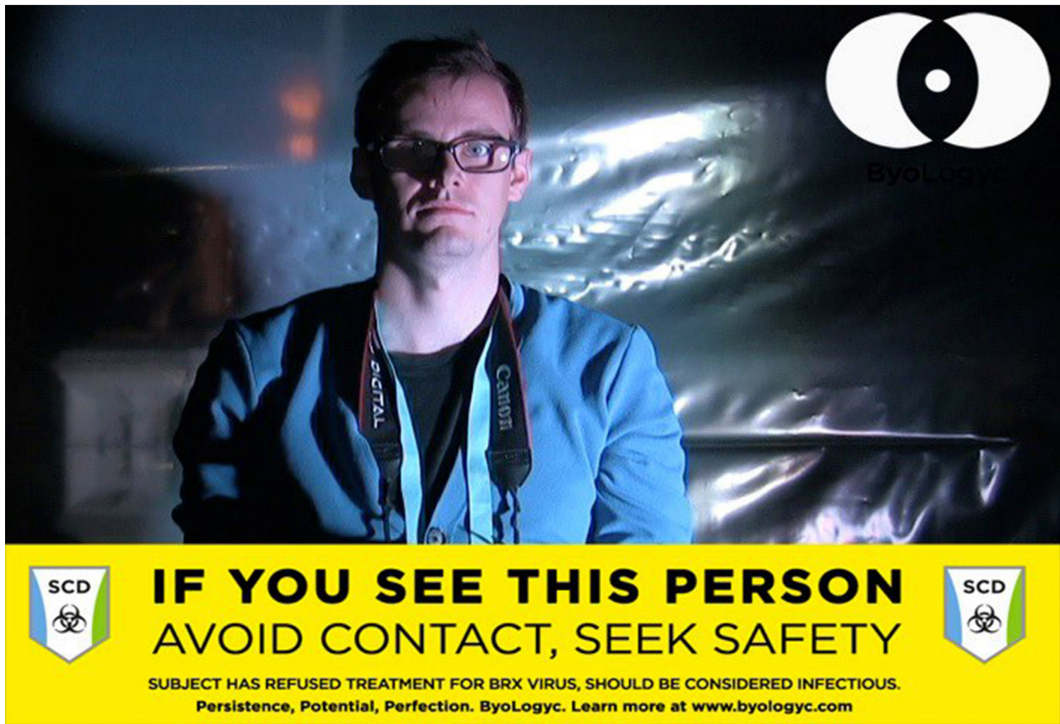


Figure 36: *ByoLogyc: Patient Zero* — Samples of the photos taken on exit from the Clinic (2012)

The final live performance concluding *ZED.TO*'s story of ByoLogyc's rise and fall was by far the largest in terms of production complexity. The performance was called *ByoLogyc: Retreat*, and it simulated the evacuation of hundreds of participants as a last stand against the spread of the BRX Virus. At the performance, which ran for two nights in November of 2012, the true nature of ByoLogyc's plans for the ByoRetreat were revealed. Instead of a luxury spa, the ByoRetreat was revealed to be a holding facility for BRX victims not unlike a corporate concentration camp. Over a period of six weeks, over 100 people were involved in the design and execution of the performance, which scaled to several times the size of any previous performance in the series in terms of physical size, and resource commitment. *ByoLogyc: Retreat* also involved four times the number of performers and volunteers in a much larger and branching narrative. Standing in for the fictional ByoRetreat was the Evergreen Brick Works, a massive post-industrial environmental education facility renovated from the remains of a 19th century brick works just outside of Toronto's downtown core.



Figure 37: *ByoLogyc: Retreat* — Google Earth photo of Evergreen Brickworks, and the site being transformed into a part of the ByoLogyc storyworld (2012)

Participants could attend the performance in one of four different roles — as a “general admission” evacuee of the City of Toronto to ByoLogyc’s facility, as a member of ByoLogyc’s paramilitary security force the Sanitation and Containment Division, as an anarchist operative of EXE, or as a newly minted member of ByoLogyc’s board of directors. Each of the four different roles corresponded to a unique experience of the majority of the performance. Each level also corresponded to a different ticket price, and a different level of engagement. Evacuee tickets sold for \$40, and guaranteed a group experience that facilitated flexible levels of physical and narrative engagement over the course of the performance. Paramilitary and Anarchist tickets both sold for \$60, and involved a more personalized and physically demanding experience during the performance. Finally, Board Member tickets sold for \$80 to \$100 and demanded a more extensive knowledge of the ByoLogyc world, as well as the capacity to actively engage CEO Chet Getram in a series of delicate discussions and confrontational tasks. All participants had three different options for entering the performance environment. The first option was a shuttle bus departing from a nearby transit hub, managed by a ByoLogyc executive assistant who introduced the story world and framed the city as in a state of emergency on the ride to the venue. The second option was a walking tour departing from an alternate transit hub that saw participants guided into the venue through a ravine by a team of private security personnel wielding weapons and flashlights. This group was encouraged to catch up on the ByoLogyc backstory by calling a phone line that activated a 15-minute prerecorded message and security briefing. Finally, participants were also able to drive their own vehicles to the site where they were met by ByoLogyc staff guiding them into a “quarantine zone.”



ByoRetreat

Figure 38: Logotype for the fictional ByoRetreat facility operated by ByoLogyc

(2012)

Following a processing station where tickets and vital health information were taken, participants were issued badges that identified their departmental affiliation and inducted them into the performance space. All four types of participants then witnessed a speech by CEO Chet Getram, who informed the crowd in a calm and detached manner that after careful assessment, the carrying capacity of the facility had been reduced — only 50% of those in attendance would be guaranteed protection and a space at the ByoRetreat. Following this speech, the four participant tracks were differentiated through their activities in the physical environment of the ByoRetreat. Evacuees were offered tours by ByoRetreat manager Felicity Chapman, and then assigned to different “work groups” within the company. Within these work groups, evacuees were encouraged to justify their presence in the facility through exploration of the physical environment, the completion of skill-testing puzzles, menial labour tasks, and the catering of social favours. Members of the paramilitary Sanitation and Containment Division (SCD) were paired up one-on-one with a volunteer performer from the Zombie Squad⁵⁸ trained in survival tactics and hand-to-hand combat. During the performance, these participants patrolled the ByoRetreat facility, attempting to identify traitors within ByoLogyc’s ranks, and members of EXE who had snuck in using false identification. Alternately, participants who purchased a ticket affiliating them with EXE lurked around the perimeter of the ByoRetreat facility, setting traps and conducting espionage on the other groups, while trying to break the perimeter and sneak into the ByoRetreat masquerading as a member of the evacuee group.

⁵⁸ The Zombie Squad is a community service and disaster preparedness organization that uses the metaphor of a "Zombie Apocalypse" for any natural or man-made disaster. The organization raises money in support of disaster relief charities and operates dozens of chapters across North America.



Figure 39: *ByoLogyc: Retreat* — Rounding up EXE anarchists with ByoLogyc's SCD

(2012)

Members of ByoLogyc's board of directors were escorted to a wine and cheese reception in an office tower high above the rest of the facility, where an opera singer performed for them while they reviewed intelligence data and strategic scenarios related to the ByoRetreat with CEO Chet Getram and CFO Bernice Hammersmith. Board members were informed that they would be making the difficult decisions about who would be permitted to remain safely in the ByoRetreat, before engaging in a debate with the CEO and his armed guard.



Figure 40: *ByoLogyc: Retreat* — Uncovering puzzles while the Board of Directors meets (2012)

The four participant tracks converged within a gigantic and abandoned brick kiln at the centre of the facility. ByoLogyc staff and board members were requested to pick favourites from among the evacuees, identifying which members would be permitted to remain safe in the facility. This process of justification and debate between participants and performers erupted into a massive conflict, as the security breaches orchestrated by EXE took effect, and a wave of infected BRX Virus victims stormed the compound. At the end of the performance, participants were coralled into a central holding area within the kilns to make a last stand. Members of EXE attacked the gates, bursting blood capsules provided by volunteers in their mouths, ByoLogyc staff (including CEO Chet Getram) were executed and attacked, and the SCD frantically attempted to hold off the invasion before succumbing one by one to violent attacks by a raging mob of BRX victims played by volunteer performers.



Figure 41: *ByoLogyc: Retreat* — ByoLogyc CEO Chet Getram chooses who survives

(2012)

A gigantic projection on the side of the kiln visualized the deteriorating security of the ByoRetreat perimeter, while a second projection visualized the vital biometric data of the 10 ByoLogyc department heads scattered across the site. Once the shooting had subsided, a string of blue and green lights were activated near the exit, and a video projection informed participants that the entire event had actually been a simulation — devised by ByoLogyc to test the company’s resilience in a pandemic disaster scenario. The performance series ended in an inversion of what it had originally been conceived as — an exploration of a disastrous future scenario through a transmedia story accessible to mass audiences.

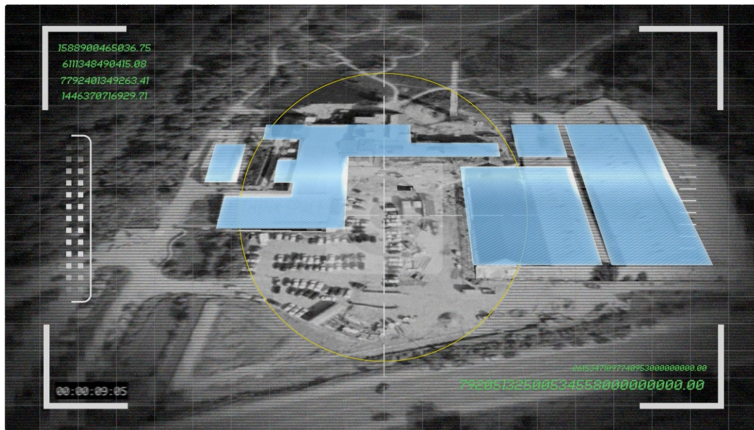


Figure 42: *ByoLogyc: Retreat* — screenshots of phases of the “perimeter breach” (2012)

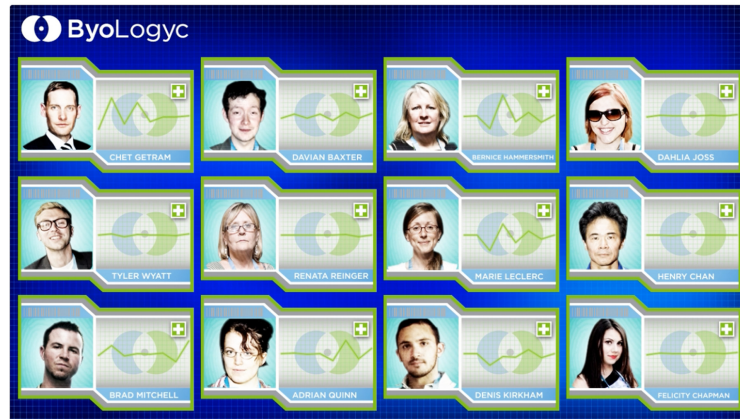


Figure 43: *ByoLogyc: Retreat* — screenshots of phases of the “vital signs board” (2012)

Digital Design Fiction Virtual Artifacts & Media

Live-action theatrical performances made up the backbone of *ZED.TO*'s story, but they represented only one technique used to captivate audiences with the ByoLogyc scenario. The live performances were supported by a story delivered through a complex media ecology, consisting of all the social and digital platforms that a company like ByoLogyc would use to communicate with its stakeholders.

On Twitter, the heads of ByoLogyc’s corporate divisions were portrayed by the same actors playing those roles at the live theatrical performances. This provided the performers with an opportunity to develop and rehearse their characters, while providing audiences and participants with an opportunity to dive into a richly characterized story world before the live events began, and extend their engagement following the events’ conclusions. 12 Twitter accounts operated by members of ByoLogyc’s staff⁵⁹ within the story accrued over 1,800 followers, and generated over 7,500 tweets during the duration of the project. While the Institute for the Future’s incorporation of Twitter into the *Foresight Engine* platform and projects like *Superstruct* and *MMOWGLI* has encouraged the submission of crowdsourced 140-character future scenario elements, *ZED.TO* utilized the platform to build meaningful conversational social engagement between fictional characters from a future scenario, and active participants in the real world. Stories, even those about the future implications of emerging technologies, are first and foremost about people. In many ways, the incorporation of digital storytelling platforms and social media streamline the connection with live audiences even more clearly than live performances — these online platforms are already designed around metaphors of the profile, the conversation, and the community.

⁵⁹ <https://twitter.com/ByoLogyc/byostaff>



Figure 44: A screenshot of ByoLogyc's Twitter profile page. (2012)

ZED.TO also extended the story of ByoLogyc to Facebook with a custom-designed viral marketing tool — in the most literal sense of the word. The Facebook application designed for the project, called ByoLogyc Protect⁶⁰, connected to users' accounts, accessing their profile data and images. Once connected, the application presented a multimedia backstory detailing ByoLogyc's rise and fall, and then offered to scan users' social network for candidates predisposed to infection with the BRX Virus. After a user of the Facebook application had analyzed their social network for potential carriers of the BRX Virus, the user was prompted to share the tool with these carriers through the in-narrative interface of the application. ByoLogyc Protect encouraged the viral spread of an interactive experience that simulated day-to-day online life within a future scenario. The Facebook application forecasted an unsettling user experience from the future of personalized medicine — one where the biometric data of individuals is directly accessed and managed by a corporate entity.

⁶⁰ <http://www.byologyc.com/protect>



Figure 45: A flow depicting the user experience of the ByoLogyc Facebook application (2012)

ByoLogyc operated a toll-free phonenumber which users were prompted at various points in the story and during live performances to call. The phone line, accessible at 1-800-BYO-6090, provided callers with information on all of the existing ByoLogyc products, and updates involving the spread of the deadly BRX Virus. The phone line employed all of the characteristics users have come to expect from corporate telephony systems, including a labyrinthine navigational structure and at-times disturbing content contrasted against the calm and soothing voice of its narrator. Over the course of the project's run, the ByoLogyc phonenumber generated over 95 hours of participant engagement, and dozens of recorded messages.

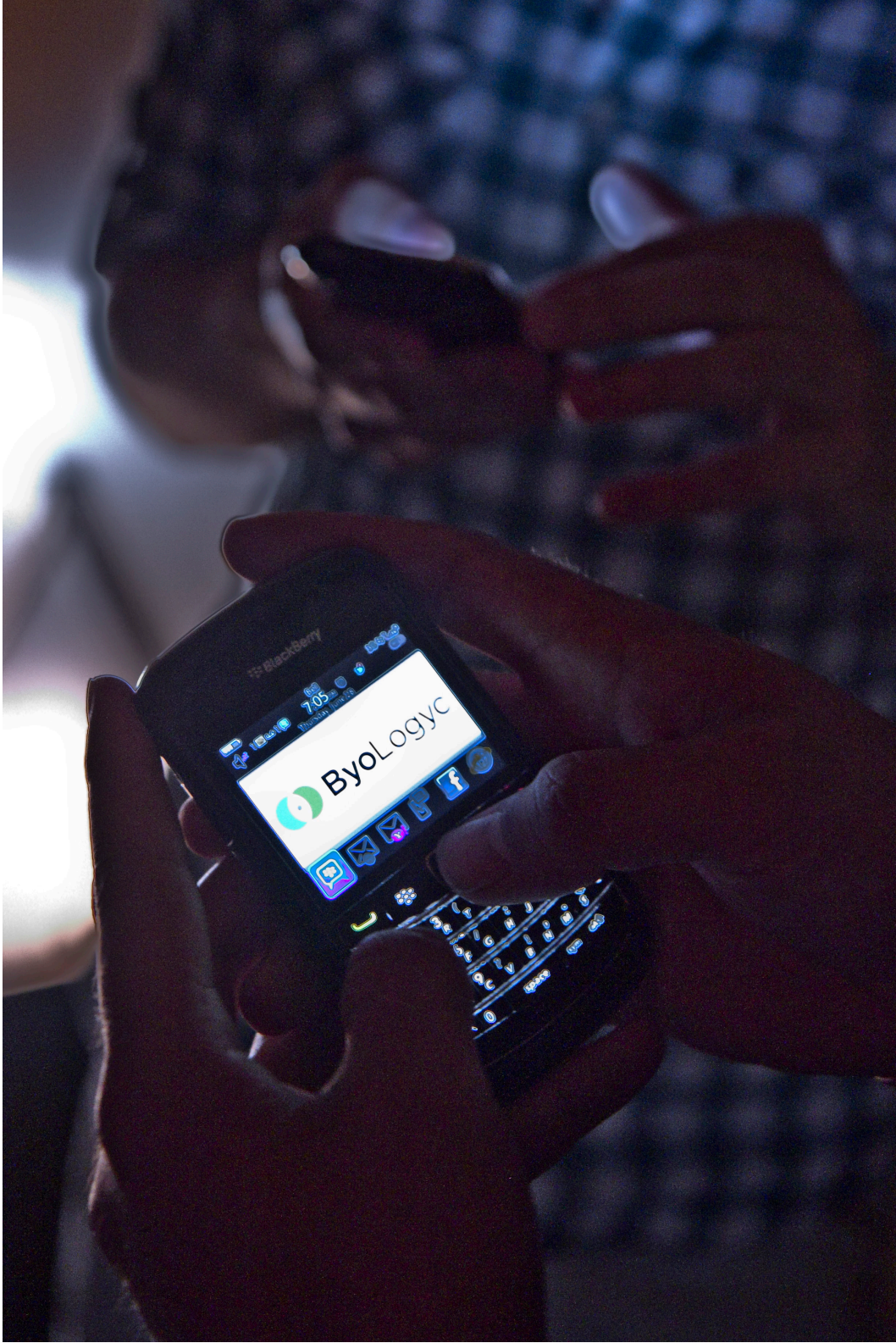


Figure 46: ByoLogyc's logo on participant cellphones (2012)

In order to facilitate the active engagement of a community of participants with ByoLogyc's story, the fictional company engaged in recruiting through both live and online channels for its Versatile Intern Program⁶¹. The "VIP" initiative took the form of a website and online community designed by The Mission Business. Through this website, visitors could sign up to become an intern at ByoLogyc, helping them help the world by providing valuable customer insights that could be utilized in the design of better products and strategies.

⁶¹ <http://VIP.byologyc.com>



VERSATILE INTERN PROGRAM

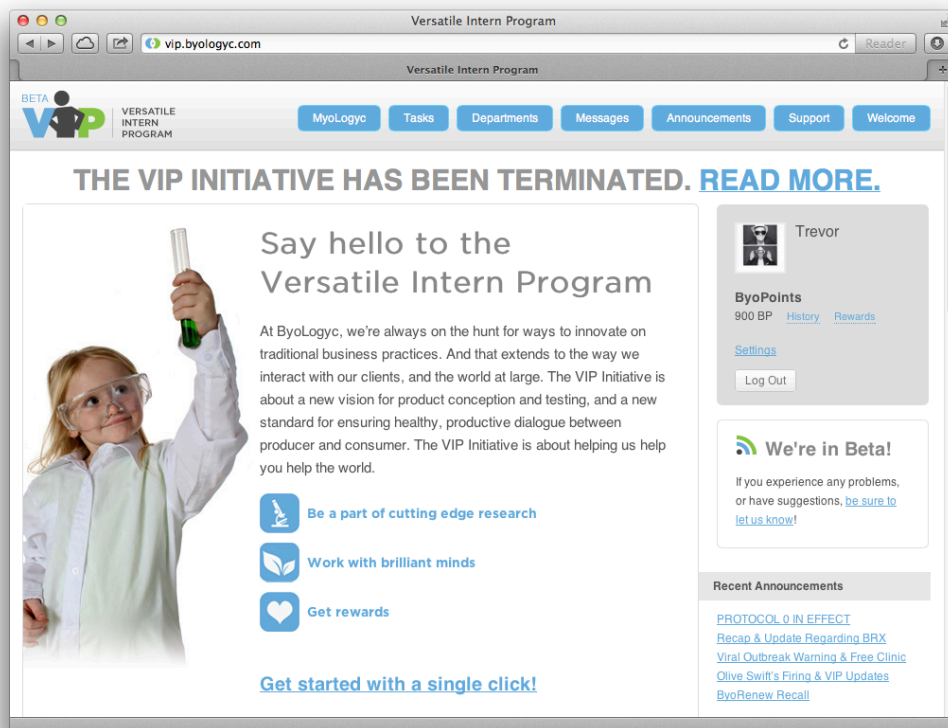


Figure 47: Screenshots and logotype of ByoLogyc's Versatile Intern Program (2012)

A short informational video on the VIP website's landing page hosted by Olive Swift⁶² highlighted the initiative's gamification of product development and customer service, reinforcing how each member was contributing to the creation of a brighter and more transformative technological tomorrow. By completing quizzes and polls, sharing written and visual insights into their experience of ByoLogyc products, and highlighting interactions with the company's staff, members of the Versatile Intern Program were rewarded with ByoPoints. This virtual currency could be collected to earn community recognition in monthly Versatile Intern Program newsletters called ByoSphere, or to gain access to special takeaway artifacts and experiences at theatrical performances. The ByoSphere newsletters were also used to motivate participants to create user-generated content, in response to tasks such as "Show ByoLogyc your disaster preparedness kit", "Identify flaws in a lifestyle product's marketing campaign", and "Tell ByoLogyc why YOU should be VIP-of-the-month." In essence, ByoLogyc used the VIP Initiative to cultivate an online community around a loyalty and market research program, suggesting a disturbing future where the online communities that we inhabit are populated, influenced, or directly operated by corporate interests with nefarious goals.

⁶² <http://vimeo.com/41774013>



ByoSphere

The official newsletter of the Versatile Intern Program

JUNE 2012

Product Spotlight: Know Your Solutions



As a biologic tutor for the baby, treatment starts even before conception. Comprised of three inoculations, one per trimester, each is focused on properly setting the stage so that anyone's little miracle can come true.

Studies have shown that 9 out of 10 infants born under the ByoBaby treatment perform better and learn faster. Average ages of walking are lowered by 2-4 weeks, talking occurs around 1-2 months sooner and even basic reading skills have been observed as early as a half a year quicker than normal.

ByoBaby: Because the Future is Inside You!

1st Trimester: Advanced Fertilization.

The first stage helps prepare the mother's body, getting itself ready and making her eggs more fertile and receptive while balancing and enriching the womb with all the necessary, life-ensuring essentials.

2nd Trimester: Genetic Reinforcement.

The second stage is designed to keep watch over the development of the baby during the most fragile stage, isolating and removing any abnormalities on his/her path to perfection.

3rd Trimester: Hormone Equalization.

The third and final stage of ByoBaby provides the hormone-balancing any mother's body needs in order to keep calm, cool and collected during the most trying time of pregnancy - the birth!

Everyone wants their baby to be happy, healthy and perfect in every way. So do we.

Editor's Note

Hi Everyone!

This is our first issue of ByoSphere, a monthly newsletter that celebrates you, and all the hard work you do! And hard work it is, but so far we've only had amazing results from all of you. Seriously, thank you from me, Olive, Henry, Chet and everyone else who wants you to succeed the way ByoLogyc has!

In this issue you'll find the VIP of the Month, a special message from Mr. Chet Getram himself, a bio on one of our esteemed co-workers, a product spotlight and, perhaps most importantly, the results of all that testing you've been doing for nearly a month. You'll see some of these articles in the coming issues, too. We'll shine the spotlight on a new product and person each issue, and you can expect to see a new VIP of the Month, every month.

Do remember that as of yet, the results of your testing are confidential and for ByoLogyc eyes only.

Now, sit back and read away! If you think I've missed anything, send me a message and I'll try to include it next time.

Keep up the great work everybody!

Marie Leclerc
Public Relations Director
marie.leclerc@byologyc.com

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Message from Chet	02
ByoPeople Spotlight	02
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Figure 48: An issue of ByoLogyc's monthly newsletter for members of the Versatile Intern Program, ByoSphere, including user-generated content (2012)

Message from Chet



FROM THE
DESK OF
**CHET
GETRAM**

I recall a time, before I went away to school in England, when ByoLogyc wasn't what it is today. I remember my father, having just come back from a meeting with Bernice, where it was revealed that the company's financial situation was less than ideal. We had been putting a lot of money into new concepts but there was little in the way of growth in sales.

I could tell something was on his mind, and asked about what was bothering him. Like always, he shared his thoughts with me. Frustrated by the situation, I remember bursting out with something along the lines of "Well, we just have to get people to buy more!" He laughed at me in his way, not mocking but kind, and told me "No son, we just have to get them to care more."

And so that is what we do now, we care. We care about ourselves, we care about our customers, and we care about you, our VIP members. You are such an important wing of our work here at ByoLogyc, not only as eyes and ears, but as hearts and souls.

So, from me to you, thank you. Keep it up. There is still a lot to do.

ByoPeople Spotlight



**DAVIAN
BAXTER**

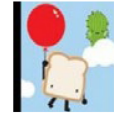
Davian Baxter is the VP of the Research and Development at ByoLogyc. The medical mind behind such our greatest achievements like ByoFlu, ByoGrow and ByoBaby, Davian began his lifelong obsession with all things biotechnical at the University of Cambridge where he graduated top of his class from the School for Biological Sciences, specializing in virology and synthetic genomics in 2000.

Davian joined ByoLogyc less than three months later at the behest of Chet Getram (his university dorm mate) and has been one of the brightest stars in the company ever since. He has won the National Biotech Award, the European Virology Award, the Canadian Society of Microbiologists' Award, and Best in Show at the Clinical Virology Symposium.

His current research interests include adeno-associated viral vector therapy and distributed sociometric quantification. You can follow all his latest ideas and innovations by following him on Twitter: @davianbaxter.

*ByoLogyc: Because Better and Together
Rhyme for a Reason*

VIP of the Month



**SARAH
LACELLE
(EGGZ)**

ByoLogyc: Tell us a bit about yourself.

Sarah: Social and approachable young woman living in Ottawa, ON. Currently working on my Cognitive Science degree at Carleton University. I love to read fantasy and sci-fi, but lately a lot of my time is devoted to my research programs in computer usability.

ByoLogyc: What was your favorite testing experience so far?

Sarah: The "Emergency Preparedness". Not only did I find out that we had enough food to feed a small army, but we have an arsenal hidden around the house. Bayonet anyone?

ByoLogyc: Why is science important?

Sarah: Science is the means that we use to learn about the world around us and how to harness its secrets. From sequencing DNA to mapping functionality of the brain, and everything outside of ourselves is invaluable in the push towards future innovations.

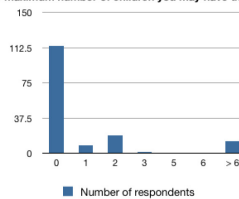
ByoLogyc: Can you offer any advice to the newer VIP members?

Sarah: Be involved. Talk to the employees, and other interns. Ask questions and don't be afraid to voice your opinions, especially if it can offer a new way of looking at a problem. Only from collaboration can we make this project work!

Test Results From VIPs

The data submitted by our VIPs goes directly to the labs, where our analysts break it down and transform it into the concepts and visions that will inform tomorrow. However, the VIP Initiative is all about conversation and feedback, and we want you to be part of the entire process. That's why we report to you on some of the more interesting results we find from testing.

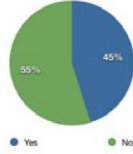
In your opinion, what is the maximum number of children you may have that you do not currently know about?



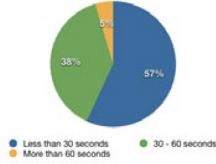
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Test Results, continued

Would you like to have regular contact with livestock?



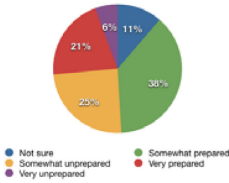
What is the average duration of your urination sessions?



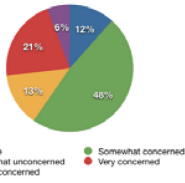
On average, how often do you experience emesis (vomiting)?



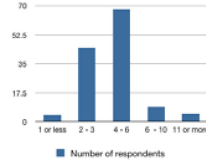
How prepared would you consider yourself for a major disaster?



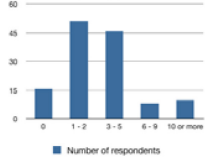
How concerned are you about the possibility of a major disaster occurring?



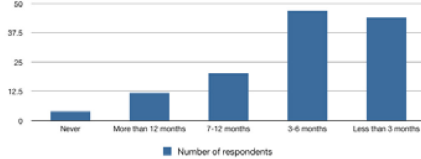
On average, how many meals and snacks do you consume per day?



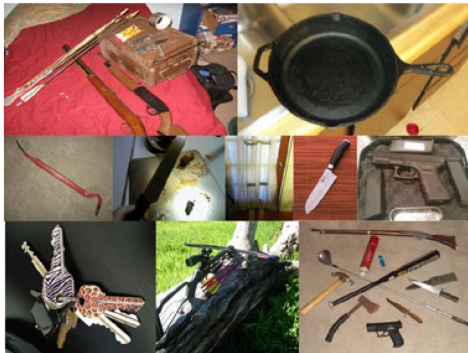
On average, how many times do you engage in heavy physical activity each week?



When were you most recently ill?



Means of self-defense



Evidence of water supplies



While ByoLogyc built its social network in the form of a gamified and profile-driven market research program, their oppositional force, the online anarchist organization EXE, employed a much more decentralized and anonymized approach to building community. Their website, EXEisHERE.org⁶³ was promoted through pamphlets and protest signs at theatrical performances, as well as in slanderous hacks of ByoLogyc websites and social media channels. The design of their website was inspired by 4Chan, the online community known as a home of Anonymous, a decentralized organization that conducts brute force and DDoS cyberattacks on large corporations and organizations. The messageboards of 4Chan are populated by a massive and anonymous network of online citizens who communicate the values and narratives of the community through internet memes — graphics that repurpose and recycle popular images and text slogans with slight variations in order to communicate new ideas in an easily digestible visual format. The messageboards on EXEisHERE.org were seeded with internet memes designed by The Mission Business, and quickly filled up with a rich diversity of images and written fan fictions produced by audiences of *ZED.TO*'s live-action theatrical performances and a larger network of online-only contributors. Occasionally, the messageboards were seeded with exclusive ByoLogyc content made available to EXE before it was made available to members of the Versatile Intern Program, simulating the leaks of confidential information and heightening the community's experience of spying and hacking their way inside ByoLogyc. Over the course of EXEisHERE.org's lifetime, numerous scanned documents inspired by the content featured on WikiLeaks were released to the site. These leaked documents⁶⁴ incriminated ByoLogyc and its staff in numerous

⁶³ <http://www.exeishere.org>

⁶⁴ <http://byoleaks.org>

slanderous and illegal activities, including the bribery of the Canadian Health Products and Food Board inspectorate, the unlawful dismissal of employees unwilling to demonstrate total obedience to CEO Chet Getram, and cryptic words of wisdom handed down to Chet on company letterhead from his father. Prior to the staging of *ZED.TO*'s live theatrical performances, design documents produced by The Mission Business including architectural blueprints and production designs for performance venues were often leaked to EXEisHERE.org with ByoLogyc branding. These leaked documents created feedback loops of interest and activity between the live performances and the online community. Members of the EXE community who knew of the layout of live performances in advance would be better equipped to sleuth around the locations, and uncover hidden materials and planted media artifacts. This, in turn, would act as a reinforcing reward for their active engagement with *ZED.TO*'s online communities.



ByoLogyc



scotiabank nuit blanche







ByoLogyc
"Public Health and Community Wellness Clinic"

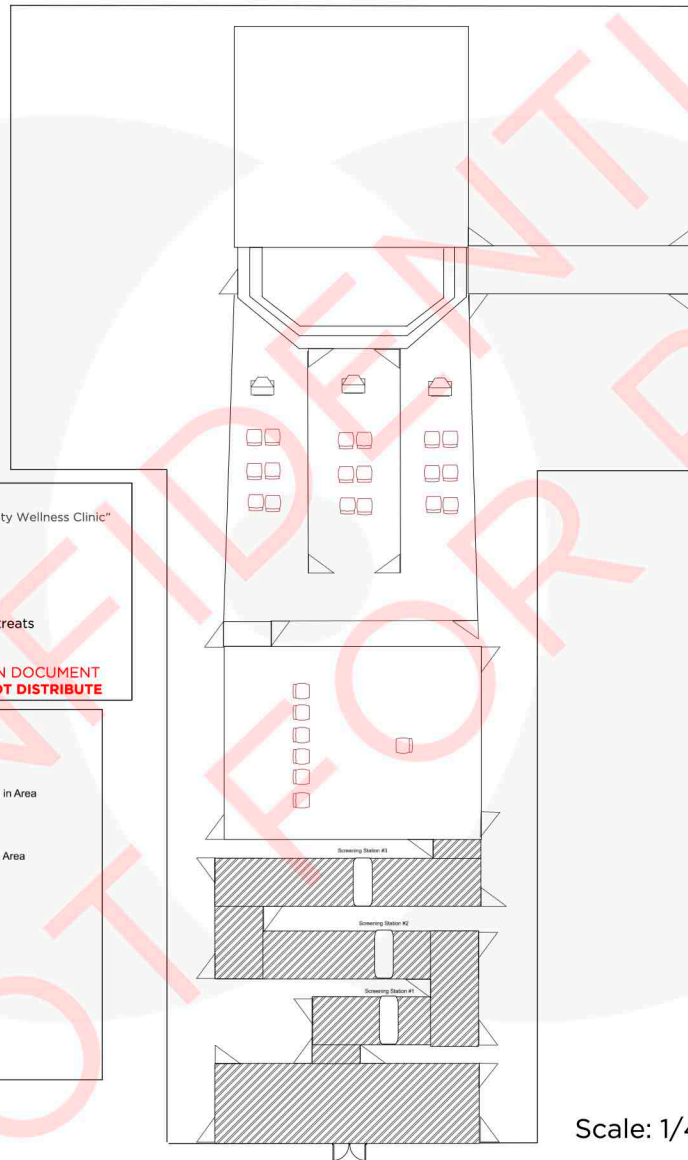
September 29, 2012
Church of the Holy Trinity
10 Trinity Square, Toronto

Created by:
Felicity Chapman, ByoRetreats
Renata Reinger, SCD

INTERNAL SCD DESIGN DOCUMENT
CONFIDENTIAL - DO NOT DISTRIBUTE

Legend

-  Uncovered, Walled in Area
-  Covered, Walled in Area
-  Screening Station
-  Upended Pew
-  Chair
-  TV - Final Section



Scale: 1/4" = 1'

Figure 49: Leaked and in-narrative plans for the *ByoLogyc: Patient Zero* installation

(2012)



Dear Ms. Olive Swift,

Upon further review of the application of Trial Series #744,001 (previously referenced as "Project Altjira", previously referenced under shelf-name "Byorenew") we have found our previous conclusion erroneous in light of new information provided to us.

Following perusal of your submitted duplicate appendices and additional methodological review on our behalf, we are granting ByoLogyc Inc. approval for preliminary public release during 2012; not sooner than July 1st, 2012.

Thank you for your patience, diligence and commitment; to proper protocol and public safety alike.

Best of luck in your future endeavours,

Charles Meyers
Senior Case Officer
Health Products and Food Branch
Health Canada

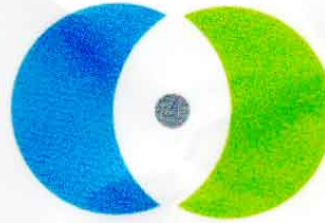
Health Canada
Health Products and Food Branch
250 Lanark Avenue
Graham Spry Building
Address Locator: 2005A
Ottawa ON K1A 0K9
Telephone: (613) 957-1806
Fax: (613) 954-3957
Email: hpfb-dgpsa@hc-sc.gc.ca
Website:
www.healthcanada.gc.ca/hpfb

Figure 50: A faked letter from the Health Products and Food Branch, Health Canada describing ByoRenew (2012)

ByoLogyc Inc.
Corporate Headquarters

23 Matlow St, M6Y 3H9
Toronto, Canada

1 (866) BYO-6090
@ByoLogyc



March 21, 2012
11:27AM EST

To: Chet Getram, CEO
From: Olive Swift, Quality Assurance

Re: HPFB Issue Resolved

Chet,

As per our conversation last night at the 20th Anniversary event, the pre-existing issues surrounding Project Altjira (*ByoRenew*) and the Health Products and Food Branch Inspectorate have been resolved to the satisfaction of all parties involved.

What first appeared as a major risk factor in the program's vector has been revealed as a clerical error and the HPFB now deems the project ready for public Beta launch in May/June of this year. Documentation is on its way.

I am sorry that this has caused so much stress, at the office and between us.

As for last night, I don't judge you and I don't want to know about it, about her. The past is the past, we all make mistakes. Let's just start working for that better tomorrow ok?

Thank you for a wonderful evening last night and am looking forward to the trip and the sunshine!

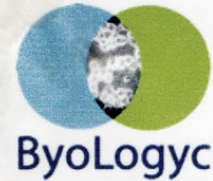
Olive Swift
olive@byologyc.com

All contents of this communication and attached documents are presumed confidential unless explicit annotations or commentary indicates otherwise. All data (including but not limited to facts, figures, photos, samples or patentable genetic mutations) is the direct property of ByoLogyc and shall be used to ensure a "better tomorrow, today"®. If you have received this in error, please destroy all copies.



Figure 51: An office memo between members of ByoLogyc's senior management team (2012)

ByoLogyc Inc.
Corporate Headquarters
23 Matlow St, M6Y 3H9
Toronto, Canada



FROM THE DESK OF HEWSON GETRAM

December 27, 1999

Dear Son,

I wanted to thank you for the wonderful gift. I'm happy my love for myth and culture wasn't lost on you; I do wish you would take more of an interest yourself. There are many lessons to be learned from the lost teachings of ancient peoples, particularly in high-octane times such as these.

One of the first entries in *ARCHAEOLOGY OF THE DREAMTIME* [Josephine Flood, 1983] discusses the creation of the world by the god of the dreamtime, Altjira.

The legend goes that Altjira (taking the form of a man in the sky with the feet of an emu) awoke when the world still slept. He created all: the rivers, the trees, the desert and the snow, animals to eat, fire to keep us warm. When his work was done, he returned to the sky. He left no instructions. When the other gods and the children of the Earth awoke, they had to teach themselves how to use the gifts that were left them. This perhaps was his greatest gift of all. But Altjira doesn't care: he did his duty and has no more thoughts of Earth or Man.

I hope I haven't bored you to tears with another history lesson from your windy father. There's a lesson in there, I'll leave it for you to discover on your own.

Looking forward to another tomorrow,
Dad.

Figure 52: A letter from ByoLogyc's original CEO Hewson Getram to his son Chet

(2012)

Of all the media utilized by corporations to communicate their strategy, product offering, and value proposition, one of the most accessible is the corporate website. In order to bring ByoLogyc to life in a way that was accessible to new and established *ZED.TO* audiences, it was crucial to create a compelling and believable corporate website for the fictional company. ByoLogyc's website⁶⁵ was designed to provide up-to-date story information related to its products and services, its senior management team, and its origins. Over *ZED.TO*'s duration, the website provided a valuable channel for introducing new audiences to the company's futuristic vision, and its decaying values in the face of a synthetic pandemic. The ByoLogyc website and visual identity were collaboratively designed by The Mission Business with graphic designer Patrick Stolk-Ramaker. ByoLogyc's web presence brings to mind Apple's website and design philosophy with its focus on product value propositions, its slick branding, and its elegant consumer-facing presentation of innovations in synthetic biology.

⁶⁵ <http://www.byologyc.com>



Figure 53: A screenshot of the ByoLogyc website's page about ByoRenew (2012)

The language employed by ByoLogyc frequently referenced individual and collective aspiration, the delivery of meaningful choice to consumers, and the promise of transformative opportunities through advanced technology. The website's product pages included clever slogans, high-quality photographic mockups of the ByoLogyc products that matched physical interactions mockups at live theatrical performances, and demonstrated ByoLogyc's attention to design and detailing. The website featured a Staff page⁶⁶ that connected the profiles of ByoLogyc's 10 department heads with photographs of the actors portraying them, and provided easy access through hyperlinks to the active Twitter profiles for each character. The website also presented short promotional videos produced by The Mission Business that explored ByoLogyc's corporate strategy, the value propositions attached to each of its products, and the design of its ByoRetreat facility. A small visual indicator on the bottom right of the ByoLogyc website identified it as a part of the larger *ZED.TO* project.

⁶⁶ <http://byologyc.com/staff/>

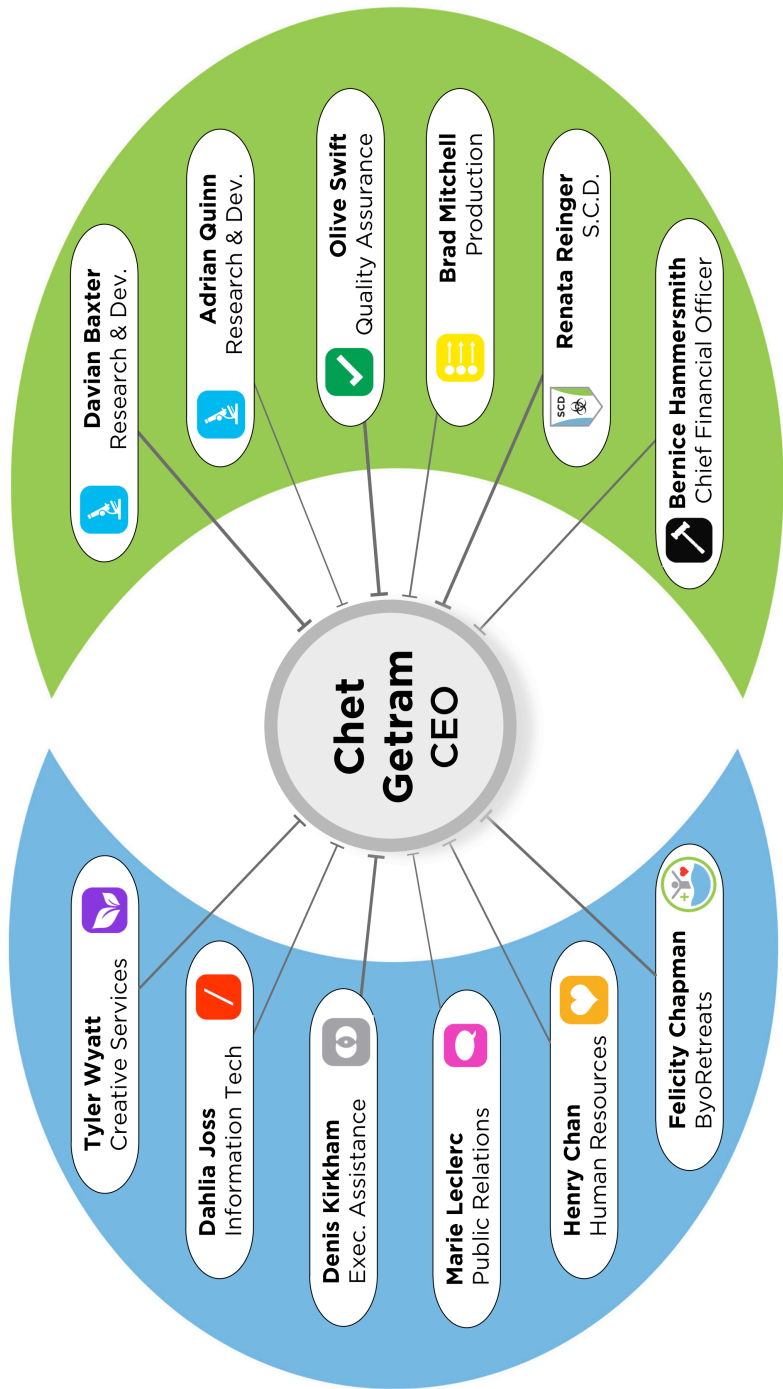


Figure 54: An organizational diagram of ByoLogyc’s senior management (2012)

The story of ByoLogyc and its corporate characters was presented through a graphic novel released serially over the course of 2012. Written by The Mission Business, the project was illustrated by a Toronto artist named Dara Gold, one of a number of project co-creators who embedded themselves within the diegesis in order to deliver their creative contributions. Instead of contributing to the graphic novel and leaving its publication to The Mission Business, Gold chose to portray a character in-narrative, and to release the graphic novel through a platform of her own creation within the ByoLogyc transmedia story world. Gold created a character named Ariel Hume, an ethnographic researcher at the University of Iceland studying new methods for visualizing the evolution of a corporation's brand through its executives. As Hume, Gold ran a blog called ByoOptic⁶⁷, which she used as a platform to serially deliver the graphic novel she had created — each issue focusing on a different member of ByoLogyc's senior staff. The content included in Gold's graphic novel was often connected to story content that the ByoLogyc staff characters had released on Twitter in the weeks prior, making her work an essential channel to follow for condensed updates on the story. During *ZED.TO*'s live theatrical performances, Gold produced a number of additional sketches as Hume that demonstrated her growing skepticism of ByoLogyc's vision of the future in the face of growing medical calamity. These illustrations were satirical and libelous adaptations of existing performances from ByoLogyc videos introducing CEO Chet Getram, and comments made on Twitter by the various ByoLogyc staff characters.

⁶⁷ <http://byooptic.tumblr.com>



Figure 55: A panel from the ByoOptic graphic novel designed with artist Dara Gold

(2012)



Figure 56: A satire designed with artist Dara Gold lampooning ByoLogyc's CEO

(2012)

Some of the most important media artifacts used to communicate major story developments in the ByoLogyc transmedia story world were corporate informational videos⁶⁸ produced by The Mission Business. The videos resembled the future-facing work of corporate video production teams from Apple, Corning, and Microsoft. The videos introduced major characters, and developments in the story that provided context for and within the live theatrical performances. Three major infomercial-style videos of 3 minutes in length were produced. The first video introduced ByoLogyc CEO Chet Getram⁶⁹ as he waxed poetic about the company's innovation agenda on the golf course, in an ominous boardroom, and in Toronto's Yonge & Dundas Square. The second video visualized ByoLogyc's corporate history and major milestones in its growth, before introducing the new flagship ByoRenew product through a series of computer-generated sequences depicting the spread of viruses within a healthcare environment, and the functionality within the human body of the product itself⁷⁰. The third major video announced the ByoRetreat lifestyle biotech getaways⁷¹, integrating footage shot within *ByoLogyc: 20 Years Forward* and *ByoLogyc: Where You Become New* alongside computer-generated imagery depicting the transformation of the Evergreen Brick Works into a ByoLogyc facility.

I produced the computer-generated imagery included in the ByoLogyc videos in collaboration with two Toronto special effects professionals and video artists, Eddie Farrell and Evan Doherty. Both assisted in the creation of computer-generated

⁶⁸ <http://vimeo.com/byologyc>

⁶⁹ <http://vimeo.com/36764269>

⁷⁰ <http://vimeo.com/45158276>

⁷¹ <http://vimeo.com/50479549>

imagery visualizing the functionality of ByoLogyc's products in the human bloodstream, and the futuristic multitouch user interfaces reminiscent of *Minority Report* used by the company's researchers to examine customer biometric data. The soundtrack to the first ByoLogyc video, introducing CEO Chet Getram, was provided by the Toronto band Kidstreet. In the weeks following the video's release, the band would license "Song", the track used in the video, to none other than Apple Inc. The use of "Song" in that company's infomercial for their MacBook Pro with Retina display⁷² was an unexpected validation of creative choices made during the pre-production process for the ByoLogyc videos. Apple's corporate videos introducing its designers and new products were a significant influence on the look and feel of ByoLogyc's corporate communications. The soundtracks included in the videos introducing ByoRenew and ByoRetreat were produced by C. Matthew Phillips, a Toronto musician and consultant experienced in the use of music in retail environments. Before creating the soundtrack music, Phillips attended *ByoLogyc: Where You Become New* at the Toronto Fringe Festival, and over the course of *ZED.TO* became a frequent and deeply embedded performer in the project's live theatrical performances, playing a member of ByoLogyc's communications team as well as a triage screener at the Public Health and Community Wellness immunization clinic run during Scotiabank Nuit Blanche. The evolution of project participants like Phillips and Gold from passive audience members, to actively engaged creative collaborators is a powerful demonstration of the engaging nature of *ZED.TO*, and an argument for the delivery of future scenarios through a co-creative transmedia design practice.

⁷² <http://www.youtube.com/watch?v=Neff9scaCCI>

A series of shorter videos provided additional information and context about ByoLogyc's fictional products⁷³. Five videos exploring how a fictional customer's life had been transformed by ByoLogyc were produced to support the ByoBreath, ByoEnrich, ByoBaby, ByoRenew, and ByoGrow products. These videos were made available on ByoLogyc's website, as well as on the company's YouTube⁷⁴ and Vimeo⁷⁵ channels. The videos were also integrated into the production design of the live theatrical performances, playing on small televisions and iPads scattered throughout the venues, as well as on large projection screens flanking ByoLogyc senior staff during various speeches and presentations. The final series of short videos produced for *ZED.TO* were speeches from CEO Chet Getram, who generously took the time to answer personal and professional questions submitted by email and through the Versatile Intern Program website from fans of *ZED.TO*.

The Mission Business also produced a series of videos introducing the character of Olive Swift, ByoLogyc's Director of Quality Assurance. Leaked by EXE through their YouTube channel⁷⁶, the videos demonstrated the rise and fall of ByoLogyc through personal reflections from a character at the heart of the calamity. They also shed light on the origins of the BRX Virus, the implosion of an illicit relationship with ByoLogyc's CEO Chet Getram, and her growing disenchantment with the company's vision of the future of the industry.

⁷³ <http://byologyc.com/byostories/>

⁷⁴ <http://www.youtube.com/byologyc>

⁷⁵ <http://vimeo.com/byologyc>

⁷⁶ <http://www.youtube.com/user/exeishere>



Figure 57: Production still from ByoLogyc employee Olive Swift's video logs (2012)

Award-winning video artist JDRW5⁷⁷ produced a series of re-edited mash-ups of the ByoLogyc promotional videos for use in live performances. These mash-ups indicated the compromise of ByoLogyc's security systems and the presence of EXE operatives in the physical environment. They featured offensive and slanderous overdubs of speeches by and interviews with ByoLogyc staff at live performances, presenting ByoLogyc CEO Chet Getram in particular as a greedy and fascistic serpent rather than the calm-and-in-control visionary he preferred to project.

Of all the videos produced for the project, none demonstrated the strength of ZED.TO's transmedia design process better than those produced by Stefan Kuchar. Kuchar, a Toronto filmmaker and editor, attended *ByoLogyc: Where You Become New*, *ByoLogyc: Patient Zero*, and *ByoLogyc: Retreat*, capturing each event from the perspective of a member of the general public attempting to understand the truth behind ByoLogyc's cover-up of the BRX Virus, the world's first synthetic pandemic. Kuchar's videos, titled *Beware ByoLogyc*⁷⁸, *ByoLogyc Beware*⁷⁹, and *ByoLogyc Retreat*⁸⁰ range in length from 4 minutes to 16 minutes, and provide unique documentation of the project's live interactive performances from an embedded audience perspective. The videos were published to YouTube within weeks of each performance, and demonstrate through their length and narrative connectivity the immersive nature of the performance experiences, and the freedom participants were offered within boundaries to interact with characters and explore the physical manifestation of the

⁷⁷ JDRW5's YouTube channel, with 85 videos and 1.6 million views <http://www.youtube.com/user/jdrw5>

⁷⁸ Stefan Kuchar's Beware ByoLogyc: <https://www.youtube.com/watch?v=7Tb8BbUABUc>

⁷⁹ Stefan Kuchar's ByoLogyc Beware: <https://www.youtube.com/watch?v=VIIV6sqis8s>

⁸⁰ Stefan Kuchar's ByoLogyc Retreat: <https://www.youtube.com/watch?v=6-xZTN0spnI>

transmedia story world. They also demonstrate the success of *ZED.TO* at converting casual audience participants into creative collaborators embedded within the narrative. The story of ByoLogyc was compelling enough to engage Kuchar; but the stories he created in response generated hundreds of views on YouTube, cultivated discussion on in-narrative and meta-narrative websites, and were ultimately included at the core of *ZED.TO*'s project documentation.

Geoff May, creator and webmaster of the popular ARG fan community 4DFiction.com,⁸¹ also created a duo of videos documenting the *20 Years Forward* live performance at Ingram Gallery,⁸² as well as the *Patient Zero* event during Scotiabank Nuit Blanche.⁸³ May's videos are positioned further from the centre of the fictional story world than Kuchar's, and don't originate from the perspective a characterized narrator as Kuchar's do. Nevertheless, May's videos demonstrate the passion of audience participants embedded within the live performances to capture their experience and share it with online communities of fans. In an interview regarding his contributions to *ZED.TO*'s transmedia scenario, May stated that what attracted him to the project was "the idea of real world characters playing along in real time, interacting online, while providing focused dramatic events to continue the ARG-like story." May's tendency to share his experience of the live performance events with an online community benefitted fans of the project who largely engaged with the project virtually, providing them with an ability to "at least go back and find what you may have missed."

⁸¹ <http://www.4dfiction.com>

⁸² <https://www.youtube.com/watch?v=jksrDhk6fOA>

⁸³ <https://www.youtube.com/watch?v=7OX3kNHYQNk>



Figure 58: A collage depicting the videos produced for ZED.TO about ByoLogyc

(2012)

Kuchar and May's videos both highlight the complexity and challenges of building an engaging transmedia narrative — when each new medium that is utilized is expected to tell a new part of the story or engage a new fan community, the likelihood that these additions to the story world will be missed or misinterpreted by a portion of the existing fan community increases. The challenge of keeping up with a story that spreads virally across live performance events, websites, social media, telephone lines, and graphic novels is that even some of the lead users, to borrow a term from design terminology, will miss out on the full richness of narrative on offer.

(Thank you for reading)