

APPROVAL SHEET

Title of Thesis: Star Trick: The Next Iteration: The Next Generation of Genre Generation

Name of Candidate: Thomas A. Boram III
Master of Fine Arts, 2016

Thesis and Abstract Approved:

Stephen Bradley
Associate Professor
Department of Visual Arts

Date Approved: _____

ABSTRACT

Title of Document: STAR TRICK: THE NEXT ITERATION:
THE NEXT GENERATION OF GENRE
GENERATION

Thomas Andrew Boram III, M.F.A., 2016

Directed By: Associate Professor Stephen Bradley
Department of Visual Arts

Star Trick: The Next Iteration is an experimental television “program” based on a probabilistic algorithm that organizes a database of modular footage into an endless “episode” of sci-fi spaceship drama. The computer-based video resembles the visuals and tropes of nineties-era *Star Trek* shows. However, rather than parody or pay homage, *Star Trick: the Next Iteration (ST:TNI)* is an interactive installation in which the viewer may alter the *character* of the piece by choosing which actor plays which character, and which music will be played. *ST:TNI* is a “story” of generic characters in an outer space exploration, but it is also an exploration of the modular character of generic television stories (what I call Absurd Procedural Fractals) and generative digital media. The system itself is foregrounded in the work and shares equal visibility with the ideas and “stories” emerging from it.

In this written thesis, I address my focus on formal structure in *ST:TNI*. The mechanical nature of the media I used helped me conceptualize the narrative while also

considering the computer's syntax and grammar. *ST:TNI* is therefore a television *program* in the truest sense. I discuss how the digital computing concepts of database, algorithm, recursion, and iteration can be applied to classic television forms and genres. Finally, I examine the concepts of *paradigmatic sets* and *character* with regard to narrative and database by connecting the idea of the "television program" to Theatre of the Absurd and the ideas of media theorists such as Marshall McLuhan, Lev Manovich, and Alex Galloway.

STAR TRICK: THE NEXT ITERATION: THE NEXT GENERATION OF
GENRE GENERATION

By

Thomas A Boram III

Thesis submitted to the Faculty of the Graduate School of the
University of Maryland, Baltimore County, in partial
fulfillment of the requirements for the degree of
Master of Fine Arts
2016

© Copyright by
Thomas Andrew Boram III
2016

Preface

Note to readers

I noticed while writing this thesis that I was getting into two typography conundrums regarding “meaning” and *emphasis*.

First, I have a longtime habit of putting “quotes” around “words.” Apparently, I do this a lot in conversation, too, using the curtsying two-finger gesture when I say certain “words.” I have always maintained that I do this because I find many common words like “music” or “humor” to have labile meanings.

I employ these “quotes” to separate myself from these “words,” so that I’m not expected to defend their slippery meanings every time I use them. My quotes actually mean something more like “include the ten most common contexts for this word you can think of.” For example, I might say something is “ugly.” I’ll just put “ugly” in quotes to avoid a reader’s thinking that I’m some sort of fool who has a fixed understanding of the universe. I think that acknowledging the fact that much of human communication is balanced on precarious contexts is a matter of my simply being responsible.

Trying to disambiguate takes so much elaboration that such conversations could “unravel” forever, as Judith Butler suggests.¹ I view these “quote words” as semantic irrational numbers. The quotation marks are like the use of Greek letters in mathematics. They stand in for something *irrational*, something that can unspool details forever.

¹ “It seems that every text has more sources than it can reconstruct within its own terms. These are sources that define and inform the very language of the text in ways that would require a thorough unraveling of the text itself to be understood, and of course there would be no guarantee that the unraveling would ever stop.” Judith Butler, *Gender Trouble: Feminism and the Subversion of Identity* (London: Routledge, 1990), x.

“Normal quotation marks” henceforth in this thesis should be considered in a specific context: they are someone else’s words, not mine. *My* slippery words will be indicated by ‘single quotes.’ There just isn’t time in a paper like this to “unspool” certain terms. I prefer to *emphasize* the ‘process’ of discussion over the contextualization of it. It is simply more fun to talk than to *try to talk* and fail over and over again. As artist John Baldessari said, “I want to consider language as an articulation of the limited to express the unlimited.”²

Second, I often use *italics* for *emphasis*. These emphasized words aren’t complex words with a vortex of meanings, but they do require a certain registration in my contexts. ‘Registering’ a word slows it down and says that what surrounds this word is important without saying “this is important.” It isn’t complicated to emphasize certain words, until one needs to cite a lot of formal works like books and films, which, because quotes are already used up, need to be placed in *Italics*.

From here on, italicized lowercase words indicate *emphasis*, whereas italicized words beginning with capitals indicate cited works – *Star Trek*, for example.

² John Baldessari, “What Thinks Me Now,” in *Theories and Documents of Contemporary Art: A Sourcebook of Artists’ Writings*, ed. Kristine Stiles and Peter Selz (Berkeley: University of California Press, 1996), 1040.

Acknowledgements

Without the assistance and patience of my family, not one bit of this would have been possible. My wife Jackie Milad is my foil, the person I talk to night after night, trying ideas and thoughts, seeing what sticks, what needs work. To be quite frank, Jackie is quite frank. My parents, Tom and Elaine Boram, have provided me with love and support throughout. My four-year-old son Piero has also supported me in his own way, with his love, yes, but also his curiosity forces me to evaluate if I really understand things like quantum mechanics, relativity, electro magnetism, and chemistry well enough to explain to a child who NEEDS TO KNOW HOW EVERYTHING WORKS.

My progress through school was greatly enhanced by various teachers and mentors at UMBC. These include, but are not limited to – Steve Bradley, Tim Nohe, Cathy Cook, Fred Worden, John Sturgeon, Lisa Moren, Kathy Marmor, Christian Valiente, Jesse Stiles, Mark Durant, Preminda Jacobs, Rebecca Adelman, Eric Smallwood, and James Smalls. A special thanks to Kathy O’Dell for helping me edit this thesis. My fellow 2016 graduates in the IMDA program, Elena DeBold, Wes Stitt, and Cliff Evans have been also been immensely helpful to me.

I am highly thankful to the people who worked with me on this video installation. Without their talent, this piece would not exist – Ric Royer, Ada Pinkston, Hoesy Corona, Lexie Mountain, Victor F.M. Torres, and Samantha Gardner.

Thanks to Symmes Gardner and the CADVC and to the VAPC – “The Cage” – for tech support and camaraderie.

In general, I’m inspired by the community in Baltimore, the complexity of the place, and its high number of clever folks and oddballs.

Table of Contents

Preface.....	ii
Acknowledgements.....	iv
Table of Contents	v
List of Illustrations	vi
 Chapter 1: The ‘Machine’ Idea.....	 001
Chapter 2: Small Medium, Large Map.....	007
Chapter 3: Television Programmer.....	014
Chapter 4: The ‘Idea’ Machine.....	018
Chapter 5: My Experimental Television.....	021
Chapter 6: The Next Generation of Genre Generation.....	027
 Appendices.....	
Bibliography.....	030

List of Illustrations

- Fig 1. *ST:TNI* still. 4 'Cyborgs.'
- Fig 2. *ST:TNI* screen capture. 'Program Window.'
- Fig 3. 'Author performing with Modular Synthesizer.'
- Fig 4. "Drunk Walk I."
- Fig 5. 'Drunk Walk II.'
- Fig 6. 'Boolean Logic.'
- Fig 7. 'Musikalisches Würfelspiel.'
- Fig 8. '*ST:TNI* script, circuit diagram.'
- Fig 9. '*ST:TNI* script, table version.'
- Fig 10. 'Mandelbrot Graph.'
- Fig 11. 'Fake-looking *Star Trek* set.'
- Fig 12. '*ST:TNI* set. Spaceship bridge.'
- Fig 13. '*ST:TNI* still. 4 Captains.'
- Fig 14. '*ST:TNI* still. 4 Telepaths.'
- Fig 15. '*ST:TNI* still. Easter Egg.'

Chapter 1: The ‘Machine’ Idea

“The idea becomes a machine that makes art.” – Sol LeWitt³

I have no ‘idea’ what conceptual artist Sol LeWitt meant by the above quote, but I think it almost fits my project *Star Trick: The Next Iteration*. I had an idea, it became a machine, but instead of “making” art, it ‘iterates’ art. Iterating is not building or “making,” but ‘revealing’ what occurs as a function repeats itself with the new information from the previous iteration. Iteration is an output of a machine that is in the midst of a larger ongoing process. Iteration *is* ‘creativity’ if one accepts that artistic expression can be mechanical.⁴

The basic idea was to make a video drama that would be controlled by a computer, a person, or both, and exhibit it in an art gallery. What started as an ‘interactive’ *movie* became an ‘interactive’ *television program*. *Star Trick: The Next Iteration (ST:TNI)*, like television, is necessarily electronic, mechanical, and endless.⁵ I tasked myself with ‘scripting’ a ‘program’ that could iterate an infinitely generative

³ Sol LeWitt, "Paragraphs on Conceptual Art, *Artforum* 5, no. 10 (Summer 1967): XX.

⁴ “Expression” has a Latin root, to “press out.” This etymology suggests that making a piece of music or forming a facial expression is like squeezing the juice out of grapes. In mathematics, an ‘expression’ is a “finite combination of symbols that is well formed according to rules that depend on the context,” and in computer programming, is a “combination of one or more explicit [values](#), [constants](#), [variables](#), [operators](#), and [functions](#) that the programming language interprets (according to its particular [rules of precedence](#) and of association) and computes to produce.” These definitions appear in Wikipedia, and similar ones appear elsewhere. In addition, “semantics” is often applied to mathematical and computer programming expressions in order to explain how the symbols are applied in order for the expression to have meaning. This explanation connects an expression that can be understood by a machine to an expression that can be understood by a person. In this thesis, I touch on the idea that machine-like thinking applies to viewing art and entertainment in the contemporary world. *Wikipedia*, “Expression (mathematics)” and “Expression (computer science).”

⁵ Raymond Williams, in his 1974 book *Television - Technology and Cultural Form*, discusses the change in the 1960s and 1970s in broadcasting from a “sequence” of “programs” to a “flow,” a larger ‘meta-sequence’ of shows, advertising and trailers. Williams notes that by the 1970s, people would say they were simply “watching television” rather than “watching sports” or “watching news.” Television itself *is* the program. Raymond Williams, *Television – Technology and Cultural Form* (London: Fontana, 1974), 87.

dramatic video. My concern was how to ‘populate’⁶ my custom software with the visuals, sounds, and tropes of another program – something resembling a ‘television show.’ My machine should be filled with another machine – a *genre*. Ultimately, the ‘televised spaceship drama,’ best seen in the many iterations of *Star Trek*, would serve as my program ‘content.’

Star Trek is an icon, a genre unto itself, a suite of memes, and a vast database.⁷

The television program is a machine that generates new material into infinity.⁸ The *ST:TNI* installation invites users to view its content as a television show *and* a machine. They see the four ‘characters’ on a large screen, seeming to operate a large spaceship, interacting with each other. There is some drama on screen, some bickering, a mystery might emerge, even occasional violence. In front of the screen sits a ‘control panel,’ with glowing lights and buttons. The panel allows users to switch actors and music, offering subtle or drastic variations in the way the ‘generic’ material *resonates* (Fig 1). The users may also view the ‘program window’ itself, hung on a nearby LCD monitor. As a clockwork of modules, menus, and switches (Fig. 2), the program window serves to pull back the curtain on the spaceship drama of *ST:TNI*, revealing that the ‘character’ of the ‘show’ is as much if not more in the ‘dialogue’ of its data and algorithms as in the

⁶ In computer terms, to ‘populate’ means to “fill an empty array with data,” per the *Merriam Webster Dictionary*.

⁷ The online *Star Trek* “wiki,” called *Memory Alpha*, has over 40,000 articles on it. Fans built this site and contributed all of these articles. With such a large fan base and the discourse that surrounds it, one wonders where *Star Trek* the ‘property’ ends and the shared cultural language begins.

⁸ Aside from the vast ‘wiki,’ fan-generated fiction that uses *Star Trek* language and tropes has been churned out in droves. A current court battle involves CBS, the most recent ‘owners’ of *Star Trek*, suing a crowd-sourced fan film called *Star Trek: Axanar*, which has a one-million-dollar budget. The defense claims ‘fair use’ and that it is unclear what of *Star Trek* is private property. Beatrice Verhoeven, “Why ‘Star Trek’ Fan Film Producers Should Have Seen CBS/Paramount Lawsuit Coming,” *The Wrap, Covering Hollywood*, January 8, 2016, accessed March 1, 2016, <http://www.thewrap.com/why-star-trek-fan-film-producers-should-have-seen-cbsparamount-lawsuit-coming/>.

dialogue between *characters*. Even the handwritten ‘teleplay,’ also hung on the wall, is less a narrative than a circuit diagram (Fig. 8).



Fig.1. *ST:TNI* ‘Cyborg’ character played by four actors. All four actors play the four characters. The character modularity along with modular soundtrack music comprises the ‘interactive’ part of the installation. The spaceship ‘bridge’ serves as a background for all of the dialogue and action.

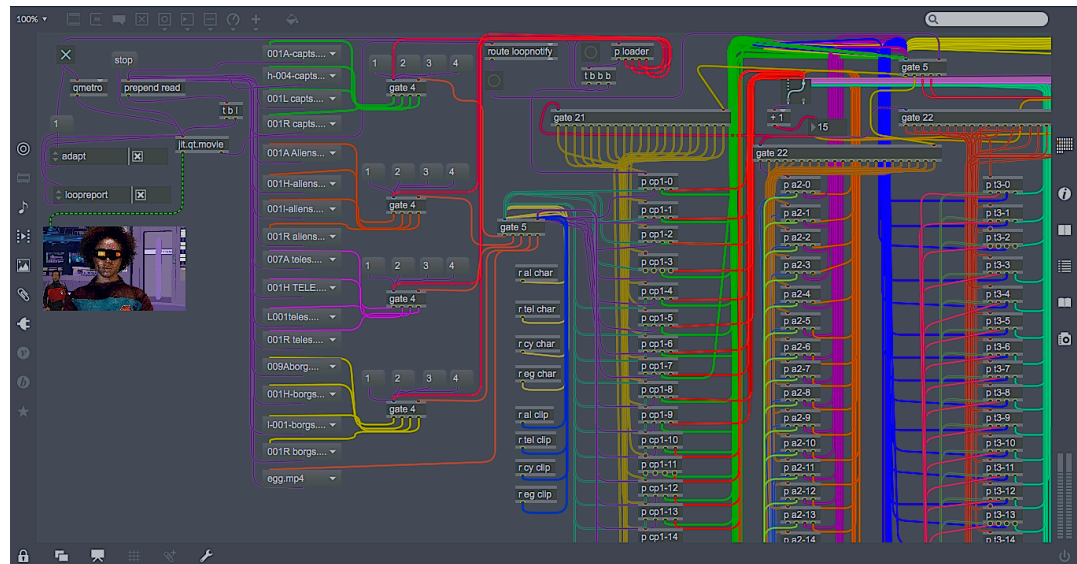


Fig.2. The software ‘patch’ is exposed in the installation. The ‘action’ and ‘dialogue’ are a clockwork of random and logic operations.

Placing a computer program in symbiosis with a television program exaggerates and appropriates the formulaic and generic properties of each and of both together, but the process and result are different from creating a parody or paying homage. This project is about synthesis. The flexible and ‘hackable’ digital format is now symbiotic with the television space drama. This thesis is thus focused on the *formal* design of *ST:TNI*, and how new synthetic forms can alter storytelling and meaning by offering previously hidden access to its inner workings and formulae. The *program* is the *show*.

The true antecedent of this work is experimental music. In spite of my traditional music training, my ideal musical instrument and tool is the modular synthesizer.⁹ This instrument offers a very special character not found in other musical instruments.

‘Programmed’ as much as it is ‘played,’ the synthesizer is a ‘palette’ for new performance instruments, but it is equally a means to structure compositions. One can program the synthesizer to ‘play’ by itself mechanically or to play only when a gestural input is provided. An interesting compositional approach is a prescribed mixture of those two approaches.

⁹ The modular synthesizer is a synthesizer in which none of the function blocks are connected. This means that the players/users must ‘patch’ the instrument and connect the functions as they see fit. For this reason, the instrument is highly experimental, because it doesn’t have a determined architecture – it can serve a wide range of purposes and can be ‘patched’ in thousands of different ways, each providing different sounds or formal strategies for automation and performance. The synthesizer can also be patched in ‘wrong’ ways, which potentially yields sounds or effects not possible with instruments designed to articulate melodic and rhythmic ideas only.

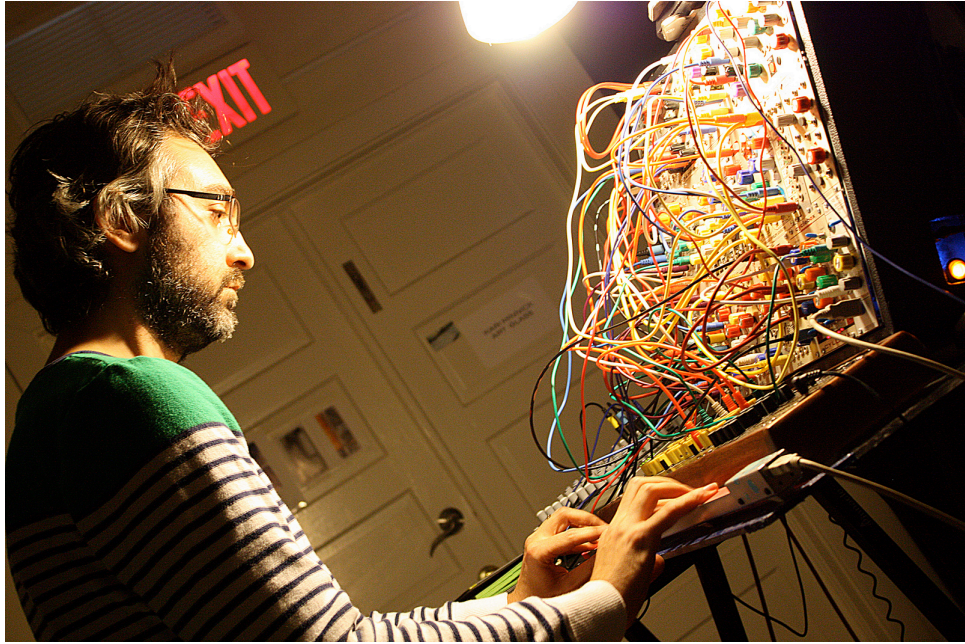


Fig.3. Author performing with modular synthesizer in 2013.

The open schema of the hardware modular synthesizer is the forbearer of artist-programming environments such as *MAX/MSP/JITTER* and *Processing*.¹⁰ In a sense, the *synthesizer* transcends its own common meaning as a sound ‘generator.’¹¹ Inasmuch as it combines raw elements of sound, it also combines two disciplines. A modular ‘synthesist’ is an artist and a programmer simultaneously. Therefore, I can use modular software for another kind of synthesis. Instead of modular music, I decided to experiment

¹⁰ *MAX* was developed in the early 1980s at IRCAM, the Parisian institute for ‘avant-garde’ research into electro-acoustic music. The modular nature of the software consists of op-codes, or digital function blocks, which, much like the analogue function blocks in a modular synthesizer, can be re-appropriated for a plethora of purposes. *MAX* may originate in music, but its generic modularity opens it up to other media and new forms. *ST:TNI* was programmed in *MAX* and its video counterpart, *JITTER*. For more on *MAS/MSP/JITTER*, see:

<http://web.archive.org/web/20090609205550/http://www.cycling74.com/twiki/bin/view/FAQs/MaxMSPHi> story.

¹¹ Generate, genre, generic, and gender are all related terms, originating in the Latin *genus* - kind, type, race, family. ‘Generate’ is to ‘beget’, or ‘procreate.’ These four terms are pivotal terms for *ST:TNI*.

with ‘modular scriptwriting.’ Not as a ‘writer’ of linear ‘stories,’ but as a ‘scripter’¹² of narrative video composition.

Experimenting with narrative form via new digital media is a way to examine how content is delivered and understood. Anne Ellegood states in “Formalism Redefined” that “Artists today reject the endgame of earlier types of formalism in favor of a formalism that allows new possibilities for a given medium to flourish,” and that “involvement with medium-specific questions has resulted not in ‘purity’ but rather what we might call ‘contamination.’”¹³ I don’t think of my project in terms of “contamination,” as much as ‘synthesis.’ As art historian and critic Yve-Alain Bois asserts: “[I]t is impossible to lay any claim to meaning without specifically (I would say initially) speaking of form.”¹⁴ In terms of my ‘formalism,’ I’m not making art *about* a medium. Rather, I create a form, which *iterates* content.

¹² A ‘script’ or ‘scripting language’ in terms of computers is a language “with a series of commands within a file that is capable of being executed without being compiled.” An analogy could be made with the script of *ST:TNI* in that the score can be executed at any time according to the ‘commands’ of the score and the user. The idea of ‘compilation’ correlates also in that the ‘high level code,’ which could be thought of as the dialogue of the *ST:TNI* characters, does not need to be converted to a language that the ‘low level code’ can understand, for they are already designed to work together, like Javascript in a web browser. “Script,” *Computer Hope*, accessed February 1, 2016, <http://www.computerhope.com/jargon/s/script.htm>.

¹³ Anne Ellegood, “Formalism Redefined,” in *Contemporary Art: 1989 to the Present*, ed. Alexander Dumbadze and Suzanne Hudson (West Sussex, UK: Wiley-Blackwell, 2013), 90.

¹⁴ Bois, Yve-Alain, “Whose Formalism?” *The Art Bulletin* 78, no. 1 (March 1996): XX.

Chapter 2: Small Medium, Large Map

Cubism, by seizing on total awareness, suddenly announced that *the medium is the message*. Is it not evident that the moment that sequence yields to the simultaneous, one is in the world of structure and of configuration? - Marshall McLuhan¹⁵

CUNY professor Lev Manovich has commented that the general principle of new media is the “projection of the ontology of a computer onto culture itself,” in effect “reduc[ing] the world to two kinds of software objects which are complementary: data structures and algorithms.”¹⁶ He goes on to say that the “database” is the “symbolic form of the computer age.”¹⁷ This idea that the technology *is* the psychology of our era aligns with media theorist Marshall McLuhan’s assertion 40 years earlier that the dominant technological media of an age “controls the scale and form of human association and action.”¹⁸ The Internet and new digital media now determine the way our culture processes its own multitude of spatial data. Media theorist Alex Galloway states that with the emergence of digital networks comes a new “mode of mediation,” a “systemic” or “machinic” mediation, through which people now interact with their world. He suggests that people will necessarily need to engage in a process of “parsing”¹⁹ information as a machine does, developing algorithms for navigating the vast databases of digital media culture.²⁰

The *database* and the *algorithm* are the basic structural components of *ST:TNI*. The process of making the work is an experiment in which I create art using ‘machine thinking.’ A ‘modular television program’ must have all of its footage in a database. The database comprises every possible module of the program – unconnected, undetermined,

¹⁵ Marshall McLuhan, *Understanding Media: The Extensions of Man* (New York: Signet Books, 1964), 13.

¹⁶ Lev Manovich, *The Language of New Media* (Cambridge, Mass.: MIT Press, 2002), 5.

¹⁷ Ibid., 2.

¹⁸ McLuhan, *Understanding Media*, 9.

¹⁹ ‘Parsing’ a sentence means to analyze the sentence’s grammar by first isolating its syntactic parts. In computer science, parsing is similar – to analyze in order to associate groups of characters to the syntactical units of the underlying grammar.

²⁰ Alex Galloway, “What Can A Network Do?” Lecture, Center for Contemporary Culture, Barcelona, podcast audio, January 1. 2009. <http://cultureandcommunication.org/galloway/mp3/Galloway,%20What%20Can%20a%20Network%20Do,%20Barcelona.mp3>

and unrelated. The “story,” determined both by random operations and by user interaction, emerges from threading selected modules into some sort of narrative timeline with an algorithm. Therefore, on the one hand, my ‘script’ is essentially a database – a grid of blocks with equal significance and value. On the other hand, it is a spatial map – the algorithm is the compositional ‘score,’ the procedure that organizes the grid of blocks so that they *seem* like a ‘story’ when *iterated*.

The ability of *ST:TNI* to iterate new, yet cohesive, narrative timelines consistently is the result of two types of digital processing – 1) a combination of a ‘drunken walk’²¹ or Markov chain,²² and 2) Boolean logic operations. Both Markov chains and ‘drunken walks’ are processes in which randomization occurs in discrete stages. In this way, the ‘program’ of *ST:TNI* will vary a lot each time it is initialized, and also serves to generate unique “episodes,” which run as long as the algorithm operates.

²¹ The so-called ‘drunk walk’ is also referred to as a ‘random walk.’ It is a randomized formulation, but one in which each step is randomized based on the previous step’s value. Instead of random ‘jumps,’ a drunk walk ‘meanders’ over time. ‘Drunk walks’ are often implemented in algorithmic musical compositions as well as models of financial markets or natural processes like weather and population fluctuations.

²² A Markov chain is a statistical model in which probable events are determined only after the state attained in a previous event is determined. This is how *ST:TNI* operates and the ‘score’ is the script, which describes all of the possible flows. In terms of Markov chains, these events are called ‘nodes’ and are frequently graphed in a way not dissimilar to the rough draft of my *ST:TNI* script. Mathematician and composer Iannis Xenakis’ *Analogique* (1958-59) uses a Markov chain to determine the score. Information on this piece and the implementation of the Markov algorithm can be found in Kerry L. Hagan, “Genetic Analysis of *Analogique B*,” EMS: Electroacoustic Music Studies Network, Montréal, 2005, accessed January 28, 2016, <http://www.ems-network.org/IMG/EMS2005-Hagan.pdf>.

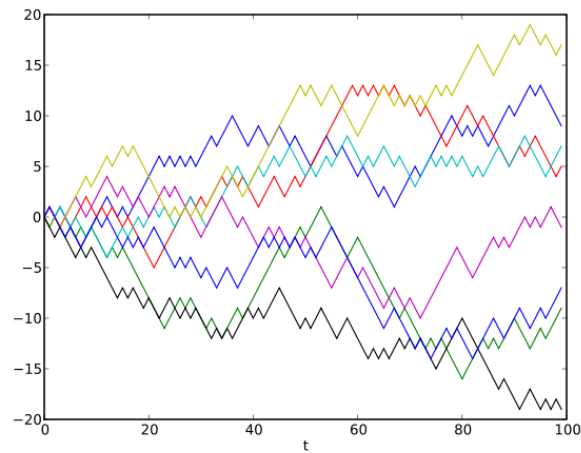


Fig 4. *ST:TNI* is similar to the above graph of multiple ‘drunk walks’ from the same starting point. *ST:TNI* always begins from the same piece of dialogue, with the spaceship Captain saying, “There is someone or *something*, controlling our destiny, our very identity.” From there, within several minutes, the course will change with quite a lot of variation. The Captain’s paranoid concern may or may not be addressed by the subsequent dialogues, as there are many ways in which the characters can digress into other topics of conversation. Image source: *Wikimedia Commons*.

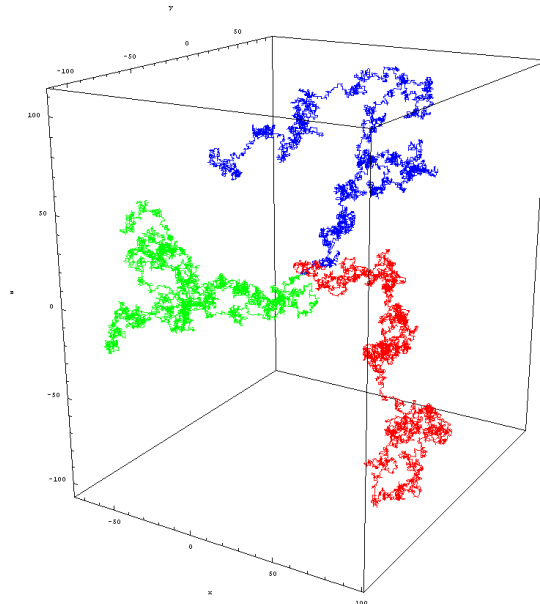


Fig 5. The above model shows how much 3-dimensional drunken walks deviate from each other with identical initial states. For *ST:TNI* to be modeled similarly, though confusingly, would require a ‘5-dimensional’ figure. There are four possible characters to interact in *ST:TNI* and a special hidden ‘fifth dimension’ in which the spaceship computer or the gallery audience itself is inserted into the drama. Image source: *Wikimedia Commons*.

ST:TNI relies on Boolean logic operators to make for ‘meaningful’ iterations of the ‘drunken walk.’ Boolean logic is essential for parsing a database.²³ Although I intended for certain stages in the drunken walk to be absurd juxtapositions, there is a clear logic, and the Markov-like processes, which randomize the motion of the program, can never deviate from the ‘parameters’ I provided. The logical operators are the *virtual intersections* on my script’s ‘map.’ This combination of Boolean and Markovian processes allows the 93 modules (the entire piece actually has over 366 modules - more on that later) to be organized into tens of thousands of unique sequences, all with *some* measure of narrative coherence. Manovich points out, recalling Jorge Luis Borges’ 1946 story *Del rigor en la ciencia*, “the map is larger than the territory.”²⁴ The statement describes the nature of the modular narrative – a spatial composition rather than a linear one.

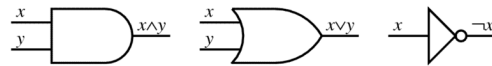


Fig 6. Boolean Logic Operators – AND, OR and NOT. Instead of x and y inputs, *ST:TNI* logic blocks could be seen as having a , b , c and occasionally d inputs. The Boolean OR, would be true if either clip a , b , c , OR d were present as inputs but NOT e or f , etc. In this way, of the 93 locations in the *ST:TNI* script, at most only 4 possible inputs would be true at any given node. The Boolean operation provides narrative coherence in spite of the randomized processes. Image source: *Wikimedia Commons*.

In twentieth-century music, the idea of algorithmic composition is well explored, both with and without the use of computers. John Cage’s famous 4’33” has as its score only the suggestion for an instrumentalist to sit at an instrument for a duration of time.²⁵ In 4’33”, this extremely minimal algorithm accesses an infinite ‘database,’ in which

²³ Boolean algebra was introduced by George Boole in 1854 in his book *An Investigation of the Laws of Thought*. Instead of using numbers, Boolean algebra involves truth values. The operators determine whether an expression is true or false, and the digital *bit* can represent this operation easily, with a value of 0 (false) or 1 (true). Logic switching is the basis of computer processors. These operations are commonly used to conduct meaningful library searches. The Boolean operators are the search’s parameters – one seeks this item OR this item, or this item AND this item, but NOT this item. For a reproduction of Boole’s original 1854 publication, see George Boole, *An Investigation of the Laws of Thought on Which are Founded the Mathematical Theories of Logic and Probabilities* (1854; repr., Cambridge: Cambridge University Press, 2009). A digital version of the original is online here: <https://archive.org/details/investigationofl00boolrich>.

²⁴ Manovich, *The Language of New Media*, 7.

²⁵ The title 4’33” refers to the first public performance of Cage’s score on August 29, 1952, by pianist David Tudor, who performed the three “movements” of the piece in four minutes and thirty-three seconds. Cage’s score does not specify time, instruments, or number of performers.

every conceivable sound in every conceivable sequence could be an iteration of the piece. Cage's contemporaries Lejaren Hiller and Iannis Xenakis both used computers and mathematically derived data to construct pieces of music. There are countless examples of games, statistics, and chance operations being used to determine how music is performed. These techniques broaden the idea of 'music' by first extending the definition of 'composition' and 'composer.' Although the idea of 'games' or 'chance' operations determining the outcome of performed music is much older than Cage and his peers,²⁶ indeed the computer changed the "scale and form" of composition in the twentieth century.

WOLFGANG AMADEUS MOZART

Musikalisches Würfelspiel

Table of Measure Numbers

Part One

	I	II	III	IV	V	VI	VII	VIII
2	96	22	141	41	105	122	11	30
3	32	6	128	63	146	46	134	81
4	69	95	158	13	153	55	110	24
5	40	17	113	85	161	2	159	100
6	148	74	163	45	80	97	36	107
7	104	157	27	167	154	68	118	91
8	152	60	171	53	99	133	21	127
9	119	84	114	50	140	86	169	94
10	98	142	42	156	75	129	62	123
11	3	87	165	61	135	47	147	33
12	54	130	10	103	28	37	106	5

Part Two

	I	II	III	IV	V	VI	VII	VIII
2	70	121	26	9	112	49	109	14
3	117	39	126	36	174	18	116	83
4	66	139	15	132	73	58	145	79
5	90	176	7	34	67	160	52	170
6	25	143	64	125	76	136	1	93
7	138	71	150	29	101	162	23	151
8	16	155	57	175	43	168	89	172
9	120	88	48	166	51	115	72	111
10	65	77	19	82	137	38	149	8
11	102	4	31	164	144	59	173	78
12	35	20	108	92	12	124	44	131

Table of Measures

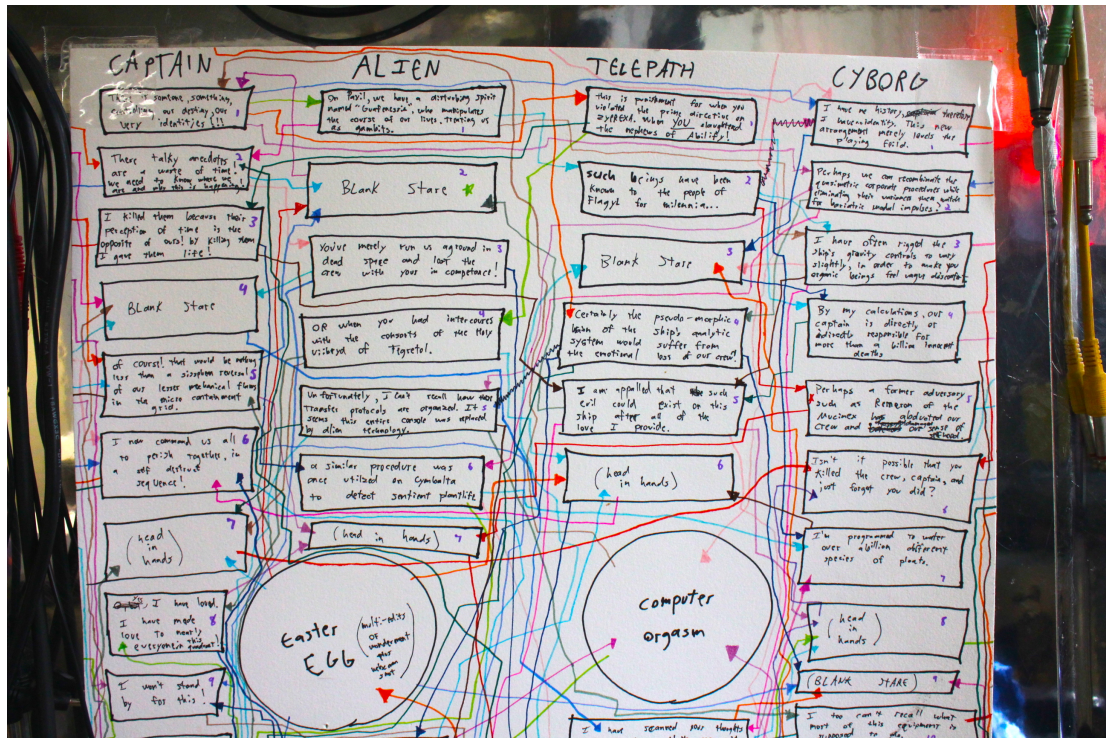
Fig 7. Mozart's "Dice Music." Note the use of tables to guide the randomized arrangements.

This is not unlike the table version of the *ST:TNI* script. Tables are 'computer thinking,' whereas the 'map' version of my script is more typical of 'flow-based programming,' which could be seen as more 'human' (also see Figs 6 and 7).

²⁶ A series of compositions called *Anleitung zum Componieren von Walzern so viele man will mittelst zweier Würfel, ohne etwas von der Musik oder Composition zu verstehen* (German for "Instructions for the composition of as many waltzes as one desires with two dice, without understanding anything about music or composition") is attributed to W.A. Mozart. The attribution is not authenticated, however, but his publisher in Vienna published the series under Mozart's name during the composer's lifetime. The piece involves a long series of two-bar fragments written in waltz time. If the piece were sequenced with dice rolls, as the title implies, a possible 45,949,729,863,572,161 different waltzes could result. This modular approach to waltz performance bears some significant similarities to *ST:TNI* by using stochastic means to sequence compatible fragments. The *waltz*, being a classical 'genre,' has much formal continuity, therefore inherent compatibility. It is ripe for modularization, as Mozart, or whoever, [has done here](https://en.wikipedia.org/wiki/Musikalisches_W%C3%BCrfelspiel). Wikipedia link for "Dice Music" - https://en.wikipedia.org/wiki/Musikalisches_W%C3%BCrfelspiel.

The act of ‘parsing’ is key to understanding this change in compositional strategies. Cage described chance operations as a way of getting “free of individual taste and memory (psychology) and also of the literature and traditions of art.”²⁷ I view the appeal of chance operations in a less radical way. Chance operations emphasize an oft-neglected dimension of the listening experience. That dimension is formal parsing – listening for form and structure. Form *is* content in an environment in which “the medium is the message.” Chance music invites the listener to parse its obscure structures while also putting generic and formal structures into high relief. Legendary electronic musician and record producer Brian Eno once said that he “gravitated towards situations and systems that, once set into operation, could create music with little or no intervention on my part.” He tended “towards the roles of the planner and programmer,” so that he could sit back and “become an audience to the results.”²⁸

A ‘programmer’ has not determined the work’s content, but instead has determined the work’s ability to create unique content.



²⁷ John Cage, *Silence: Lectures and Writings* (Middletown, Connecticut: Wesleyan University Press, 1961), 57.

²⁸ Brian Eno, *Liner Notes, Discreet Music*, Brian Eno, EG Records Ltd., 1975, CD.

CAPTAIN		ALIEN		TELEPATH		CYBORG	
1	4-1, 2-1, 3-1, 4-2	1	1-14, 1- 2, 2-2, 4-3	1	1-3, 2-4, 4-4,	1	1-2, 1-4, 3-3, 2-5
2	2-2, 2-3, 4-2	2	3-17, 1- 1	2	4-3, 4-7, 4-5	2	1-5, 2-5, 3-4, 2-6
3	4-6, 2-6, 3-5	3	1-4, 3-8, 1-9, 1- 10	3	4-4	3	3-3, 3-5, 3-7, 1-10
4	3-7	4	1-8, 1-7, 3-6	4	2-8, 4-9, 1-12	4	1-6, 1-9, 3-5
5	2-2, 2-7, 4-11	5	1-7, 1- 11, 4-10	5	2-2, 2- 12, 4-8, 4-16	5	2-7, 1-14
6	2-10, 2- 11, 4- 13, 4-12	6	4-7, 3-9, 1-14	6	1-6, 1- 15	6	1-6, 1-10, 1-20
7	4-6	7	3-10	7	2-17, 4- 20, 4-9, 1-10	7	3-6
8	2-7, 2- 12, 3-10	8	Orgasm, 3-22, 4- 3, 1-15	8	4-8, 4- 14, 2-15	8	1-12
9	3-12	9	3-8, 3- 13, 1-12	9	4-7, 4-8	9	3-15
10	2-16, 3- 14, 4-19	10	3-10, 1- 12, 1-16	10	4-13, 4- 14, 2- 12, 2-11	10	1-13, 1- 11
11	4-9, 4- 15	11	4-16	11	2-18	11	1-20, 3- 11
12	2-9, 4- 23	12	3-10	12	2-15	12	3-11, 3- 16
13	4-26, 3- 12, 3-22	13	1-9, 1- 18,	13	4-14, 2- 14	13	3-11
14	4-15	14	3-12, 3- 3, 3-16	14	2-16, 4- 19, 4-5	14	1-13, 3-3
15	4-17, 4- 18, 3-18	15	3-7, 1-5	15	2-14, 2- 16, 4-26	15	1-21, 3- 11, 2-13
16	2-21	16	1-18, 3- 14,	16	1-17, 2- 19, 4-1	16	1-7, 3-14
17	Egg, 4- 21	17	3-12, 4- 26	17	1-16, 2- 11, 4- 13,	17	1-17, 1- 16, 3-18

Figs 8 & 9. Two Versions of the *ST:TNI* script. The top photo is an excerpt of the third draft. It is a ‘block diagram,’ or a “flow diagram.” In this presentation, the dialogues comprise a visual map, not unlike a ‘circuit.’ Frequently, Markov chains are illustrated this way. However, in order to program the logic of the script into a computer, it made more sense to compose the script as a table. The bottom image is the chart I used to input the script’s ‘algorithm’ into the program. Markov chains are also frequently illustrated as a table of nodal points. Visualizing the ‘flow’ is not necessary for a computer.

Chapter 3: Television Programmer

“...as with that home appliance called television which articulates nothing but rather implodes, carrying its flattened image surface within itself.” - Fredric Jameson²⁹

“A detective in the wings, Ms. Fletcher? I suppose I should have expected a climax so cliché.” - Eliot Easterbrook to Jessica Fletcher from *Murder, She Wrote*, Season 4, episode 21 *Deadpan*³⁰

My ‘idea’ of television comes from before I had access to cable networks. Prime time television, the way it played in the 1970s and ’80s, consisted of just a few networks running fictional ‘series’ each night. They ran for years, many of them, and I watched cops, talking cars, dynasties, Hulks, westerns, easterns, time travelers, and more cops. I watched some folks on a spaceship. I intuited then that the nature of television was generic, recursive, and mechanical. It was inevitable that I would make an experimental television program.

Television today is different when compared to the ’80s. Where it was once large, it is now multitudinous.³¹ But there is an essence of the classic ‘procedural’ show that resonates as the perfect generative form. This type of program embodies the idea of an absurd, but clever machine, which can iterate entertaining ‘scenarios’ ad infinitum. It can spit out conceptual figures with little concern for linearity or serial storytelling, while

²⁹ Fredric Jameson, “The Cultural Logic of Late Capitalism,” *Postmodernism, Or, The Cultural Logic of Late Capitalism* (Durham: Duke University Press, 1991), 37.

³⁰ Here the *Murder, She Wrote* writers employ a television writing trope called “lampshading” - a twofold irony at the episode’s close. Drama critic Easterbrook, played by Dean Stockwell (often cast as quirky and/or creepy), uses clichéd critic-speak to call out Fletcher, the iconic sleuth played by Angela Lansbury, for her “cliché.” Meanwhile the show itself acknowledges its ‘characteristic’ denouement – Fletcher describes the mechanism of a particular murder to the killers themselves, then as the killers admit Fletcher’s acuity, a police officer emerges from a quiet vantage point to make the arrest.

³¹ Cable and satellite TV blew up in the ’90s with providers offering hundreds of channels with some packages. This development was truly an explosion, because a mere decade earlier my family had about six or seven working channels on our television (though others, admittedly, had access to analogue cable TV). Netflix and YouTube are more contemporary ‘media’ for television programs and help circulate ‘serial’ television programs, because of constant access and on-demand style of viewing. Perhaps some new synthesis of the APF could arise through the internet, though the next iteration of television, whatever that may be, could synthesize the APF into digital generation, in a way not unlike *ST:TNI*.

retaining its essential formulae, or ‘paradigm.’ I’ll refer to this sort of pre-cable era ‘episodic’³² type of program as “Absurd Procedural Fractals” – APFs.

The most obvious ‘mechanical’ quality of an APF could be construed as television ‘formulae’ or, to a broader extent, ‘genre.’ However, television has more generic recursion than commercial films. An APF, like a film, may sit squarely within a genre.³³ Whereas a film may have its own data set – its ‘concept’ – an APF will re-iterate this concept in each episode. Beyond this fact, an APF also has an episodic formula – i.e., a formal design for its episodic ‘arc.’ Further still, the characters all have their own behavioral ‘sets.’ The behavioral sets of characters are often ‘meta-narratives’ in television series, because the ‘characters’ are the literal *character* of the show – the emotional resonance of the program.

The formulaic nature of television is fractalline, meaning that the formulae are iterated and reiterated, while being fed back into themselves like a Julia Set or a Mandlebrot Set graph.³⁴ Each episode is self-similar, and any number of writers can iterate an episode by placing one of the show’s formulae into another of the show’s formulae to get an interesting new variation of the show’s initial ‘set’ of narrative data.

³² Others use ‘episodic’ and ‘procedural’ interchangeably, as I do myself in this paper. These terms refer to television shows, which have self-contained ‘episodes’ versus long story arcs – ‘serials.’ Two different media, the DVD box set and more recently the online streaming service, changed the “scale and form” of televised drama. The ability to ‘binge watch’ solves the problem of syndication, a format in which only sporadic and random attention can be given. With a box set or streaming service, one can watch a series in order, often in just a few sittings.

³³ I understand that ‘genre’ is complicated in a contemporary understanding of the term. Jason Mittell argues convincingly in *Genre and Television: From Cop Shows to Cartoons in American Culture* (New York, Routledge, 2004) that considerations of TV ‘genres’ are still valid in spite of increasing ‘hybridization’ of genres beginning in the ’90s – i.e., *Buffy the Vampire Slayer* is a hybrid of vampire horror/drama and teen melodrama. Mittell’s work deals with the idea that genres are also “cultural categories” and analyzes television programs in terms of their genres’ “discursive” nature beyond their texts. I differ in my approach, as I’m dealing primarily with ‘structure’ and thus view *Star Trek* and episodic shows not only in terms of ‘text,’ but also ‘hypertext,’ the spatial bracketing that includes the text. Much like the HTML document connected to and formatted by its ‘hypertext,’ I seek to view classic television texts as formally extant by a complex construction that includes genre classification, procedural style, and character-centered texts.

³⁴ Both the Mandlebrot Set and the Julia Set are sets of complex numbers that remain bounded (usually by 2 and -2) when iterated (instead of exponentially increasing) with a particular mathematical function. When these recursive functions are iterated and graphed, they appear as fractals – highly complex shapes that repeat infinitely with self-similar results across their entire boundary. See Figure 10.

APFs precede and herald fully computerized and generative entertainment through the APF's devotion to algorithms and data sets.³⁵

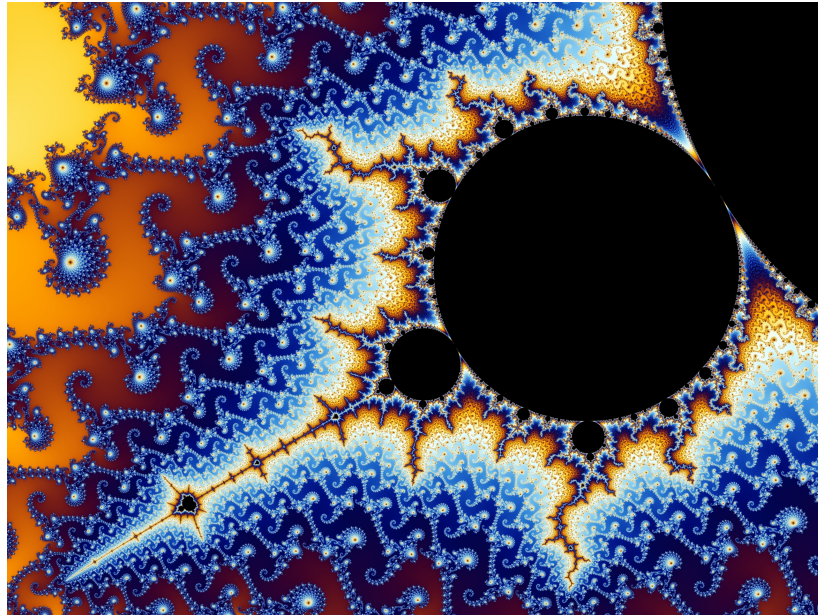


Fig 10. A graph of the Mandelbrot Set. The equation can continue to be fed into itself for finer and finer resolution, as well as self-similar variation. One could zoom in infinitely and view similar yet different shapes or curves. A successful television program can continue to feed its formulae into itself and create enough new figures to retain audience interest, while retaining the essential 'character,' or 'paradigm' of the program. Image source: *Wikimedia Commons*.

This process gets *ridiculous* when viewing an APF macrocosmically as a linear timeline of characters and incidents (the duration of the series), rather than microcosmically as discrete quanta (episodes) of diversion (entertainment). When zoomed out fully,³⁶ one would see in *Murder, She Wrote* (1984-1996) an older novelist, Jessica Fletcher, whose successful book tours and casual travels include *hundreds* of first- and second-degree murders. Her life is one in which death literally follows her from town to town. One would imagine that Fletcher's chipper demeanor would devolve into fear and loathing as she anticipates yet another person in her path slain prematurely. Or

³⁵ Algorithms are often defined as "procedures." The classic 'procedural' TV show is an episodic reiteration of police, hospital, or courtroom procedures, but all episodic shows can be seen as 'procedural' when compared with a 'serial' program. For example, on *Gilligan's Island* (1964-67), every episode was an attempt to get off the island, only to have the attempt thwarted by some bumble of Gilligan's. Even the 'bumble' is part of the *Gilligan's Island* procedure.

³⁶ Here again consider the Mandelbrot or Julia graph. Zoomed out, one sees the template clearly, but zoomed in to any one of its infinite iterations, one only sees each attractive curve as unique enough to justify some attention.

consider *House* (2004-2012), the doctor who diagnoses the most obscure pathologies and cures the patient *without fail*. After years of validation in spite of his arrogance, his peers and supervisor still doubt his eccentric diagnoses, even when he is *always right*. His arrogance is the procedure, as is the surrounding doubt.

The APF is an Ouroboros of procedures and formulae. ‘Serial’ television shows, by contrast, are logical when viewed macrocosmically.³⁷ Damon Lindelhof, the ‘showrunner’ for the highly popular ’00s program *Lost* (2004-2010) describes his attraction to the serial by stating, “life is serialized.”³⁸ He goes on to muse that for him, it isn’t “interesting” when Jerry on *Tom and Jerry* (intermittently, 1949-present) succeeds in “blowing Tom up” only to have Tom reappear shortly thereafter, no worse for wear. Lindelhof feels it would be more interesting to show Tom in “rehab,” learning to walk again and regaining his sense of self.

Although Lindelhof is joking about the cartoon *Tom and Jerry* being serialized, his example shows how trying to make an APF into a serial would do a disservice to the core principal of the APF – a medium for concepts and ideas that can iterate forever. I believe (and I think that Lindelhof does, too) that *Tom and Jerry*’s procedure of violence is not at all “uninteresting.” What could be more stimulating than placing Tom in the context of a cat with an identity crisis, a scenario driven by a narrative data set that demonstrates not only the infinite ways in which a mammal can die, but also how natural predation and aggression could be subverted through resourcefulness and an occasional transcendence of materiality and probability? Episodic television gains its strength from its ‘absurd’ strictures, or *structures*, if you will.

A ‘serial’ cannot curve toward infinity unless it also curves toward the absurd, as a ‘soap opera’ does.³⁹ Otherwise, serials such as Lindelhof’s *Lost* must end as the

³⁷ These ‘serial’ programs have reached such prominence in contemporary television viewing that the classic ‘episodic’ show is now a “dirty word” for writers and modern ‘showrunners.’ Chris Jones, in an editorial for the *Chicago Tribune*, claimed that serial television was so popular that audiences were even leery of the brevity of a feature-length film’s storyline when compared with a 10-episode-long story arc of a television serial. Chris Jones, “TV Storytelling Could Change Our Stories for Good,” *Chicago Tribune*, March 20, 2014, accessed October 2015, <http://www.chicagotribune.com/entertainment/theater/ct-serialized-tv-stories-column.html>.

³⁸ *Showrunners*. Directed by Tara Bennett. Gravitas Ventures, 2013. Film.

³⁹ The character Marlena Evans, played by actress Dierdre Hall, on the daytime soap opera *Days of Our Lives* (1965-present), is the quintessence of the absurd allowing for infinite iteration in spite of a purportedly ‘linear’ serialized narrative. The most infamous absurd story arc involved Marlena getting

characters grow or find eventual closure. Serials are mortal, like their purported ‘real life’ counterpart arcs that exist out in the universe. An APF, by contrast, could go on forever, having no loyalty to logic or growth. The primary loyalty of the APF is to the *fractal*, not the *arc*. Furthermore, one could argue that it is equally ‘realistic’ to show characters involved in recursive scenarios and rote procedures.

Chapter 4: The ‘Idea’ Machine

“I want to see the world as something else than a serial progression... I want to think of time as synchronic”- John Baldessari, *What Thinks Me Now*⁴⁰

Star Trek is an APF icon. It is an idea generator *par excellence*, having iterated 726 episodes across 5 series.⁴¹ Viewed macrocosmically, all five of these *Star Trek* series are absurd, and not simply because the viewer is expected to suspend disbelief in “warp-speed” travel and the “beaming up” of people’s particles to a spaceship. *Star Trek* is absurd because the scenarios are largely *synchronic*. However, this placement of characters in a non-linear ‘timelessness’ is the *modus operandi* of procedural programming. APF episodes are *modular*. The original *Star Trek* was in syndication⁴² for many years and most people watched the show in a random order, and this arbitrary approach to viewing did nothing to taint the experience.⁴³

possessed by the ‘Devil’ for several months in 1995. Her character suddenly wore green contact lenses and spoke with her voice dropped an octave lower. During Marlena’s (ongoing) character arc on the show, she has survived a fall from a 30-story window, presumed death in a plane crash (only to return to the show four years later with a ‘four-year coma’ alibi to explain her resurrection), multiple kidnappings, and hysterical amnesia, amongst other ordeals. See “Days of Our Lives,” *Internet Archive, Wayback Machine, nbc.com*, http://web.archive.org/web/20080423205002/www.nbc.com/Days_of_our_Lives/bios/Dr_Marlena_Evans.shtml.

⁴⁰ Baldessari, “What Me Thinks Now.”

⁴¹ The five series include *Star Trek*, now referred to as *The Original Series* (1966-1969), *Star Trek: The Next Generation* (1988-1995), *Star Trek: Deep Space Nine* (1993-1999), *Star Trek Voyager* (1995-2001), and *Star Trek: Enterprise* (2001-2005).

⁴² Cancelled in 1969 after three seasons, *Star Trek* was brokered into an odd syndication deal but nonetheless became more successful after cancellation than before. In the decade that led up to the first feature length film in 1980, the show gained its infamous ‘cult’ audience of ‘Trekkies’ from the recirculation of those original 1960s episodes. This author viewed the original *Star Trek* during this syndication period. For more on the syndication of *Star Trek*, see Stacey Abbott, *The Cult TV Book: From Star Trek to Dexter, New Approaches to TV Outside the Box* (New York: Soft Skull Press, 2010), 131.

⁴³ The original series, which ran from 1966-1969, had very little serialization in it. Likewise *The Next Generation*, which ran from 1988 to 1995, also had very little serialization, though had some recurrent ‘bad guys’ and ‘antagonists’ as well as some extended stories. *Deep Space Nine* (1993-1999) is well known for its serial storyline, but is the least predisposed to random viewing for this reason. *Voyager* (1995-2001) is

Star Trek is focused first on inputting new concepts and then iterating generic character action around that. Long story arcs would limit the range of conceptualization. Philip K. Dick stated that the essence of a science fiction work is “an idea impacting living creatures and their society. The idea must always be a novelty.”⁴⁴ This sentiment describes APFs generally, in that each ‘episode’ comprises a new concept, not obligated to adhere contiguously with other narrative events. *Star Trek* creator Gene Roddenberry explained in his original pitch for the show how it would be able to iterate novel content indefinitely. He described a “similar worlds concept” for the show in which each episode would be a visit to a “new world.” Using an astronomical calculation, he claimed the show could iterate “3 million episodes” – one for each possible world in the universe that would have similar conditions to the Earth’s for supporting intelligent life.⁴⁵ He all but named it an APF when he said, “The perfected spacecraft concept [i.e., the flawless technology of the twenty-third century] allows us to move efficiently from show to show, freeing the audience from the tiresome details of technology and hardware.”⁴⁶ Roddenberry intended the starship and its “bold” crew to be a blank page on which any number of issues could be drawn – political allegories, morality, mimetic reconstructions of classical drama, ontology, romance, or simple ‘monster of the week’ adventure tropes – all of which could be threaded into the “new world” of that week’s episode. Nearly one hundred different writers have contributed stories to *Star Trek*, each fitting his or her own novel concepts into the *Star Trek* medium.

The iterative nature of the Roddenberry formula is the cause of its absurdity. The ‘novelty’ of new worlds, new races, and new ideas gets unwieldy viewed in macro. Year after year and season after season the characters cheat death via time travel paradoxes,⁴⁷

basically a return to procedure, though the concept for the show implies a basic serial premise – they are lost in a hostile part of space and must gradually find their way back to their home “Alpha Quadrant” and Earth. The serial premise in *Voyager* is more a pretense; the show can be watched episodically. A fifth series, *Enterprise*, ran from 2001 to 2005, and is episodic. This author has never seen *Enterprise*.

⁴⁴ Philip K. Dick and Frank C. Bertrand, “Philip K. Dick on Philosophy: A Brief Interview,” in *The Shifting Realities of Philip K. Dick: Selected Literary and Philosophical Writings*, ed. Lawrence Sutin (New York: Pantheon Books, 1995), 44-47.

⁴⁵ Roddenberry claimed to have used an actual astronomical formula in this calculation, but he later revealed that they fudged the number of worlds in a rush to complete the pitch on time. Whitfield, Stephen E. Whitfield and Gene Roddenberry, *The Making of Star Trek* (New York: Ballantine Books, 1968), 23.

⁴⁶ *Ibid.*, 25.

⁴⁷ *The Next Generation* Episode 15 of Season Five. “Cause and Effect.”

have their DNA spliced with other species,⁴⁸ have their organs stolen out of their bodies without their knowing,⁴⁹ are abducted and transformed into machines,⁵⁰ experience rapid aging to decrepitude,⁵¹ get lost in wormholes,⁵² slip into alternate realities,⁵³ get sexually violated by beings from other dimensions,⁵⁴ have their dreams violated by invasive dream species,⁵⁵ fight in horrid wars,⁵⁶ and, importantly for *ST:TNI*, have their lives tampered with by life forms that exist in higher paradigms of reality.⁵⁷ This list goes on much longer.⁵⁸ Even after years in deep and often hostile space, the various crewmembers of the program refrain from succumbing to mutiny, madness, and depravity. When there is occasional dissent in *Star Trek*, it is usually tidied up for the episode denouement.

The absurd ‘macro’ of *Star Trek* programs (and all APFs) was my inspiration for the script of *ST:TNI*. The difference between my experimental television program and an APF was that through randomization, *ST:TNI* would have an absurd ‘macro’ and ‘micro.’ I mean, simply, that unlike an APF, *ST:TNI* can be seen as absurd without parsing its structure. I wanted to look at another absurd ‘micro’ for inspiration, and found it in the so-called “Theatre of the Absurd.” Writer Martin Esslin coined the term in 1960 to describe the work of European playwrights such as Samuel Beckett, Eugene Ionesco, Jean Genet, and Harold Pinter. Esslin describes these works as a “veritable barrage of wildly erratic, non-sensical goings-on,” in which “the laws of probability and physics can be suspended.”⁵⁹ *Star Trek* may have an ‘excuse’ for its violations of physics and probability – perhaps something like “way out in space it is different than we are used to.” Nonetheless, absurdity is as much a part of the show’s appeal as it was for fans of the Theatre of the Absurd. Nearly anything can happen on *Star Trek*.

⁴⁸ *Voyager* Episode 24 of Season Two. “Tuvix.”

⁴⁹ *The Next Generation* Episode 5 Season Five. “Schisms.”

⁵⁰ *The Next Generation* Episode 26 Season Three. “The Best of Both Worlds.”

⁵¹ *The Original Series* Episode 12 Season Two. “The Deadly Years.”

⁵² *Voyager* Episode 15 Season 7. “The Void.” *Voyager* itself was about the ship getting lost through a wormhole and discovering they were 70,000 light years from Earth. *The Void* was yet another wormhole they experienced.

⁵³ *The Original Series* Episode 4 Season 2. “Mirror, Mirror.”

⁵⁴ *The Next Generation* Episode 15 Season 7. “Sub Rosa.” Also Episode 12 Season 5. “Violations.”

⁵⁵ *Voyager* Episode 13 Season 4. “Waking Moments.”

⁵⁶ Much of *Deep Space Nine* depicts an ongoing war.

⁵⁷ *The Next Generation*. Episode 2 Season 2. “Where Silence Has Lease.”

⁵⁸ There are 726 episodes across the 5 series.

⁵⁹ Martin Esslin “The Theatre of the Absurd,” *The Tulane Drama Review* 4, no. 4 (1960): 3-15.



Fig 11. The artificial ‘look’ of an extra-terrestrial ‘set’ in the original *Star Trek*.

Theorist Mervyn Nicholson connects the original *Star Trek* series to Absurdism in his 2010 essay “Minimalist Magic: The *Star Trek* Look.”⁶⁰ He states that the writers and creators of the original *Star Trek* were “well aware” of the avant-garde theatre of their era, and that much of the highly stylized acting and plot inclusions of “performativity” are a direct result of that influence.⁶¹ Nicholson observes that the minimalist, “fake-looking” sets and tableau-style visual designs of the original series are not unlike the Brechtian “alienation devices” used throughout Absurdist works.⁶² He argues that this dynamic makes viewers aware that they are watching “a show,”⁶³ focusing their attention on the conceptual content of the episode, and *de-emphasizing* the technology and special effects. I see the ‘distancing effect’ also as an invitation to *parse* the structure of the program, to view the content structurally.

⁶⁰ Mervyn Nicholson, “Minimalist Magic,” *Bright Lights Film Journal* (April 30, 2010), <http://brightlightsfilm.com/minimalist-magic-the-star-trek-look/#.VutguRIrKjR>.

⁶¹ Ibid.

⁶² Esslin, “The Theatre of the Absurd.” Esslin also supports the idea that the Absurdist furthered Brecht’s *verfremdungseffekt*, which distances the audience from the drama. Within the space that is established, the audience theoretically has room to ‘study’ the character and situations “critically.”

⁶³ Nicholson, “Minimalist Magic.”

Chapter 5: My Experimental Television

“My Experimental TV is
not always interesting
but
not always uninteresting

.....
In my experimental TV, the word *QUALITY* means only the CHARACTER,
but not the VALUE.

A is different than B,
but not that
A is better than B.”

-Nam June Paik⁶⁴

To randomize a finite database into an infinite iterative episode of ‘experimental television’ is to restrain that database to a single ‘set.’ The restrained *setting* of *ST:TNI* illustrates what Manovich cites as a *paradigmatic set*.⁶⁵ The database is both the *set* of modules and the actual *setting* of the television program. More than one ‘setting’ or *paradigm* in *ST:TNI* would reduce modularity (i.e., fewer ‘compatible’ modules for logical re-shuffling). However, reducing settings is not a constraint in Absurdist drama but rather a technique, a distancing effect or *ostranenie*.⁶⁶ Beckett’s *Waiting for Godot*⁶⁷ became famous for its single empty set (only a tree). APFs, too, often have iconic single sets where dozens of dramatic events take place. This condition serves to pull focus away from a novel or cinema-like *syntagm* and instead emphasizes character interaction and dialogue. For example, many sitcoms take place in the same two or three soundstage sets

⁶⁴ Nam June Paik, “Afterlude to the Exposition of Experimental Television,” in *Theories and Documents of Contemporary Art: A Sourcebook of Artists’ Writings*, ed. Kristine Stiles and Peter Selz (Berkeley: University of California Press, 1996), 494.

⁶⁵ Manovich, *The Language of New Media*, 13. Manovich states that in new media, database takes precedence over narrative. The *syntagm*, or sequence, in which the content of a database is presented is not highlighted, but instead the *paradigm*, the actual ‘set’ of data, is the emphasis.

⁶⁶ Russian: *to make strange*.

⁶⁷ Incidentally, Patrick Stewart, the actor who played Captain Picard on *The Next Generation*, recently (2014) played Vladimir in *Waiting for Godot* at the Cort Theatre on Broadway.

during hundreds of episodes.⁶⁸ These ‘sets,’ similar to Roddenberry’s “perfected spaceship,” are designed to be generic, to serve as background to ‘character’ iteration. The bridge of the spaceship is the dramatic center of every *Star Trek* program, and likewise, it is the claustrophobic ‘home’ of *ST:TNI* – its single database. The viewers, like the ‘characters’ of *ST:TNI*, are stuck on the bridge of their ship.



Fig 12. The ‘set’ of *ST:TNI* - the ‘bridge’ of the starship. The characters are set there, and aside from the bridge being the only set, it is also a paradigmatic *set*. By constraining the set to this single setting, all of the footage is modularized. The database comprises a single *set*, similar to a theatre piece.

⁶⁸ Examples include the cafés in *Friends* or *Beverly Hills 90210* or any kitchen in a sitcom (*The Cosby Show*, *Rosanne*). Another example of a dynamic and multi-use space/setting for comedy or drama would be the bar in *Cheers*. The iconic ’90s sitcom *Seinfeld* tilted toward minimalist Absurdism often, with entire episodes taking place in a single setting – a parking garage, or a line of people waiting for a table at a Chinese restaurant (“*The Parking Garage*” and “*The Chinese Restaurant*,” respectively). *Seinfeld* was an APF *par excellence*. Larry David, the co-creator along with Jerry Seinfeld, has stated repeatedly that the formula for the show was “no hugging, no learning.” (http://articles.baltimoresun.com/1998-05-03/features/1998123008_1_seinfeld-elaine-benes-julia-louis-dreyfus). The four main characters exist outside of time. They never change or “grow.” *Seinfeld* was innovative in its lack of sentimentality. Instead, each episode focused on plugging novel concepts into the formula and iterating characteristic behaviors. A show of ideas, *Seinfeld* is not unlike a science fiction show, though more conscious about its absurdity than most. One episode, “*The Betrayal*,” is named after a Harold Pinter play. The episode is staged in reverse chronology, as is the namesake play.

Action in *ST:TNI* is also restrained, for the same reason of maximizing modularity within the database. What remains to modularize is the dialogue. Instead of syntagmatic ‘action,’ *ST:TNI* emphasizes ‘character.’ This is not dissimilar to an APF, where the characters are also paradigmatic sets. The sense of ‘character’ emerges from synchronic events like incidental dialogue, rather than action or sequence. One can develop APF characters in syndication, as there is no ‘syntagm’ needed. The dialogues of *ST:TNI* have a similar purpose. Even when randomized, they still distinguish the characters from each other, but specifically their ‘types’ are to be distinguished, not their identities. These characters are the true meaning of generic – they are an individual ‘type’ or ‘kind,’ but they are not *individuals*.

The iterative dialogues of *ST:TNI* cannot ‘arc’ or develop in the Aristotelian way, but they *do* have complexity. Each ‘module’ of dialogue is designed to represent a facet of the paradigm. Every iteration of the program provides a different perspective on the modules and the paradigm. How Esslin described characters in the “Theatre of the Absurd” holds true in *ST:TNI*: “The characters have hardly any individuality or even a name...[at times] the dialogue tends to degenerate into lists of words or phrases...or to get bogged down into endless repetitions like a phonograph record stuck in a groove.”⁶⁹ By the very nature of ‘drunken walks’ and probabilistic processes, *ST:TNI* can get mired in ‘knots’ where the characters experience recursive conversations, as if in a fever dream or nightmare. When a ‘loop’ is cut, eventually another will follow. The ‘knots’ can be seen as points of interest, places where an idea can *resonate*. If *ST:TNI* has a ‘story’ at all, it is simply the description of the program itself – a set of characters with their own limited set of responses to a recursive and endless set of events.

This emphasis on generic ‘character’ sets in *ST:TNI* opens up another possibility – an interactive function in which the viewer *changes* the *character* of the piece by *changing* ‘characters’ from one performer to another at arbitrary points. The modularity of the programmable digital environment makes the implementation of this unique narrative function possible. The four actors of *ST:TNI* each plays all four characters. By making the character ‘sets’ *also* modular, one can experience directly the effect of an

⁶⁹ Esslin, “The Theatre of the Absurd,” 3.

abrupt *transposition*⁷⁰ in the program's character.⁷¹ The 'script' does not change, but instead, the 'feeling' changes. This further complicates the idea of *generic* character iteration because the identity – the *gender* and *genre* of the actors and their personal nuances – are at the center of the audience's perception of the work.⁷² The tone of any narrative, APF, or cinematic work is determined to a large extent by the performer. In *ST:TNI*, the actors' performances are foregrounded and their identities become another input in the iterative form.



Fig. 13. The 'Captain' of the *ST:TNI* ship is played by all four actors. Every time the 'character' shifts to a different actor, the piece gets a different *character*, though the 'character' obviously remains. These shifts are like 'paradigm shifts': along with variation in stylization between actors, viewers also have their own paradigmatic sets of data with regard to gender and racial identity. These factors, too, alter the *character* of the piece.

⁷⁰ In mathematics, *transposition* refers to a permutation in which specific elements in a set are transferred, but all others remain the same.

⁷¹ See Appendix A for more discussion of modularity and character with regard to the musical programming in *ST:TNI*.

⁷² The sitcom *Bewitched* (1964-1972) suffered a waning audience five seasons in, after changing the actor who played the primary male character Darin. The replacement, actor Dick Sargent, had a different *character* than the original Darin, actor Dick York. In a more experimental format, this kind of shift can be a technique for audience manipulation. Luis Buñuel's 1977 film *That Obscure Object of Desire* famously used two different actresses for the female lead character. Their on-screen appearances alternate arbitrarily, sometimes even in a single scene. This disorienting contrivance could be seen as another Brechtian 'alienation device,' making it difficult for the audience to connect to the character as a person, instead being pushed to view the character as a generic 'set' of data.

There are numerous interesting social and political ideas to be deduced from a narrative program in which the type, or gender, and/or race of a particular character can be transposed.⁷³ Genre, by definition, is repetitive and has a self-sustaining energy, an inertia. As disparities and biases become the *genetic* structure of a genre, a paradigm is *set* and becomes rote and normalized – until or unless it is upset by the mechanics of *transposition*. For example, the ‘Telepath’ character in *ST:TNI* is based on a science-fiction trope in which certain supporting character types have psychic abilities by nature of their ‘species.’ These characters are always seen as rooted in spirituality and morality. One *paradigm* of the trope is that the ‘telepath’ or ‘empath’ is always female.⁷⁴ So, for the ‘Telepath’ of *ST:TNI* to be transposable to multiple genders and races provides an abrupt ‘paradigm shift’ for the viewer.



Fig 14. The ‘Telepath’ played by all four actors.

⁷³ Analyses of the social and political dimensions of *Star Trek* and other iconic television programs are bountiful. Of particular interest in the context of *Star Trek* and representations of race are two essays by David Bernardi: “Infinite Diversity in Infinite Combinations: Diegetic Logics and Racial Articulations in the Original *Star Trek*,” *Film & History: An Interdisciplinary Journal of Film and Television Studies* 24, no. 1 (December 1993): 60-74, and “*Star Trek* in the 1960s: Liberal Humanism and the Production of Race,” *Science Fiction Studies* 24, no. 2 (July 1997): 209-225.

⁷⁴ The Original *Star Trek* series, Episode 12 season 3, “The Empath,” features a mute woman (namesake of the episode) who absorbs everyone else’s inner feelings. The characters Counselor Deanna Troi and Guinan from *The Next Generation* are both empathic/telepathic women and major characters in the series. There are no male counterparts in similar roles.

Character transposition is, then, another ‘distancing effect’ applied in the *ST:TNI* program. In this case, as the paradigmatic ‘character sets’ in the database are swapped, the viewer’s personal and social paradigms are also brought to attention. Viewers can *parse* what they observe in these shifts. Admittedly, after one full year into this project, I still considered the ‘*Telepath*’ a ‘female’ in spite of the footage dividing the role equally amongst male and female actors. Indeed, the ‘*Telepath*’ character in the *ST:TNI* program is both genders, or even *no gender*. While the program of *ST:TNI* cannot itself alter personal viewer paradigms, it can provide viewers an invitation to *parse* the program on their own and/or parse the components of genre as a whole.

Chapter 6: The Next Generation of Genre Generation

“James Joyce was a synthesizer, trying to bring in as much as he could. I am an analyzer, trying to leave out as much as I can.”- Samuel Beckett⁷⁵

ST:TNI is guided by the formal possibilities of the programmable digital environment. *Modularity* is the essence of genre, and it is an essential component of any *programmable* function. The work of *ST:TNI* is the designing of a video environment in which viewers can see the form and the narrative as identical. The characters of the television program are the modules of the computer program. The computer parses the database by applying an algorithm, while viewers parse their database of science fiction and television tropes. This setup allows the viewer to watch *ST:TNI* as if it were an experimental television show, or to *parse* the form as a ‘generator of genre.’

⁷⁵ Samuel Beckett, James Knowlson, and Elizabeth Knowlson, *Beckett Remembering, Remembering Beckett: A Centenary Celebration* (New York: Arcade Pub., 2006), accessed March 21, 2016, [https://books.google.com/books?id=N8AeAwAAQBAJ&pg=PT90&lpg=PT90&dq=beckett joyce synthesizer&source=bl&ots=GZ3sXLnMS7&sig=PqkFpAIv2NMqK8yhGcV3RkcJ-84&hl=en&sa=X&ved=0ahUKEwiW-v7q6NLLAhXDdh4KHci7CEsQ6AEIKDAC#v=onepage&q=beckett joyce synthesizer&f=false](https://books.google.com/books?id=N8AeAwAAQBAJ&pg=PT90&lpg=PT90&dq=beckett%20joyce%20synthesizer&source=bl&ots=GZ3sXLnMS7&sig=PqkFpAIv2NMqK8yhGcV3RkcJ-84&hl=en&sa=X&ved=0ahUKEwiW-v7q6NLLAhXDdh4KHci7CEsQ6AEIKDAC#v=onepage&q=beckett%20joyce%20synthesizer&f=false).

In the era of the procedural television show, ‘genres’ were like genes. They were *inherited*. The problem with them is that the data is inflexible; you could view the content but not the structure. The solution is not to *generate*, but to *iterate*. I imagine something in the future that is a new paradigm, a new medium, which synthesizes the musical instrument, the programmable database, and the television program. The outcome will be a *television synthesizer* – an instrument in which narrative and concept is *performed on*, or one in which the narrative process can be “set in motion,” so the *programmer* “can be an audience” to the results. The *television synthesizer* is a machine that performs ideas. To get new and interesting ideas is to learn the instrument’s modes and codes and then find ways to *feed them back into it*. These ‘stories’ don’t need be *serialized* because by then we will be truly immersed in the “world of structure and configuration.” Because data is more flexible than matter, all stories will be ‘absurd’ and suspend the “laws of probability and physics.”⁷⁶

I don’t believe the idea of the ‘absurd’ will even be valid in our future. Lindelhof’s idea that “life is serialized” denies the fact that the *syntagm* and the *paradigm* are transposable. Structures *are* content. Ideas *are* mediums. The *television synthesizer* is the engine of character. *Iteration* is *creation* when the functions and modules of the medium are free from *generation*.

⁷⁶ Double quotes denote re-quoting from earlier passages. From the beginning of the paragraph – Eno, Eno, McLuhan, Esslin.



Fig. 15. The *ST:TNI* 'Easter egg.' The characters of the program view the "being that controls [them]." It is a webcam in the gallery, pointed back to the viewer. Traditionally, the viewer never controls genres, but only consumes them. However, as the viewer parses the elements of a program, they begin to control as well as consume. In a 'television synthesizer' the relationship is in a perfect balance of consumption and creation.

Bibliography

Abbott, Stacey. *The Cult TV Book: From Star Trek to Dexter, New Approaches to TV Outside the Box* (New York: Soft Skull Press, 2010), p.131.

Alpern, Adam. "Techniques for Algorithmic Composition of Music." Paper, Hampshire College, 1995.

<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.23.9364&rep=rep1&type=pdf>.

Beckett, Samuel, James Knowlson, and Elizabeth Knowlson. *Beckett Remembering, Remembering Beckett: A Centenary Celebration*. New York: Arcade Pub., 2006.

Accessed March 21, 2016.

Bernardi, David, "Infinite Diversity in Infinite Combinations: Diegetic Logics and Racial Articulations in the Original *Star Trek*," *Film & History: An Interdisciplinary Journal of Film and Television Studies* 24, no. 1 (December 1993): 60-74.

Bernardi, David, "*Star Trek* in the 1960s: Liberal Humanism and the Production of Race," *Science Fiction Studies* 24, no. 2 (July 1997): 209-225.

Bois, Yve-Alain, "Whose Formalism?" *The Art Bulletin* 78, no. 1 (March 1996): 9-12.

Butler, Judith. *Gender Trouble: Feminism and the Subversion of Identity*. London: Routledge, 1990.

Cage, John. *Silence: Lectures and Writings*. Middletown, Connecticut: Wesleyan University Press, 1961.

Dick, Philip K., and Lawrence Sutin. *The Shifting Realities of Philip K. Dick: Selected Literary and Philosophical Writings*. New York: Pantheon Books, 1995.

Dumbadze, Alexander Blair, and Suzanne Perling Hudson. *Contemporary Art: 1989 to the Present*. West Sussex, UK: Wiley-Blackwell, 2013.

Eno, Brian. Liner Notes, *Discreet Music*, Brian Eno, EG Records Ltd., 1975, CD.

Esslin, Martin. "The Theatre of the Absurd." *The Tulane Drama Review* 4, no. 4 (1960): 3-15.

Galloway, Alex. "What Can A Network Do?" Lecture, Center for Contemporary Culture, Barcelona, podcast audio, January 1.

Hanley, Richard. *The Metaphysics of Star Trek*. New York, NY: BasicBooks, 1997.

- Jameson, Fredric. "The Cultural Logic of Late Capitalism," *Postmodernism, Or, The Cultural Logic of Late Capitalism*. Durham: Duke University Press, 1991, 1-54.
- Jones, Chris. "TV Storytelling Could Change Our Stories for Good." *Chicago Tribune*, March 20, 2014.
- LeWitt, Sol. "Paragraphs on Conceptual Art." *Artforum* 5, no. 10 (Summer 1967): 79-83.
- Manovich, Lev. *The Language of New Media*. Cambridge, Mass.: MIT Press, 2002.
- McLuhan, McLuhan. *Understanding Media: The Extensions of Man*. New York: Signet Books, 1964.
- Mittell, Jason. *Genre and Television: From Cop Shows to Cartoons in American Culture*. New York: Routledge, 2004.
- Nicholson, Mervyn. "Minimalist Magic," *Bright Lights Film Journal*, April 30, 2010. Accessed October 2015. <http://brightlightsfilm.com/minimalist-magic-the-star-trek-look/#.VutguRIrKjR>.
- Showrunners*. Directed by Tara Bennett. Gravitass Ventures, 2013. Film.
- Stiles, Kristine, and Peter Selz. *Theories and Documents of Contemporary Art: A Sourcebook of Artists' Writings*. Berkeley: University of California Press, 1996.
- Whitfield, Stephen E., and Gene Roddenberry. *The Making of Star Trek*. New York: Ballantine Books, 1968.
- Williams, Raymond. *Television – Technology and Cultural Form*. London: Fontana, 1974.

