



# **Compression**

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# **Introduction: A Compression Compendium**

## Compression

The simplest way to describe the subject matter of this dissertation can be found in a footnote in the introductory chapter of Jonathan Sterne's *MP3: The Meaning of a Format*, where he distinguishes his discussion of the technique of digital compression from phenomenological inquiries of compression:

*“There is also time-space compression as a feature of modernity, although that compression is more phenomenological than technical (though the two are related).”<sup>1</sup>*

In this project, I attempt to build on Sterne's work, investigating this intersection of the technical and the phenomenological aspects of compression. While this dissertation is not principally intended to be a piece of academic philosophy, I think it will be of some use to clue the reader into the underlying philosophical tensions which form the basis for the ideas in the chapters to follow. In this introduction, I will first provide a brief definition of compression and its mechanics, before laying out some approaches to dealing with compression found in the philosophical literature, drawing on debates within the post-phenomenological turn in the philosophy of technology.

### Compression: Reduction and Re-organization

Compression generally refers to the act of squeezing something forcefully together, so that it takes up less space or time. This can be considered physically, such as in the act of compressing air into a can, or squeezing a large wad of dough into a container. This phenomenon can also be applied to less tangible things such as information. In Claude E. Shannon's seminal work *A Mathematical Theory of Communication*, which spawned the field of information

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<sup>1</sup> Jonathan Sterne, *MP3: The Meaning of a Format*, (Durham and London: Duke University Press, 2012), Chapter 1, fn 16.

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theory, compression plays a central role.<sup>2</sup> Shannon's paper attempted to address two main questions: firstly, how small a message can be, given that we want the same amount of information to be encoded, and second, how fast data can be transmitted across a given channel.<sup>3</sup>

An everyday example of how information compression is used is digital formatting. For instance, in the creation of a *.mp3*, a digital audio format. Sound, perhaps in the form of music, might be recorded and stored on a computer in a high-fidelity digital format such as *.wav*. To turn this into an *.mp3*, the *.wav* file is passed through a program known as an encoder. This compares the file to a set of parameters based on human hearing. Based on the parameters set, part of the audio signal outside the audible range is then removed. The data in the recording is then reorganized, thus creating a new file which is much smaller.<sup>4</sup> Done well, a compressed *.mp3* at 320kpbs might be aurally indiscernible from a raw recording.<sup>5</sup> This same principle of compressing sound digitally also applies to the compression of other digital media such as images.

Instances of the compression of information are not limited to technological tasks. In a conversation for example, I might choose to

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2 Crucially, Shannon's paper provided the basis for the development of lossless compression, a method of information compression which allows all of the original data to be retained within its compressed form, allowing one to re-access its uncompressed state. This is distinct from lossy compression, a mode of compression which does not allow for the recovery of the uncompressed data.

3 Luciano Floridi, 'Semantic Conceptions of Information', in the *Plato Stanford Encyclopedia of Philosophy* (2015), <https://plato.stanford.edu/entries/information-semantic> (accessed July 2018).

4 Jonathan Sterne, *MP3: The Meaning of a Format* (Durham and London: Duke University Press, 2012), pp. 1-2.

5 Jace Clayton, *Uproot: Travels in 21st-Century Music and Digital Culture*, (New York: Farrar, Straur and Giroux, 2013) p.61.

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omit certain details in a story I tell when asked about my day. The lived experience of a day is compressed and made into a comprehensible story through the removal of irrelevant pieces information and the reorganization of that which is considered salient or essential.

Compression as I have described it so far, is a form of technics: a technical process which allows for the transmission of what is essential in the most economical way. Therefore, tied closely to the compression of information is the notion of representation. Compression presents a reduction of form, which allows one to represent given content in a more efficient manner. This might help in the storage, dissemination or communication of this content, but come at the cost of fidelity lost in the form of aspects withheld when deemed inessential or extraneous.

## A Taxonomy of Approaches to Compression

### From Transcendental to Post-phenomenological?

In *The Question Concerning Technology*<sup>6</sup>, Heidegger issues a caution against modern technology. His primary concern is with the mode of thinking, rather than with the technologies themselves. He argues that technological thinking “enframes” (*Gestell*) the world, causing us to see it merely as a means to an end. As opposed to *poiesis*, a mode of being that reveals the beauty of the world around us, enframing causes us to see it in terms of resources to be used and manipulated – what he terms “standing-reserve”. Technology, in Heidegger’s scheme, poses a great danger for two reasons. Firstly, cultivation of *Gestell* leads us to see others as “standing-reserve”, resulting in oppression. Second, it precludes

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6 Martin Heidegger, ‘The Question Concerning Technology’ in *The Question Concerning Technology and Other Essays*, (HarperPerennial, 1977).



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the possibility of considering alternative ways of viewing the world. That is to say, we become trapped by this utility-centric mode of thinking and being in the world. According to Verbeek<sup>7</sup>, Heidegger's technophobic approach is characteristic of the classical or transcendental position in the philosophy of technology. What defines this school of thought is the view that technology alienates us from some true or primordial state of the world.

This is contrasted with developments in post-phenomenological thought in the philosophy of technology. Rather than focusing on technology as a monolithic entity, thinkers in this field are concerned with how technology might limit and influence action based on how specific technological devices shape one's encounter with the world. Different terms have been used to express this idea. For instance, Bruno Latour expresses this idea through the term *script*<sup>8</sup>, which refers to the "program of actions or behavior that an artifact invites". Another way of conceptualizing this is Don Ihde's technological intentionality - an imbued inclination or trajectory that shapes the way which they are used.<sup>9</sup> What is central to this view is the idea that technologies play a mediatory relationship between humans and the world, and the task of the philosopher is to assess these relationships in their specificity.

### Abstract/Generic

Now we return to compression. As a technical process, compression maps quite nicely onto this debate between the classical and post-phenomenological strands of the philosophy of technology. In

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7 Peter-Paul Verbeek, *What Things Do*, (USA: Pennsylvania State University Press, 2005), pp. 48

8 *ibid.* p.160.

9 *ibid.* p. 114-5.

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*Compression in Philosophy*<sup>10</sup>, Galloway and LaRivière categorize approaches to compression in Western philosophy into two major strands: abstract compression and generic compression.

Theories of abstract compression see compression as a less-than-desirable outcome of metaphysical reduction. According to theories about abstract compression, the real, or the world as-it-is, is taken to be raw and uncompressed. This untarnished reality becomes compressed or carved up through everyday experience; reduced through society, culture and the concepts we rely on to navigate the world. The central message to be taken from this view of compression is that something essential is lost when the world is compressed through our everyday experience.<sup>11</sup> Abstract compression can be seen as a corollary of the transcendental view of technology, in that such theories believe in revealing essences, platonic ideals or a Kantian *ding an sich*.

The second position, generic compression, emerges as a rejection of abstract compression. Rather than valorising the uncompressed through revealing an esteemed metaphysical ideal, generic compression is characterized by an indifference to the representation of an immutable essence or truth. Theories within the tradition of generic compression embrace compression in its various forms, utilizing it as a method of generating opacity and obfuscation in the face of a world that strives to produce greater transparency.<sup>12</sup> This position can be seen as corresponding view to post-phenomenology, in that it rejects the drive to uncover the noumenal world, remaining entrenched or focused on that which is compressed and technologically mediated.

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10 Alexander R. Galloway & Jason R. LaRivière, 'Compression as Philosophy', *Boundary 2*, 44 (1)(2017), pp. 125-147.

11 *ibid.* pp. 132-5.

12 *ibid.* p.140.

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### A Tale of Two *Satyas*

This distinction between compressed and uncompressed is also found in Buddhist philosophy. All schools of Buddhism hold that there are two realities: a conventional reality and an ultimate reality.<sup>13</sup> Conventional reality is the reality of everyday experience. This consists of us placing conceptual overlays onto the world, essentially dividing it up through concepts like language. On the other hand, ultimate reality refers to reality devoid of all conceptual distinctions or description. What this means is that ultimate reality is ineffable, and cannot be described but only experienced or gestured at. It is therefore also referred to as “thatness”.<sup>14</sup> The Sanskrit term for conventional, “samvrti” also carries the negative connotation of being deceptive, which invokes aversion or scepticism of the qualities associated with conventional reality.

### The Dream of Verisimilitude

The debate about the role of compression in our lives extends beyond the theoretical and seeps into the everyday. Abstract compression underlies many of our common-sense notions regarding technological perfection. This manifests in the audiophile’s love of the intangible factors of listening to music on vinyl, or preferencing .flac format lossless audio files. This pursuit of an ever-more realistic portrayal of or correspondence with “reality” through our media has often been indicative of progress. This is what Sterne dubs “The Dream of Verisimilitude”, the idea that new formats and media ought to be closer to reality,

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13 The Sanskrit term for reality is “satya”, which can mean both “reality” and “truth”. These two meanings of “satya” play quite distinct roles in Buddhist philosophy. However, I will set aside these differences for now.

14 Graham Priest, *The Fifth Corner of Four: An Essay on Buddhist Metaphysics and the Catuskoti*, Forthcoming, pp. 67, 74-76.

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and of higher definition than their predecessors.<sup>15</sup> This stands in contrast to an alternative conception of the good life in modern that seeks to maximize consumption through the compression of more and more bite-sized episodes of experience in a given lifetime.

The chapters to follow attempt to build on the dialectic between abstract and generic, transcendental and post-phenomenological, sometimes directly, and at others referentially. *Jack in the Box* explores the possibility of using technical compression as a general epistemological framework. *SPEED, SPEED, SPEED* explores the compression of our experience of time in modern society, focusing on the drive towards accumulating experiences. In *The Teleology of the Crisp*, I trace the trajectory of the compression of experience through the development of new food technology. *Approximations* describes the pursuit of verisimilitude in greater detail, focusing on the museum collection as a site of historical compression and simulation. I conclude with *The-All-At-Once*, entertaining the possibility of experiencing uncompressed reality.

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<sup>15</sup> Jonathan Sterne, *MP3: The Meaning of a Format* (Durham and London: Duke University Press, 2012), p. 4.

# **I. Jack in the Box: Compression as Epistemology**

## Compression

In the introduction I alluded briefly to the notion that compression, as a technique of optimizing information transfer, extends beyond its applications to technology, but can be applied to everyday tasks such as conversation. In this section I intend to build on this idea, proposing compression – the process of judicious omission and reorganization of information – as a vital epistemological process fundamental to human understanding.

In Epistemology as Information Theory, Chaitin claims that compression is tantamount to understanding. It plays a key role in determining the explanatory success of any given theory:

*A theory, an explanation, is only successful to the extent to which it compresses the number of bits in the facts into a much smaller number of bits of theory. Understanding is compression, comprehension is compression! That's how we can tell the difference between real theories and ad hoc theories.*<sup>1</sup>

In simpler terms, a successful explanation should make what it attempts to explain easier to understand. The theorizer demonstrates understanding through being able to compress the relevant facts into the explanatory model of theory. Returning briefly to compression as utility, this also provides others with an easily understandable version of the relations of facts at hand. Chaitin's comments echo the principle of Occam's razor, which states that given two competing theories that make the same predictions, we ought to preference the theory with the fewest unproven assumptions – the simplest theory. More on this later. In addition to understanding, compression has also been posited as a central mechanism for effective expression. Julie Sedivy

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<sup>1</sup> Gregory Chaitin, 'Epistemology as Information Theory: From Leibniz to  $\Omega$ ', in Collapse 1 (2005): 33.

## Jack in the Box

proposes that mumbling works as a form of data compression not dissimilar to the algorithmic encoders used to create mp3s and JPEGs.<sup>2</sup> Just as these algorithms reduce the space needed to digitally store information by omitting the superfluous, mumbling serves to trim those elements of spoken language which do not offer much communicative payoff. At the moment, scientists know little about how speakers figure out what information they can afford to leave out in a conversation. One hypothesis is that speakers have some implicit knowledge about what information is most essential to their listeners. According to John Dewey, no experience can be meaningfully *ex-pressed* without first having its constituent elements *com-pressed*. This compression creates a space of commotion or turmoil – a meeting place for two constituent facets of experience: one’s inner impulses and contact with an environment. This internal turmoil results in the conditions necessary for the meaningful expression of a given experience.<sup>3</sup> As trivial as the suggestion may seem, perhaps it is this internal interaction between one’s impulses and environmental cues which determine how the information we want to express is encoded.

A slight digression: Following Sedivy’s lead in comparing the operations of the human mind to algorithms, an illustrated diagram of Dewey’s formulation maps quite nicely onto the architecture of an autoencoder, a kind of artificial neural network (fig 1.). Why this is interesting is because an autoencoder works by trying to approximate an image one inputs, albeit imperfectly. It does so by using an algorithm to reduce it to

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2 Julie Sedivy, ‘Mumbling Isn’t a Sign of Laziness—It’s a Clever Data-Compression Trick’, *Nautilus*, [http://nautil.us/blog/-mumbling-isnt-a-sign-of-lazinessits-a-clever-data\\_compression-trick](http://nautil.us/blog/-mumbling-isnt-a-sign-of-lazinessits-a-clever-data_compression-trick) (accessed June 2018).

3 John Dewey, *Art as Experience* (Perigee Books, 1934; repr. 2009), p. 69.

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a series of basic data points.<sup>4</sup> In other words, compressing the input down to its perceived “essence”. Make of that what you will.

This role of compression in both understanding and expression come to a head in contemporary discussions about language and mind. For example, Friedrich Kittler, Bernard Stiegler and Yuval Noah Harari write about how through the invention of script, the nuances of human language are ordered and compressed into written form.<sup>5</sup> Furthermore, contemporary research has shown that while our mother tongue does not constrain our ability to think outside its parameters, it plays a role in the way we see the world. For instance, experiments have shown that grammatical genders can affect the associations of speakers towards the objects around them. In German, a bridge is taken to be feminine (die Brücke), but is considered masculine in Spanish (el Puente).

Perhaps even more interestingly, language has also been shown to affect our understanding of space, as evidenced through research done with speakers of the Guugu Yimithirr language, an indigenous Australian language from North Queensland. In Guugu Yimithirr, no speaker-dependent directions such as “behind”, “in front”, “left” or “right” are used. Instead, the language relies on the use of cardinal directions. It was found that speakers of this, and other geographic languages had a more intuitive, compass-like sense of where each of the cardinal directions were.<sup>6</sup>

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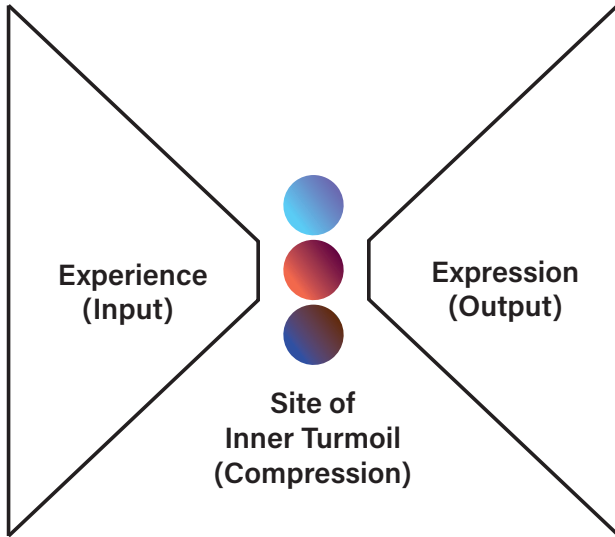
4 Ian Goodfellow, Yoshua Bengio and Aaron Courville, *Deep Learning* (Cambridge: MIT Press, 2016), p.499.

5 Friedrich Kittler, *Gramophone, Film, Typewriter*, (Stanford, CA: Stanford University Press, 1999), Bernard Stiegler, *Technics and Time vol. 2: Disorientation* (Stanford: Stanford University Press, 2009) & Yuval Noah Harari, *Sapiens*, (Great Britain: Vintage, 2011), pp. 142-6.

6 Guy Deustcher, ‘Does Your Language Shape How You Think?’, *The New York Times Magazine* (2010), <https://www.nytimes.com/2010/08/29/magazine/29language-t.html> (accessed March 2018).



## Jack in the Box



*fig 1. A Dewey Autoencoder*

In the short story *There are More Things*, a tribute to HP Lovecraft, Borges writes:

*"To see a thing one has to comprehend it. An armchair presupposes the human body, its joints and limbs; a pair of scissors, the act of cutting...If we really saw the world maybe we would understand it."*<sup>7</sup>

This intimate relationship between compression and understanding found in language calls into question our ability to "really see the world", and in so doing come to recognize it in its primordial state. This complication raises a familiar but crucial metaphysical question: is there an immutable essence or "real" which is lost through compression, and do we have access to this state?<sup>8</sup>

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7 Jorge Luis Borges, 'There are More Things', in *The Book of Sand* (Pittsburgh: Penguin Books, 1979; repr. 1980), p. 41.

8 I will return to this question in the concluding chapter.

## **II. SPEED, SPEED, SPEED**

## SPEED, SPEED, SPEED

In March 2018, *Qantas* announced the very first non-stop commercial flight between the UK and Australia: a 17 hour long-haul trip from London to Perth. In comparison, the oldest *Qantas* air route took four days over seven stops (ample time for deep vein thrombosis to settle in should you sit completely still during the many legs of the flight).<sup>1</sup> Advancements in technology have allowed us to travel faster, to communicate with people across the globe almost instantly, and to get work done more efficiently. This is said to be a feature of modernity: the compression of our experience of space-time.<sup>2</sup> In the section to follow, I will focus on compression as it relates primarily to our experience of the latter.

Debates about whether advances in technology would free us to pursue more leisure have been around since the Industrial Age. The classical liberals, from Mill to Keynes argued that with enough time, the economy would reach a stationary state of growth.<sup>3</sup> At this point, society's resources would be so abundant that we would not be preoccupied with the pursuit of further economic growth. Instead, we would be worried about what to do with all the free time we gain from not having to work. Technology, in this scheme, plays a major role in getting us to this hypothetical state of abundance. In *Economic Prospects for our Grandchildren* <sup>4</sup>, Keynes proposed a utopian vision in which a hundred years from the time of writing (1930), technology and compound interest would free us

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1 'First Non-stop Flight Between Australia and UK Set for Take-off', *The Guardian* (28 March 2018) <https://www.theguardian.com/travel/2018/mar/23/first-non-stop-direct-flight-between-uk-and-australia-perth-london> (accessed July 2018)

2 c.f. David Harvey, *The Urban Experience* (The Johns Hopkins University Press, 1989).

3 John Stuart Mill, *Principles of Political Economy*, Book 4, Chapter 6. [https://ebooks.adelaide.edu.au/m/mill/john\\_stuart/m645p/book4.6.html](https://ebooks.adelaide.edu.au/m/mill/john_stuart/m645p/book4.6.html) (accessed July 2018)

4 John Milton Keynes, *Economic Possibilities for Our Grandchildren* (1930)

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from the drudgery of employment, granting us excess leisure time.

88 years on, it seems pretty unlikely that technological advancements are taking us any closer to an excess of leisure. If our technologies are faster and more efficient at doing tasks, why do we feel like we have less time? This is the central question of Hartmut Rosa's book *Social Acceleration*. Rosa argues that technological advancements in acceleration are matched by a corresponding social acceleration. For example, the ability to send emails more quickly from one's smartphone is matched by the social expectation to receive and reply to emails at the rate they are sent. The time surplus granted by emails over writing letters is taken up by writing and reading more and more emails. The desire to keep up with an acceleration in the pace of life requires a quicker technologies, creating a vicious cycle.<sup>5</sup>

This is a point also raised by Mark Fisher. He notes that contemporary post-fordist societies work primarily run on communication. And in such societies, communication and control entail each other.<sup>6</sup> Compression, insofar as it allows us to transmit information more efficiently, thus becomes a key political and economic driving force. Furthermore, he adds:

*“Work and life become inseparable. Capital follows you when you dream. Time ceases to be linear, becomes chaotic, broken down into punctiform divisions.”<sup>7</sup>*

A factor that leads to this blurring of the boundary between work

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5 Tom Vanderbilt, 'The Pleasure and Pain of Speed', *Nautilus*, Issue 009: Time (2014) <http://nautil.us/issue/9/time/the-pleasure-and-pain-of-speed> (accessed May 2018)

6 c.f. Paul Virilio, *Negative Horizon*, (Continuum, 2006) for more on the relationship between speed and political control.

7 Mark Fisher, *Capitalist Realism*, (Zero Books, 2009) p. 34

## SPEED, SPEED, SPEED

and domestic life are technological advancements such as the laptops and cloud servers that allow us to work from home, on our commutes and even on holiday. Furthermore, in the digital age, the globalization of capital means that for many, work occurs across more than one timezone. You could be on a conference call with an interlocutor in Tokyo from your bedroom in London. On Rosa's analysis, because these tasks are technically feasible, we are often socially obliged to do so. Thus occurs a fracturing of our experience of space-time, one that happens out of necessity rather than choice.

Drawing on the work of German contemporary Gerhard Schulze, Rosa breaks up his analysis of the pace of life into two main constituents: an increase in the number of episodes of action and an increase in the quantity of episodes of experience.<sup>8</sup> On one hand, we feel to squeeze more tasks into our day, and on the other, we seek to fill the little time we have with as many novel experiences as possible. What results is a "compression of experience", characteristic of life in the experience society.<sup>9</sup> Rosa notes that this desire to fill our time with more meaningful experiences is constitutive of a modern conception of the good life:

*"According to the simple calculation, the more means of experience we appropriate, and the more we concentrate them (compression), the richer our life will be – an increase in being through having."*<sup>10</sup>

*"This appears alongside a humanistic ideal of self-actualization that points in the same direction and according to which the good life consists first and foremost the most comprehensive*

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8 Hartmut Rosa, *Social Acceleration: A New Theory of Modernity*, (USA: Columbia University Press, 2013), pp.123-4

9 *ibid.*

10 *ibid.*, p.182

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*possible development of the talents and potential of a subject.*<sup>11</sup>

A corresponding phenomenon that has occurred is the emergence of competence porn as a form of entertainment.<sup>12</sup> The trope refers to the satisfaction one derives from watching characters achieve incredible feats of human activity. The term seems to have been coined in a blog post by John Rogers, one of the writers of the television show *Leverage*, in which he discusses the enjoyment the show's audiences gain watching briefing room scenes, attributing it to the feeling of being part of a group of competent people scheming and engaging in banter.<sup>13</sup> Other on-screen examples include our fascination with watching Bear Grylls survive in the most extreme conditions on the survival series *Man vs. Wild*<sup>14</sup> and the staffers of Aaron Sorkin's *The West Wing* untangle issues in the White House. This is a trope that occurs in literature as well, particularly in science fiction, where many of the characters exhibit a range of polymathic extra-human skills, often with little indication for how they acquired these abilities. This tendency for hypercompetent characters is captured well in the words of Robert Heinlein:

*"A human being should be able to change a diaper, plan an invasion, butcher a hog, conn a ship, design a building, write a sonnet, balance accounts, build a wall, set a bone, comfort the dying, take*

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11 Hartmut Rosa, *Social Acceleration: A New Theory of Modernity*, (USA: Columbia University Press, 2013), p.124

12 'The Martian, Sherlock Holmes, and Why We Love Competence Porn', <https://arstechnica.com/gaming/2016/02/the-martian-sherlock-holmes-and-why-we-love-competence-porn/> (accessed May 2018)

13 'LEVERAGE #204 "The Fairy Godparents Job" Post-game', <http://kfmonkey.blogspot.com/2009/08/leverage-204-fairy-godparents-job-post.html> (accessed May 2018)

14 'The Martian is Not Competence Porn', [http://www.slate.com/blogs/browbeat/2015/10/09/the\\_martian\\_is\\_not\\_competence\\_porn\\_why\\_it\\_s\\_wrong\\_to\\_compare\\_ridley\\_scott.html?via=gdpr-consent](http://www.slate.com/blogs/browbeat/2015/10/09/the_martian_is_not_competence_porn_why_it_s_wrong_to_compare_ridley_scott.html?via=gdpr-consent) (accessed May 2018)

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*orders, give orders, cooperate, act alone, solve equations, analyze a new problem, pitch manure, program a computer, cook a tasty meal, fight efficiently, die gallantly. Specialization is for insects.*<sup>15</sup>

What is it about competence porn that fascinates us? According to Steve Sharan, part of the appeal of competence porn is the rush of watching someone display skills one admires yet cannot quite access.<sup>16</sup> These characters are relatable, the competencies they demonstrate just slightly out of reach. They serve as the patron saints of the experience society, moral exemplars of how we think we ought to be using our time.

How else is this time compression affecting us? To conclude this chapter, we return to Occam's razor as promised. As mentioned previously, Occam's razor is generally used as a metric to determine the adequacy of scientific theory. However, the principle itself is often misapplied as a tool for scientific guidance. According to Ball, the value of minimizing assumptions is cognitive, not ontological.<sup>17</sup> A theory is not necessarily empirically superior just because it is simpler. After all, the primacy of simplicity is not something empirically verifiable. It is a choice borne out of aesthetic preference or convenience.

This preference for the simple is something that bleeds out of the sciences and becomes a moral imperative in other areas of society. For example, Per Mollerup suggests the adoption of an Occam's

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15 Robert A. Heinlein, *Time Enough for Love*, (Ace Books, 1973), p. 248.

16 'The Martian is Not Competence Porn', [http://www.slate.com/blogs/browbeat/2015/10/09/the\\_martian\\_is\\_not\\_competence\\_porn\\_why\\_it\\_s\\_wrong\\_to\\_compare\\_ridley\\_scott.html?via=gdpr-consent](http://www.slate.com/blogs/browbeat/2015/10/09/the_martian_is_not_competence_porn_why_it_s_wrong_to_compare_ridley_scott.html?via=gdpr-consent) (accessed May 2018)

17 Philip Ball, 'The Tyranny of Simple Explanations', *The Atlantic* (2016) <https://www.theatlantic.com/science/archive/2016/08/occams-razor/495332/> (accessed July 2018)

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razor for design: the elimination of superfluous elements – a shaving off of what is not needed.<sup>18</sup> For Mollerup, designers ought to dispense with unnecessary features and form. This speaks to the logic of a society wrought by a lack of time. In such a society where the good is synonymous with more episodes of experience, things that are complex and take time to engage with and master are likely to be cast aside in favour of convenient objects which are simple and direct in their use. I wonder if the proliferation of simple devices which afford their use more directly constrain the creative possibilities one gains by having to spend some time learning to use a thing whose affordances are not immediately obvious. Perhaps this is one way to begin cultivating slowness as a conception of the good - through the design of objects which reward slow engagement with greater creative possibility.

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18 Per Mollerup, *Simplicity: A Matter of Design* (BIS Publishers), p.42.

Feeling tired? Turn to Appendix A for a short break.



# **III. The Teleology of the Crisp**

## Compression

*“The potato chip is the most pornographic food...”*

That was a thought that came to me as I munched on a pack of Doritos® over lunch at my friend Olly’s house on a sweltering 42 degree day in early 2017. How did my mind come to associate the humble potato chip, generally attributed to a culinary mishap occurring in the town of Saratoga Springs, NY in the 1850s<sup>1</sup>, with pornography? This question became the starting point in my enquiry into compression. The analogy lies in an underlying logic: both potato chips and pornography are symptomatic of technological developments in a society geared around experiences and their consumption.

Pornography seeks to stimulate sexual desire through the representation of sexual activity through aural or visual media. Here, the act of sex is alienated from its physicality: three-dimensional bodies engaged in copulation are compressed and reduced into hyper-sensualized two-dimensional caricatures of sexualized forms. This flattening of eros is designed for consumption – the aggregate of pixels intended to satisfy both sensation and fantasy. It is as Shaviro writes:

*“...The more images are flattened out and distanced from their representational sources, the more they are inscribed into our nerves, and flash across our synapses.”<sup>2</sup>*

By analogy, the potato chip in its contemporary form, with its myriad of flavours, brands and packaging, can be seen as attempt to reduce the multisensorial dimensions of an entire meal into its essence or

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1 Dirk E. Burhans, *Crunch!: A History of the American Potato Chip*, (Terrace Books, 2008) p.20. & Charles Panati, *The Extraordinary Origins of Everyday Things*, (HarperPerennial, 1987), p. 388.

2 Steven Shaviro, *The Cinematic Body*, (University of Minnesota Press, 1993), pp. 137- 138.

## The Teleology of the Crisp

flavour. The *meal-made-snack*: consistent, cheap and consumable at any moment. Disembodied and compressed into a single texture: crunch.

With monotexture, flavour becomes king. In Bevan's analysis of the U.K. potato crisp industry, he identifies the period of 1966-68 as when novelty flavours became the primary driver of consumption.<sup>3</sup> Interestingly, this was when Smiths introduced their now-ubiquitous 'Salt 'n' Vinegar' flavour. The hysteria around flavour is something that has persisted. For over five years, American snack moguls Lay's have run a competition in North America called Do Us a Flavour<sup>4</sup>, offering participants the chance to win a million-dollar cash prize in exchange for flavours of the zaniest order.<sup>5</sup> In 2014, South Korea was gripped by hysteria concerning the infamous Honey Butter Chips produced by snack manufacturers Haetae & Calbee.<sup>6</sup> Another contemporary example is the line of potato chips produced by Swedish brewery St. Erik in 2016, dubbed

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3 Alan Bevan (1974), 'The U.K. Potato Crisp Industry, 1960-72: A Study of New Entry Competition', *The Journal of Industrial Economics*, Vol. 22, No. 4 (Jun., 1974), pp. 281-6.

4 <https://kotaku.com/lays-wants-your-stupid-potato-chip-flavors-again-1791112590> & <http://www.pepsico.com/live/pressrelease/america-has-voted-lays-crispy-taco-crowned-2017-lays-do-us-a-flavor-winner10112017> (accessed June 2018)

5 Some notable finalists include Crispy Taco, Cheesy Garlic Bread, Wasabi Ginger, Southern Biscuits & Gravy, Bacon Wrapped Jalapeno Popper, Kettle Cooked Greektown Gyro, PEI Scalloped Potatoes, Cinnamon Bun and Cappuccino.

6 'Korean Honey Butter Chip Hysteria Has Created a Snack Black Market', [https://munchies.vice.com/en\\_us/article/8qk37a/korean-honey-butter-chip-hysteria-has-created-a-snack-black-market](https://munchies.vice.com/en_us/article/8qk37a/korean-honey-butter-chip-hysteria-has-created-a-snack-black-market) (accessed June 2018)

## Compression

the most expensive chips in the world.<sup>7</sup> Today, global snack foods form a multi-billion dollar industry<sup>8</sup>, with potato chips holding a significant portion of the market. It is no surprise that a lot of effort goes towards finding new ways of sending taste buds into overdrive.

A second key element of the pornographic experience is the idea of a replicable new, an element of uniformity. In his essay deriding popular music, Adorno discusses the idea of pseudo-individualization.<sup>9</sup> For Adorno, the popular is defined by repetitive experiences which market themselves as distinctly unique or individual. For Schwartz this promise of the familiar-unique is the central message of pornography:

*“Pornography works to make every re-enactment the First Time, Only Better. The truth of the Passion is in the Second Coming, for repetition is the gospel of pornography, proving male virility or female insatiability.”*<sup>10</sup>

Potato chips seem to fit the mould of popular music advanced by Adorno. In spite of variations in branding and marketing, they seem pretty uniform across the board. You sort of know what you’re getting into with each pack of crisps. However, uniformity was

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7 <https://nypost.com/2016/10/20/this-is-the-worlds-most-expensive-potato-chip/> & <https://www.thedrinksbusiness.com/2016/10/brewer-creates-worlds-most-expensive-crisps> (accessed June 2018) The chips are made from hand-picked potatoes and came in five flavors: Matsutsake mushrooms, truffle seaweed, crown dill, Leksand onions and India Pale Ale.

8 According to statistics portal Statista, in 2016 the UK snack food industry alone had a market value of £1.3 billion, with the crisp industry accounting for most of that at a total of £1.1 billion. <https://www.statista.com/statistics/380097/uk-crisps-savoury-snacks-market-value-by-category/> (accessed June 2018)

9 Theodor W. Adorno, ‘On Popular Music’, *Studies in Philosophy and Social Science* 9:17 (1941).

10 Hillel Schwartz, *The Culture of the Copy*, (New York: Zone Books), p. 308.

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not a value that was always admired in the chip industry. This is something brought about by the arrival of Pringles in the mid-1960s, a period where the people of the United States harbored utopian views about the prospects of technological improvements in food through the use of additives, and processes like dehydration and reconstitution. It was in this climate that Proctor and Gamble developed Pringles, the “Newfangled Potato Chips”.<sup>11</sup>

The chips were developed in response to consumer complaints that chips that were too greasy, went stale too quickly, and crumbled too easily. Pringles in essence, were a product of a technological approach to creating the perfect chip. The chips were composed of a 42% potato mix, prefabricated into a hyperbolic parabola and fried by a special machine developed by engineer and science-fiction author Gene Wolfe.<sup>12</sup> Pringles emerged in as a highly designed solution to consumer desire for the platonic form of the potato chip: The Stepford Crisp.<sup>13</sup>

The emergence of Pringles as the perfect chip presented not just a technical challenge for traditional chippers, but an existential one. According to an announcement by the Snack Food Association in June 1972,

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11 Dirk E. Burhans, *Crunch!: A History of the American Potato Chip*, (Terrace Books, 2008) p.56-9.

12 <https://web.archive.org/web/20090916170648/http://home.roadrunner.com/~lperson1/wolfe.html> (accessed June 2018)

13 Their technological lineage is something that has not abated, with multiple sources indicating the use of supercomputers in their production – to measure their aerodynamics so they don’t fly off the production line, and to ensure the chips’ saddle shape remains structurally sound for the packaging process. C.f. <http://edition.cnn.com/2006/TECH/12/05/supercomputers/index.html> & <https://www.nytimes.com/2010/10/28/technology/28compute.html> (accessed June 2018)

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*“The arrival of Pringles would seem to present the industry with the most serious challenge in its history.”<sup>14</sup>*

In 1975, Comedian Mark Russell put a political slant on this tension between traditional potato chips and Pringles that drew on prevailing sentiments in Cold War America:

*“All Pringles are exactly the same. You can buy one in Washington, D.C., then go out to San Francisco and buy another that’s exactly the same. Now, if that isn’t Communism, I don’t know what is.”<sup>15</sup>*

The calculated uniformity of the Pringles crisp was made synonymous with the perceived homogeneity of life under Communism. Technologically derived super-chips were seen as a threat to the American chip tradition. This is evocative of an oft-declared Hollywood trope: that of the Soviet super-soldier in a scrap against the brave, resilient American veteran, Lundgren’s Drago to Stallone’s Rocky. In the case of Pringles however, this was a largely domestic affair. Russell’s comments thus echo shades of the Mccarthyist witch hunts prevalent in the decades preceding.

## Beyond the Crisp

Where do we end up if we follow the technological teleology of the crisp along the garden path? Looking at futuristic food tropes in popular fiction, signs seem to point towards further compression of the gastronomic experience. One seemingly universal trope in depictions of the future is the food pill: an easily consumable food replacement which contains all the necessary contents of a meal.

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<sup>14</sup> Dirk E. Burhans, *Crunch!: A History of the American Potato Chip*, (Terrace Books, 2008) p.58.

<sup>15</sup> *ibid.*

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*fig 1. Tubed Foods: A Swedish Staple*

Some examples include the magical Senzu beans in the anime series *Dragon Ball*, which keeps the consumer full for ten days, a chewing gum that simulates a three-course meal in *Charlie and the Chocolate Factory*, and in various pill incarnations in *The Jetsons*.

Although we are probably a while off pills that can instantly satiate our desires for taste, nutrition and convenience, the trend towards the compression of food into ever more convenient forms fills the shelves of supermarkets the world over. For example, in Sweden one can find tubed foods of almost every variety, ranging from the classic Kalles Kaviar spread to fancier options such as blue cheese and pear. (fig 1.)<sup>16</sup>

Other examples of compressed food growing in popularity include powdered meal replacements such as Huel (fig 2.) and Soylent.<sup>17</sup> What

<sup>16</sup> <https://www.ateriet.com/food-in-tubes-a-very-swedish-way-to-package-food/> (accessed June 2018)

<sup>17</sup> <https://makezine.com/2018/05/01/edible-innovations-food-future/> (accessed June 2018)

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*fig 2. Huel, a popular meal replacement.*

these food replacements lack in flavour, they make up for in cost and convenience. The underlying promise behind these products is the delivery of the essential nutrition one needs in the quickest amount of time. Less time spent eating conceivably means more time to engage in other activities considered more meaningful. More than any other food innovation today, these represent the perfect cuisine for modern society's hyperspeed, utility-maximizing lifestyles.

A challenge that food technologists face should they choose to follow the trajectory of further compression of flavour is that it is not constituted just by the chemistry alone. In fact, to untangle texture from taste poses a surprisingly complex challenge for scientists.<sup>18</sup> Investigating the synaesthetic constituents of flavour is at the heart of Charles Spence's work at Oxford's Crossmodal Research Lab. In particular, his research concerns the relationship

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<sup>18</sup> Giselle Weiss, 'Why Is a Soggy Potato Chip Unappetizing?', *Science*, New Series, Vol. 293, No. 5536 (Sep. 7, 2001), pp. 1753.



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fig 3. VHM Design Future's Food Printer

between flavour and audio.<sup>19</sup> In one experiment, Spence investigated the perceived taste of potato chips when different frequencies were amplified. The participants found the chips crispier and tastier when the overall sound level was increased, and when frequencies in the 2 kHz-20 kHz range were amplified.<sup>20</sup> From these examples, it appears that flavour as we perceive it is an emergent property: one that cannot be reduced merely to the sum of its parts.

Advancing further along the timeline of the teleology of the crisp are food innovations that sit at the intersection of science fiction and possibility. One such development is the possibility of 3D printed food, using machines to conjure any flavour on

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<sup>19</sup> Charles Spence (2015), 'Eating with our ears: assessing the importance of the sounds of consumption on our perception and enjoyment of multisensory flavour experiences', *Flavour* (2015, 4:3).

<sup>20</sup> Charles Spence & Massimiliano Zampini, 'The Role of Auditory Cues in Modulating the Perceived Crispness and Staleness of Potato Chips', *Journal of Sensory Studies*, (19, 2004), pp. 347-363.

## Compression

demand from a blank substrate. One project that sought to do this was VHM Design Future's Food Printer <sup>21</sup> (fig 3.). This food printer worked by printing shapes of flavoured edible 'inks'.

A contemporary development of the food printing concept is Open Meals.<sup>22</sup> The project involves using a 3D printer to print out gels pixels of different flavours and densities to recreate both the flavours and textures of everyday meals. The creators of project see it as the catalyst to bring about a 5th revolution in food production: the digitalisation, transmission and generation of food. The project aims to digitalise food, using metrics of flavour, texture, shape and nutrition to build a comprehensive encyclopedia: a database of all the world's food, printable from your own home. So far, the team have developed a printer which uses their gel technology, conducted experiments in printing digital oden (a Japanese winter dish) using their gel technology, and debuted a sushi printer (fig 4.) at 2018's SXSW festival. It would appear that 3D food printing is becoming less fiction and more reality.

Open Meals presents us with a culmination of the values upheld by the teleology of the crisp: the compression of food down to its rawest essence, into bits of data stored on a database that can be perfectly spawned on command. Is it indicative of a coming digital cornucopia, or does it scream of neoliberal visions of making all the world's delicacies available for consumption at one's convenience, so long as one meets the willingness to pay? The project brings to mind the aims (and perhaps hubris) of the alchemists and collectors of old, who pursued and catalogued the mysteries of the universe with the aim of controlling the very essence of matter. A theatre

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21 <http://www.vhmdesignfutures.com/project/71/> (accessed June 2018)

22 <http://www.open-meals.com/> (accessed July 2018)

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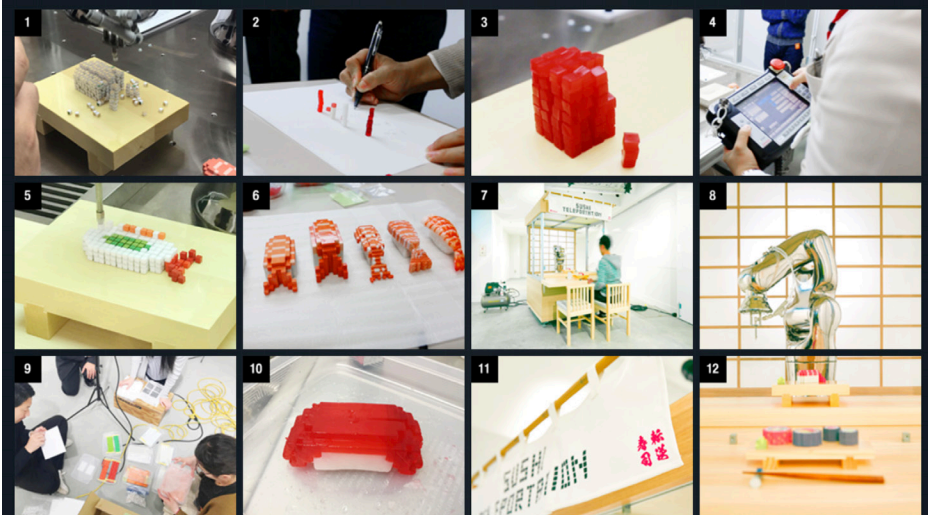


fig 4. Open Meals' Sushi Teleportation

of taste to match the ambition of Camillo's theatre of memory.<sup>23</sup>

Is it reasonable to assume that the future of food will continue along the path of the crisp, towards more compressed culinary experiences? Warren Belasco, author of *Meals to Come: A History of the Future of Food*, cautions against buying into the hype that often accompanies the latest developments in technology when forecasting.<sup>24</sup> While I agree with Belasco's caution against looking at the latest developments in food technology as indicative of food culture as a whole, it is hard to see how technological developments might tend away from the Teleology of the Crisp given our notion of technological progress is generally measured by task optimization and utility maximization. The food technologies we develop inevitably reflect the society we

<sup>23</sup> See the chapter Approximations for more on Camillo's theatre of memory.

<sup>24</sup> Warren Belasco, *Meals to Come: A History of the Future of Food*, (USA: University of California Press, 2006). pp. 263-6.

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live in, and what we value collectively. When reading these trends into the future, we can only afford to do so through a glass, darkly. Whether our future eating habits are CRISPR and more compressed than the present remains largely within the domain of speculation.

# **IV. APPROXIMATIONS**

## Compression

Mulling over the question of whether history is condemned to repeat itself, the philosopher George Santayana declared that “to observe a recurrence is to divine a mechanism”.<sup>1</sup> To divine a mechanism, understanding the necessary components that constitute its assemblage, requires one to make a distinction between which elements were essential in its occurrence, and which were superfluous. Engaging in this practice of understanding and preserving history is the one of the primary functions of our cultural institutions. In the first part of this chapter, I attempt to elaborate on the museum as such a site, looking at its development from its roots in private collections of the Renaissance, to a modern site of cultural experience. Divining a mechanism also opens up the possibility of recreating or simulating it. In the second part of this chapter, I will discuss the trend towards the simulation of reality and the notion of hyperreality: distorted simulations that appear more truer-than-reality. This is tied back to the theme of compression and the correlated dream of verisimilitude.

### The Collection as a Site of Compression

According to Tomislav Sola, museums today are caught in a bind: torn between a divine request from the Greek goddess of order Eunomia – to capture and quantify reality, and a curse of hypermnesia courtesy of Mnemosyne, mother of the muses – to memorise “more and more about less and less”.<sup>2</sup> However, this twin ailment is not one that is endemic to museums in the information age, in spite of the fact that digital technologies have increased our capacity to both retain and access vast swathes information more

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1 George Santayana, *The Life of Reason*, Vol 5, Ch 3 (1905) [https://www.gutenberg.org/files/15000/15000-h/15000-h.htm#vol5CHAPTER\\_III](https://www.gutenberg.org/files/15000/15000-h/15000-h.htm#vol5CHAPTER_III) (accessed July 2018)

2 Tomislav Sola, ‘Redefining Collecting’ in *Museums and the Future of Collecting*, edited by Simon J. Knell, (Routledge, 2nd ed., 2004), p. 253

## Approximations

easily than ever before. This desire (or perhaps obligation) to capture and preserve the memory of the world stems from the museum's earliest roots in the private collections of the wealthy and eccentric.

The central metaphysical notion in the alchemical worldview so prevalent in the centuries prior to the Enlightenment, was that of *pneuma* or *anima/spiritus mundi*. This referred to a soul or essence that connected all entities in the universe.<sup>3</sup> Informed by this philosophical underpinning, the practice of collecting during this period was characterized by the pursuit of celestial harmonies and universal truths through symbolic representation, typically embodied in cabinets of curiosity.<sup>4</sup> Collectors in this era engaged in what Blom refers to as “practical alchemy”, attempts to divine a hidden truth through collecting the wonders of the world around them. The objects in their collections were thought to transcend thing-hood, and were viewed as important puzzle pieces in the quest for universal meaning.

One of the most famous cabinets of this period was Philip Hainhofer's *Kunstschränk*.<sup>5</sup> The arrangement of the objects in the cabinet stands as a strong example of collecting as a quest for universal truth. The objects were arranged in such a way as to represent the realms of animals, plants, minerals and humans. The front was decorated with illustrations representing the triumph of the endeavours of art and science over nature, and above all, religion. Through allegory and arrangement, the *Kunstshränk* attempted to portray an encyclopedic microcosm of the world as it was known.<sup>6</sup>

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3 Philipp Blom, *To Have and to Hold*, (St. Ives: Allen Lane, 2002), pp.44-5.

4 *ibid.* p.91

5 Today it stands empty in the Chancellor's Room in Sweden's Uppsala University.

6 Philipp Blom, *To Have and to Hold*, (St. Ives: Allen Lane, 2002), pp. 37-9.

## Compression

Another attempt to capture the knowledge of the world from this period was Giulio Camillo's ambitious Theatre of Memory. Instead of relying on a collection of objects to find meaning, Camillo's theatre attempted to incorporate symbolic representations of the breadth of the world's knowledge. The theatre itself was to function as a mnemonic device, giving whoever owned it (it was originally meant for the French monarch Francis I) full possession of the world through metaphor. The theatre was to be accompanied by Camillo's magnum opus, a grand theory of memory with a corresponding encyclopedia.<sup>7</sup> Thinking about Camillo's theatre, I'm left puzzled about the project:

1. Given that the theatre was to be a physical space that contained all the world's knowledge, how might he have ensured that he would be able to reliably represent or track changes or evolution of conceptions of the world?
2. Furthermore, even if one could represent the full history of ideas, at what point would universal knowledge compressed into symbolic form begin to be indiscernible?
3. Given the vast amount of information that he would have to represent, would he have had to expand the physical reach of the theatre?

The modern collection, housed in museums and archives might not share the same intention to collect with the aim of discovering the secrets of the universe. However, it continues to play an important role in the preservation and dissemination of cultural knowledge. Boris Groys, drawing on Durkheim's sacred-profane dichotomy, discusses the role of the collection in perpetuating what is considered culturally valuable by making a distinction between The Cultural Archive and the Profane Realm.<sup>8</sup> The latter refers to the ever-growing set of everyday objects and ideas which are considered dispensable, whilst the former refers to the items and thoughts that society takes from the realm of the profane, and

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7 Ibid pp. 177-91. Interestingly, this seems to echo open meals' grand ambition to create a universal database of food. See section 3 of chapter one for more on this.

8 Boris Groys, *On the New*, (UK:Verso, 2014), pp. 63-70.



## Approximations

elevates on the pedestal or plinth. Through the curation of what is deemed culturally significant, collections engage in a form of historical compression: presenting the visitor with the parts of cultural knowledge taken to be essential or worthy of transmission.

The task of communicating this compressed cultural knowledge is often given to the design of the museum and its experiences. This process is often one that has been fraught with much difficulty. Some early attempts to provide a dynamic museum experience include folk-life or living museums, which are open-air museums dedicated to satisfying consumer demand for rural and historical experiences.<sup>9</sup> Such sites are devoted to providing entertaining educational experiences with the aim of preserving cultural heritage, through the provision of what Walsh dubs the heritage spectacle. What the living museum does however, is present viewers with a white-washed version of these historical periods, devoid of the conflict or toil that might have characterized the time they seek to represent.<sup>10</sup>

The model of the living museum served as the template of the first theme park Walt Disney developed, and many heritage attractions aim to achieve the “Disney effect” - of creating a memorable historical experience through spectacle.<sup>11</sup> Walsh, in perhaps overtly luddite fashion, derides the living museum and its artifice, blaming it for the numbing of historical sensibility through media. He sees the epitome of this in the 1980s trend in such sites to provide “heritage smells”. The company that produced these smells would visit the site, and provide relevant samples of oils. The smells were generated by vaporizing this oil, which included flavours such as “meat smells, old pub smells, coal fire and woodsmoke, fresh apples, leather, coffee, mown grass, a

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9 Kevin Walsh, *Representing the Past*, (London:Routledge, 1992), p. 95.

10 Hillel Schwartz, *The Culture of the Copy*, (New York: Zone Books), p. 275.

11 Kevin Walsh, *Representing the Past*, (London:Routledge, 1992), p. 97.

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farmyard smell, bacon, an ironmongers and old factories.”<sup>12</sup>

Another technique commonly used to create a sense of historical accuracy in such sites is distressing. This refers to the act of treating surfaces with the aim of making them appear older than they really are. This stands in contrast to the application of cosmetics to make one look younger. That society valorizes both processes is taken to be indicative of a broader trend towards historical compression: the desire to reverse, or mask the effects of time. This was no doubt one of the chief aims of the alchemical worldview mentioned prior: the search for power to live forever. For Schwartz, reversibility goes beyond the realm of the cosmetic:

*“Reversibility pervades our theories of conservation (work so that we can tomorrow undo what we did today), environmental action (recycle so that the Earth may return to health), sequels (remake heroes and villains to fight new-old battles). Irreversibility seems to be a doom, reversibility a noble contrition.”*<sup>13</sup>

The trend towards reversibility as value rears its head again in debates about museum digitisation. Digitisation plays an important role for museums, and is considered good practice for collections management according to Spectrum 5.0, the UK Collections Trust’s collections management standard.<sup>14</sup> The process of digitization might be read by optimists as an immortalization of the sacred object. Indeed, the process of digitization allows us to freeze an object, or even an entire space in time, allowing the possibility of revisiting it in its captured state in future. One project attempting to do this was Digital Archaeology’s 3D scan of the Palmyra Arch, destroyed by ISIS

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12 Kevin Walsh, *Representing the Past*, (London:Routledge, 1992), p. 112.

13 Hillel Schwartz, *The Culture of the Copy*, (New York: Zone Books), p. 279.

14 <https://collectionstrust.org.uk/spectrum/spectrum-5/> (accessed June 2018)

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*fig 1. The Palmyra Arch replica on display in London.*

in Syria in October 2015.<sup>15</sup> This project resulted in a scaled-down 3D printed replica of the arch that was toured around the world (fig 1.). It currently lives in Dubai, standing as a testament to our technical ability to both revive and immortalise that which was lost. In a similar vein, Google's Arts and Culture wing runs the OpenHeritage project, which allows online users to explore virtual recreations of historical sites.<sup>16</sup>

However, digitization raises some interesting questions about the sacred object and its digital surrogate. Firstly, these scans never decay. They become extricated from the original's material quality. Like Midas' daughter, their expression remains forever encased in the same lustre as the day its image was captured. Furthermore, through publishing these digitised scans, museums allow for the further possibility of the reproduction of these artefacts through

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15 <http://digitalarchaeology.org.uk/> (accessed July 2018)

16 <https://artsandculture.google.com/project/cyark> (accessed July 2018)

## Compression

processes such as 3D printing, or alteration on 3D-modelling software. Some projects attempting to do make scans fully available include Scan the World<sup>17</sup>, an open-source database of museum scans from around the world. Through this process of attempting to enshrine the sacred object, a new set of profane objects emerges: more and more digital reproductions of the original.<sup>18</sup>

## Simulation & Hyperreality

The desire to preserve the experience of history through simulation recalls the dream of verisimilitude, the orientation of our technoscientific prowess towards representations that approximate reality with greater definition. The complication however, is that aesthetic pleasure, immersion and definition have no necessary relationship to one another.<sup>19</sup> Often, for representation to mirror reality, it has to be augmented – touched up. In the words of Robert J. Flaherty, who directed *Moana*, a docufiction about Polynesian life:

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17 <https://www.myminifactory.com/scantheworld/#museums>

18 In thinking about this topic, I was curious to see if digitisation would lead solely to the creation of more and more layers of virtual kitsch. I wanted to find out digital reproductions could come to mean something more than the original, and if they could take on a material quality of their own. To explore this further, I created a piece titled *The Digital Profane*. In the work, I fed a dataset of 3D scanned sculptures from Scan the World into a machine learning algorithm, which then tried to “complete” a scan of Rodin’s *Walking Man*, a sculpture made without arms or a head. The *Walking Man* is generally considered an exemplar of Rodin’s “fragmentary” turn; a composite of sculpts rather than the representation of a single model. I thought it would be fitting to get my machine to create composite limbs and heads derived from the data set, extending the art piece by appropriating Rodin’s technique of fragmentation.

19 Jonathan Sterne, *MP3: The Meaning of a Format*, (Durham and London: Duke University Press, 2012), p 21.

## Approximations

“Sometimes you have to lie... One often has to distort a thing to catch its true spirit.”<sup>20</sup>

Controversially and quite deplorably, in the process of filming, Flaherty got the Samoan actors to engage in a tattooing ritual, a process that had been abandoned long before. This, and other practices of reality-augmentation are instantiations of what Baudrillard refers as hyperreality: a distorted simulation of the reality, which appears more real than even reality itself.<sup>21</sup> The creation of the hyperreal is pervasive in media practice. In the domain of sound, current recording practice dictates that a sounds should have more treble than would be actually heard in the real situation.<sup>22</sup> In documentary filmmaking, it is common practice to use re-enactment in place of actual found footage.<sup>23</sup> In Schwartz’s terms, the modern culture of the copy tends towards each replay and simulation transcending the original. In the satirical short story *Pierre Menard, Author of the Quixote*, Borges writes of Pierre Menard, a fictional 20th century author who, so immersed in Cervantes’ *Don Quixote*, writes a word-for-word copy in the original 17th Century Spanish.<sup>24</sup> The story details a review of Menard’s reproduction of the *Quixote*, which argues that the copy was in fact superior to Cervantes’ original because of the levels of immersion Menard would have needed to be able to recreate the *Quixote* with exact accuracy from his 20th Century context.

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20 Hillel Schwartz, *The Culture of the Copy*, (New York: Zone Books), p. 283.

21 Jean Baudrillard, *Simulation and Simulacra*, (Ann Arbor: University of Michigan Press, 1994),

22 Jonathan Sterne, *MP3: The Meaning of a Format*, (Durham and London: Duke University Press, 2012), p 21.

23 Hillel Schwartz, *The Culture of the Copy*, (New York: Zone Books), pp. 283-90

24 Jorge Luis Borges, ‘Pierre Menard, Author of the Quixote’, in *Fictions*, (Penguin, 2000)

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As our technical ability to simulate reality increases, the line between the real and the virtual becomes ever blurrier. For instance flight simulators, initially designed to provide pilots with a more economical and safe environment for training, have become so realistic and authentic that they become the measure of a pilot's aptitude, even after having months of experience flying real planes. The experience is so real that a pilot can sweat to death inside, forgetting that they are only in a simulation.<sup>25</sup> As the military technology becomes increasingly digitized, the theatre of war becomes indistinguishable from the screens of the many simulations and interfaces a soldier is exposed to. The ontological status of the victim of a drone strike becomes reduced to that of the blip of the virtual target: a Deleuzian *dividual*<sup>26</sup>; a fleeting composition of mere letters, numbers and symbols to be destroyed with impunity.

The creation of the hyperreal image indistinguishable from reality is a topic that characterizes the recent work of photographer Andreas Gursky. His piece, the digitally altered Rhine II (fig.2.) sold for a fee of USD \$4.3 million in 2011, the largest sum paid for a photograph. What is interesting about the piece is that it is a digital print. There is no restriction on how many instantiations this piece could have, should Gursky decide to print more. This is unlike a photograph on film, whose physicality limits its reproduction. Reflecting on his own work, Gursky describes his project as such:

*"I am interested in the ideal typical approximation of everyday phenomena – in creating the essence of reality."*<sup>27</sup>

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25 Hillel Schwartz, *The Culture of the Copy*, (New York: Zone Books), pp. 267-8.

26 Giles Deleuze, 'Postscript on the Societies of Control', *October*, , Vol. 59. (Winter, 1992), pp. 3-7

27 Andreas Gursky, Panel at the Artist's exhibition at the Hayward Gallery (2018).

## Approximations



*fig 2. Rhine II, Andreas Gursky*

The dream of verisimilitude, and the hyperreal images exemplified by Gursky's *Rhine II* stand in contrast to what Hito Steryl refers to as the "poor image". This refers to the sea of low-resolution images that have been compressed, re-edited, downloaded and uploaded. In her paper "In Defense of the Poor Image", she argues for a repositioning of these images within the hierarchy of value. Rather than representing the accuracy of the subject itself, such images present a snapshot of the people involved in its reappropriation. Like the patina of well-worn leather often held as a badge of honour, the marks of these images reveal a multiplicity of use to be respected, or at least investigated. For Steryl, a new metric of appreciation should emerge for the appraisal of poor images, one in which value is determined not by resolution or scarcity, but rather by speed, intensity and spread of dissemination. The poor image points not to the original source from which it stems, but rather to the lived conditions which lead to its digital dispersion. It is for this reason that Steryl argues that these images tell us about more about reality



## Compression

than the high definition images which society tends to value.<sup>28</sup>

Steryl's points can be extended also to the materiality of other digital media such as sound.<sup>29</sup> Despite the perceived equivalence of newer .mp3 files to analog formats, the sound differs in the way it decomposes. A DJ slowing down a vinyl record produces a distinct set of low end frequencies, as do .wav files, and .mp3s. When a .mp3 is compressed more than once, a musical equivalent to pixelation in images known as a "compression artefact" is created.<sup>30</sup> Steryl's calls for a new aesthetics for the compressed visual is something that already exists in the realm of music, particularly in the appreciation of the burgeoning sample culture stemming from the use of the AKAI MPC drum machine and sample in the 90s, and emerging genres of music such as lo-fi house<sup>31</sup> and Gqom – a genre of South African house music from Durban made popular through the rattling speakers of the multitude of minibus taxis travelling between townships across the country.<sup>32</sup> According to Sterne, there will be no post-compression age.<sup>33</sup> With Steryl's calls for an appreciation of the aesthetics of the poor image, alongside the blurring of the lines between hyperreality and the Real itself, are we seeing a rejection of the pursuit of objective reality characteristic of the abstract compression-ists? According to Schwarz, our contemporary copy culture laughs in the face of the romantic

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28 Hito Steryl, 'In Defense of the Poor Image', *e-flux* (10), 2009, p.6.

29 Jonathan Sterne, *MP3: The Meaning of a Format*, (Durham and London: Duke University Press, 2012), p 253.

30 Jace Clayton, *Uproot: Travels in 21st-Century Music and Digital Culture*, (New York: Farrar, Straur and Giroux, 2013) p.61.

31 [https://thump.vice.com/en\\_uk/article/yp9e5j/is-lo-fi-house-the-first-genre-of-the-algorithm-age](https://thump.vice.com/en_uk/article/yp9e5j/is-lo-fi-house-the-first-genre-of-the-algorithm-age) (accessed July 2018)

32 Woza Taxi, *Gqom Secret Stash Out Of The Locations*, <https://www.youtube.com/watch?v=xgHxtE4uzdY> (accessed July 2018).

33 Jonathan Sterne, *MP3: The Meaning of a Format*, (Durham and London: Duke University Press, 2012), p 235.



## Approximations

ideal of the irreproducible as the measure of truth.<sup>34</sup> Furthermore, how does one isolate the nature or essence of that which is true?

Christophe Lemaitre suggests that any attempt to restore a work of art should never regress in time, or try to fix the meaning of the piece. Instead, to be involved in restoration is to be in the business of re-production: a continuation and extension of a piece.<sup>35</sup> This is epitomised for instance in the restoration of frescoes using the *tratteggio* technique. According to this practice, modifications are made clearly visible when one stands close to the piece, but indistinguishable from afar.<sup>36</sup> Perhaps an aesthetics of the simulated and hyperreal would involve a rejection of the idea that the simulated and compressed is a shadow or apparition of the truth. Rather, simulations become re-productions in Lemaitre's sense. In this case, reality functions like the Ship of Theseus, whose parts never remain constant and are constantly replaced and augmented. They remain united in virtue of being part of the same chain of causal continuity.

To conclude, let us return to the collection, where we began. A theme common to the earliest collections and museums was the constant reminder of the nearness of death. This was present in the form of *vanitas*, objects which served to remind their owner to remain humble in the face their own mortality, or for subscribers of the alchemical tradition, to spur one on to rabidly seek out immortality.<sup>37</sup> We are often told cautionary tales of the futility of the pursuit of material goods (again, see Midas), and today the hoarding of possessions for their own sake is seen by many as a shallow pursuit. This has given way to a new kind of collecting –

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34 Hillel Schwartz, *The Culture of the Copy*, (New York: Zone Books), p. 290.

35 Christophe Lemaitre, *The Life and Death of the Work of Art*, (Tombolo Presses, 2016), pp. 17-18.

36 *ibid.*

37 Philipp Blom, *To Have and to Hold*, (St. Ives: Allen Lane, 2002), p. 57.

## Compression

the collection of experiences – which fittingly lines up with the development of the living museum and the collection as spectacle.

Recalling Rosa, this pursuit is the telos of our age: the contemporary vision of the good life synonymous with filling life with more and more experiences.<sup>38</sup> This is measured by a compression of the number of experiences one can enjoy per unit of time. By accelerating the speed and frequency of experience, one no longer has to fear death as the limit on the options available to us in a lifetime. One can “cheat death” by filling their life with more compressed micro-episodes of experience. Schwarz notes that in the age of the copy, that which is irreplaceable loses its value because it is ephemeral – it is only because I can capture the experience that it retains its value. One can live forever through the display of their accumulated experiences on social media, curating the permanent digital image that remains when they pass on.<sup>39</sup> In a world where speed is king, and one lives on through the dissemination of captured experiences, Steryl’s call for a new appreciation for the Poor Image appear increasingly prescient.

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38 Hartmut Rosa, *Social Acceleration: A New Theory of Modernity*, (USA: Columbia University Press, 2013), p. 182.

39 <https://www.theringer.com/2016/8/24/16040060/gabriel-barcia-colombo-lacma-internet-death-abb4f215fb3f#.too6m5epc>, <http://www.bbc.com/future/story/20160313-the-unstoppable-rise-of-the-facebook-dead> & [https://www.theguardian.com/commentisfree/2016/may/29/posting-photos-online-obituary-images?CMP=share\\_btn\\_fb](https://www.theguardian.com/commentisfree/2016/may/29/posting-photos-online-obituary-images?CMP=share_btn_fb) (accessed July 2018).

Need a breather? Turn to Appendix B.

# **Conclusion: The All-at-Once**

## Compression

SPEED, SPEED, SPEED considered a modern time crisis that both leads to and is caused by a desire for a greater amount of episodes of experience compressed into daily life. The Teleology of the Crisp built on the idea of the compression of experience, focusing on the trajectory of our food technologies towards this end. In *Approximations*, I considered attempts at discovering universal truth through collections, and the subsequent drive towards simulation and hyperreality that emerged as a result. Jack in the Box considered compression as a fundamental byproduct of our attempt to understand and navigate the world. The chapter ended with an open question: if we inadvertently compress the world through our first-person experience, do we have any access into the world in its uncompressed state? In this concluding chapter, I consider some attempts at accessing the world in its uncompressed state. A primer for the reader seeking respite from the world of compression, with no soteriological aim.

### On Natural Kinds and Ineffability

The first method you might employ to find out what uncompressed reality is like is through the exercise of reason. The metaphor of carving nature at its joints, coined by Plato in *The Phaedrus*<sup>1</sup>, refers to the act of creating taxonomies, of ordering the natural world into divinely preordained categories ripe for human discovery. The metaphor generally belies a realism about natural kinds that exist independently of human conceptualization. You could argue that we discover more and more real facts about the world around us. For instance, the Pre-Socratic philosopher Xenophanes conceived of a meteorological system based on cloud formation. Xenophanes' moon was a mass of compressed

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1 Plato, *Phaedrus*, 265d-266a

## The All-at-Once

cloud.<sup>2</sup> We know today that that is probably not the case.

Other philosophers, particularly those in the Scientific anti-realist and Buddhist traditions, refute the inherent existence of natural kinds. Instead, they advocate the view that the world in its natural, primordial state is devoid of predetermined distinctions. One such figure was the Tibetan philosopher Gorampa, who argued in his *Synopsis of Madhyamaka* that we can think of Ultimate Truth (the world as-it-is) in two ways: the nominal ultimate (*don dam rnam grags pa*) and ultimate truth (*don dam bden pa*).<sup>3</sup> According to Gorampa, "...the ultimate is devoid of conceptual proliferations, and the conventional is endowed with them."<sup>4</sup> When one tries to talk about or conceptualize the ultimate, they inevitably refer to the nominal ultimate, which is merely the description of what the ultimate is like.

A contradiction emerges here: any attempt to describe the ultimate misses the phenomenon. When Gorampa himself discusses the non-conceptual nature of the ultimate, he himself falls into the trap of ascribing a conceptual definition to it, hence referring only to the nominal ultimate. In this scheme, the only way to explain the true nature of the reality is to dive deeper and deeper into a seemingly infinite regress. So if one cannot speak of ultimate reality, how might we proceed? If not reason, what alternative does our seeker of the uncompressed have? One method to get out of Gorampa's

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2 *Xenophanes Fragments*, Arthur Fairbanks, ed. and trans., London: K. Paul, Trench, Trubner, 1898), 65–85; scanned and proofread for the web by Aaron Gulyas (May 1998) and Jonathan Perry (March 2001), for the Hanover Historical Texts Project

3 Constance Kassor, 'Is Gorampa's "Freedom From Conceptual Proliferations" Dialectical?', *Philosophy East and West*, Vol. 63, No. 3, (JULY 2013), pp. 399-410

4 *ibid.* p.401.

## Compression

contradiction is to propose that ultimate reality has the quality of being ineffable, and can only be experienced rather than described.<sup>5</sup>

### Forays Into The Uncompressed

So how might one go about experiencing the uncompressed? Writing in 1956, Aldous Huxley hypothesized that a concentration of CO<sub>2</sub> lowered the brain's defenses, allowing one to access a transcendental state. This he argued, was the reason behind the "vain repetitions" of magic and religion.<sup>6</sup> Another attempt comes from the field of neurotheology: the use of neuroscience to find out more about the neurological bases of religious experiences.

Famously, Andrew Newberg and Eugene d' Aquili ran an analysis of what happens in the brain during supposed religious experiences, which they identified to be a sense of "one-ness with the universe" or transcendence using a technique known as SPECT (single-photon-emission- computed-tomography). The subjects' brain activity were measured during the period of "transcendence" achieved during meditation. What Newberg and d' Aquili found was that there was a significant decrease in parietal lobe activity during the feeling of transcendence. This area of the brain, which the researchers dub the O.A.A. (Orientation Association Area), is involved in how we locate ourselves in physical space. During deep meditation, the inactivity of the parietal lobe seems to indicate a blurring of the sense between the self and the world around us, resulting in a transcendent feeling. Newberg and D' Aquili assert from the results of their tests that the O.A.A represents the neural pathway which Absolute

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5 For more on ineffability, c.f. Graham Priest, 'Speaking of the Ineffable, East and West', *European Journal of Analytic Philosophy* 11 (2015), pp. 6-21.

6 Aldous Huxley, *Heaven and Hell*, (Chatto & Windus, 1956), pp. 118-9.

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Unitary Being (God in their terms) is experienced by people.<sup>7</sup>

According to Newberg and d'Aquili, what underlying reality 'really is' originates in a sudden flash of insight in a thinker, and that this flash of insight arises from deafferentation of the subject caused by a drop in O.A.A activity.<sup>8</sup> Debate remains as to whether the experiences Newberg and d'Aquili chart are constitutive of genuine religious experiences.<sup>9</sup> However, their research appeared to have divined a mechanism: a compression of the transcendent experience, at the very least to its neurobiological correlate.

This blurring of the boundary between self and other is something that also reportedly occurs in rave culture, deriving from the combination of the spectacle of the rave, electronic music, and drugs such as MDMA (methylene-dioxymethamphetamine, also known as 'Ecstasy').<sup>10</sup> In his analysis of the relationship between rave culture and religion, St. John notes that participants were recorded as having experienced revelations and life-changing experiences, as well as a sense of desubjectification, blurring of the boundaries between self and other. The value of such practices are contended, with

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7 Andrew Newberg & Eugene d'Aquili, *The Mystical Mind: Probing the Biology of Religious Experience*, (Augsburg Fortress; First Edition, 1999)

8 *ibid*, p.165.

9 C.f. Jerome Gropman, 'God on the Brain, the Curious Coupling of Science and Religion', in *The New Yorker*, September 17, 2001. :<https://www.newyorker.com/magazine/2001/09/17/god-on-the-brain>, John Hick, 'The Neuroscience Challenge to Religious Experience', *The New Frontier of Science and Religion: Religious Experience, Neuroscience and the Transcendent*, 2010, pp. 55-80 & DW Goldberg, 'd' Aquili and Newberg's Neurotheology: A Hermeneutical Problem with their Neurological Solution', in *Religion*, Vol. 39, Issue 4, 2009, pp. 325- 330

10 Graham St. John, 'Electronic Dance Music Culture and Religion: An Overview', *Culture and Religion: An Interdisciplinary Journal*, 7:1 (2006), pp. 3-9

## Compression

some viewing rave culture as a ‘fantasy of liberation’<sup>11</sup>, while others view it as a case of genuine cultural *communitas* in the present age.<sup>12</sup>

Whatever method is chosen, the reasons someone might want to experience uncompressed reality are plentiful: a search for meaning in life, for religious reasons or perhaps just for the thrill of the ride. Perhaps what makes the ride thrilling is the fact that reality uncompressed is not always kind. In fact, it can be a painful experience. This what Huxley describes as the “horror of infinity”.<sup>13</sup> In the Rinzai school of Zen Buddhism, one achieves enlightenment when they shed all conceptual distinctions, including that of subject and object. This is sometimes called the “Great Death”.<sup>14</sup> The Christian mystic St. John of the Cross described a state of intense sadness known as the “dark night of the soul”, a period of intense misery that one undergoes en route to communion with God.<sup>15</sup> Similarly, D’Andrea describes the risk of psychological trauma that accompanies the sublime experiences ravers voluntarily undergo through the combination of drug consumption and music at raves, coining it “sacred madness with rewards and dangers”.<sup>16</sup> Devoid of conceptual distinction, the experience of uncompressed reality

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11 Antonio Melechi, ‘The Ecstasy of Disappearance’, in *Rave Off: Politics and Deviance in Contemporary Youth Culture*, edited by S. Redhead, (Aldershot: Avebury, 1993), pp. 37.

12 Phil Jackson, *Inside clubbing: Sensual Experiments in the Art of Being Human*. (Oxford: Berg, 2004.)

13 Aldous Huxley, *Heaven and Hell*, (Chatto & Windus, 1956), p. 113.

14 Thomas P. Kasulis, *Zen Action/Zen Person*, (University of Hawaii Press, 1985), p.108.

15 Tomas Rocha, ‘The Dark Knight of the Soul’, *The Atlantic* (2015) <https://www.theatlantic.com/health/archive/2014/06/the-dark-knight-of-the-souls/372766/> (accessed July 2018)

16 Anthony D’andrea, ‘Global nomads: Techno and new age as transnational countercultures in Ibiza and Goa’, in *Rave culture and Religion*, edited by Graham St John, (London/New York: Routledge), p. 249.



## The All-at-Once

presents both ecstasy and fear in equal measure. Or neither at all. As the lines between subject and object dissipate, the Cartesian cogito grasps for dear life with hands it can never be fully sure of.

### Conclusion: Is Nothing Sacred?

If we can indeed reduce experiences of ultimate reality down to a biological state, do they lose their meaning and become just “pure chemistry”? In that case, what differentiates them from any other experience in the experience society? Today, Yoga retreats and silent meditation trips are popular easily frequentable. With the growth of the mindfulness movement as an industry, meditation is seen as an easy way of improving one’s mental health and well-being, abstracted from the possibility of encountering existential dread.<sup>17</sup> Even with the associated psychological risks, Ayahuasca tourism is in high demand<sup>18</sup>, possibly at the expense of indigenous Amazonians.<sup>19</sup> No experience seems to be sacred: all can be compressed and packaged, even our experience of the uncompressed. Is there no way out from this compression of experience? Perhaps our only response is a radical ambivalence to the compression around us, not allowing the inability to escape compression to phase us.

Having reached the end of my exploration into compression, it is time now to decompress.

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17 Tomas Rocha, ‘The Dark Knight of the Soul’, *The Atlantic* (2015)  
<https://www.theatlantic.com/health/archive/2014/06/the-dark-knight-of-the-souls/372766/> (accessed July 2018)

18 <https://www.theguardian.com/travel/2016/jun/07/peru-ayahuasca-drink-boom-amazon-spirituality-healing> (accessed July 2018)

19 [https://www.vice.com/en\\_us/article/qbn8vq/ayahuasca-tourism-is-ripping-off-indigenous-amazonians](https://www.vice.com/en_us/article/qbn8vq/ayahuasca-tourism-is-ripping-off-indigenous-amazonians) (accessed July 2018)

# Appendix A: Intermission: The Way Home



*Tarmac*

## The Way Home

From the time I learnt to drive, we've always had a GPS in the family car. Gradually, it migrated from the centre of the dashboard into the boundless recesses of the glove compartment. This state of affairs no doubt coinciding with my ability to navigate and operate an automobile. By the time I'd been driving for a few years, I could drive between the places familiar to me with little cognitive effort; mostly across the stretch of the Eastern Freeway between home and the inner suburbs of Melbourne. I would often get from A to B, arriving at my destination almost oblivious of the journey there. The act of driving, refined from routine, seemed to activate a cognitive flow state, my brain finding the perception of the journey extraneous information, some superfluous cognitive load.

I often find my mind most active as traffic slows to a crawl amidst the 5:30 traffic illuminated by copper-purple Victorian sunsets. I'd often wonder in these moments of enforced contemplation, how I could (sub)consciously navigate this thousand-kilogramme bubble of steel. I thought about what it was that anchored my unconscious knowledge of the drive:

Was it in the proprioception,  
the muscle memory, finely tuned from repetition  
Was it the road signs,  
    The slip lanes,  
Or the bold white lines in the tarmac - - - - -  
that gave me this awareness?

## Compression



*Freeway puzzle*

I remember tracing the paths of the inordinately tall street lamps that lined the M3, following the roadway's snaking contours. Did I have some implicit knowledge of this form? For a while I've wondered how much of the way home I could afford to let recede into the periphery of my perception for it to still remain recognizable: those essential bits of information which retain the experience of the journey.

I've always been enamoured by detectives in fiction, the logical feats of Conan Doyle's Sherlock, Eco's William or Christie's duo of Poirot and Marple, who at the denouement of a noir film or novel, make sense of abstract pieces of a convoluted puzzle, often recognizing a familiar pattern or correspondence. In *The Perfect Crime*, Baudrillard assumes the role of such a detective, attempting to investigate what he dubs the "Murder of Reality", or the disappearance of the Real behind the guise of layers of information and simulation.<sup>1</sup> The blurring of the terrain with the overlay of Borges' larger-than-

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<sup>1</sup> Jean Baudrillard, *The Perfect Crime*, (Verso, 1997)

## The Way Home

life map.<sup>2</sup> If I were some day presented with my very own mental mystery to solve, with the constituent elements of my experiences thrown into disarray, I wonder if I would still recognize the way home when presented with the amber glow of the streetlights that line the freeway. Does this knowledge remain anchored in my memory? Or will it someday dissipate, to be eventually lost to the tides of perceptual information ebbing and flowing between the states of conscious and unconscious, salient and superfluous.

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2      Jorge Luis Borges, *On Exactitude in Science*

# Appendix B: Intermission: Springfield Lies at the Heart of the Valley

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· CONNECTING TO NEURAL  
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AMUSEMENT IS CONTROL  
  
· HAIL HAIL MOON GOD  
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YES YES  
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0 PUT IN THE EYE HOLE  
0 GROW LIKE PLANT  
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## Springfield Lies at the Heart of the Valley

The atmosphere in the room takes a turn for the dour as Jeff<sup>1</sup>, the fourth scientist takes his seat at the table. He's two minutes late to the team's most important meeting of the year. It's crunch time for the Common Man team at LearnMind – the company's flagship research group. The Artificial Intelligence start-up's rise to prominence had been nothing short of meteoric. In the space of two years, they had grown from a team of four wide-eyed computer science researchers working on Natural Language Processing from a garage in Palo Alto, to a VC-backed AI research lab and consultancy with a multinational team worth just under \$315 million. A bona fide Silicon Valley fairy tale.

As tides go, rough times swept in just as quickly and unexpectedly as windfall had struck. A lack of business savvy augmented by a stubborn defiance to focus on anything other than the purity of AI research meant that the four founding scientists had sold most of their shares off to prospective investors. Early on, this allowed them to focus solely on their passion project: bridging the gap between human and machine intelligence. However, in time this resulted in a change in leadership with a divergent vision for the future of the organization. Men in uniform pinstripe suits now threatened to shut down their gingham playground to focus on the company's burgeoning consultancy wing.

Jeff shuffles into his seat, undoing the button off his collar to accommodate his stifled Adam's Apple. Ripples form gently on the surfaces of the cups of percolated coffee at the table, splaying out at irregular intervals from the rapping of nervous fingers. He looks across at his three fellow researchers: Greg, Murray and Phil. Equally terse, they sit erect and stiff-necked, desperately attempting

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<sup>1</sup> Dr. Jeffrey Fatov, 42: Numbers Man. Expert in mathematics for machine learning. Favourite colour: Burgundy.

## Compression

to avoid any sort of eye contact. This was make or break, any missteps now would lead to the dissolution of their research unit. After an interminable minute's silence, Tony, current CEO of the company, stands up, cranes forward and plants his hands firmly on the table. With characteristic raspy drawl, he snarls:

"I think we all know why I've called for this emergency meeting today. With all due respect for your technical expertise gentlemen, we've seen enough chatbots.<sup>2</sup> We don't want Vinyals & Le 2015!<sup>3</sup> Pseudo-philosophical-call-and-response from a neural conversational model just won't cut it anymore. We need more sophisticated models of generalized intelligence and we need them fast. We need something to show Joe Public, something that feels real. They're after the quips, the banter! They want TARS from *Interstellar*, not R3-D3 from *Star Trek*. They want AI that speaks to the heart of what it means to be a citizen of this country!"

"You mean R2-D2 from *Star Wars*." quips Murray.<sup>4</sup>

Another seemingly endless pause lingers in the room. The atmosphere is heavy.

"Well...We've just about got the model right but it'll take us a bit more time to get anywhere near the kind of fidelity the board are asking for." Greg<sup>5</sup> stammers as he wipes his wire-frame spectacles

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2 For more on the distinction between traditional chat bots and Natural Language Processing, see this blogpost by Justin Lee: <https://blog.growthbot.org/chatbots-were-the-next-big-thing-what-happened>

3 Vinyals & Le (2015), *A Neural Conversational Model*

4 Dr. Murray Cook, 39: *The Network*. Data scientist extraordinaire. Weakness: *Seinfeld*.

5 Dr. Gregory Page, 47: *The Code*. Chief software engineer at LearnMind. Pet peeve: Red ties.



## Springfield Lies at the Heart of the Valley

with a checked kerchief that peers limply out of his shirt pocket like a wilted flower.

Phil<sup>6</sup> chimes in typically nasal fashion: “Even if we had the model ready, we don’t have the right training data set to produce the nuance required to communicate naturally with a human interlocutor.”

Getting increasingly agitated at the team’s inability to immediately allay his concerns, Tony, still leering, surveys the four reticent scientists. Darting his glance between each of the four men intently<sup>7</sup>, he attempts to use the supernatural power one gains from a position of authority: conjuring a resolution from the ether purely through force of vision.

Another period of awkward silence - which Tony once again takes upon himself to fill:

“Surely with all this big-tech-algorithmic-data-collection-census-hacking-KGB-leak business, you shmucks could find enough material out there to make a semi-believable robot! That’s what we pay you for! I mean come on – you’ve got four Stanford PhD’s between you.”

“Actually, we’ve got five - Greg did his PhD in Paleo-Orthodox Theology at the Department of Religious Studies concurrently.” Phil’s voice tails off as Tony focuses his laser-hot glare on him.

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6 Dr. Phillip Wilder, 24: Boy Wonder. Seen as the spiritual heir to John McCarthy, founder of the Stanford Artificial Intelligence Project (SAIP). Homeschooled from the age of 7.

7 At this stage, I was unsure if he was doing this clockwise, counter-clockwise or ordering them some other way. In any case, he was looking at them in some sequential order. Assuming that he only looked at each man once per sequence (which I believe he did), there would be 24 possible permutations which Tony might have applied (4!).

## Compression

“We can’t use that data - what about the ethi-?”

“Fuck off Jeff. We aren’t here to play around. Technology moves forward faster than you can do up the saddle of your high horse.” Tony retorts, cutting Jeff off.<sup>8</sup>

“Actually, I think I have a solution to our dataset problem.” Murray comments assuredly as he pulls an unwieldy manila folder out from under the table. A crude illustration of Homer Simpson done in sharpie is scrawled on the cover. It lands with a loud thud. Coffee spills over.

“What the fuck is this Murray?” barks Tony over the brief cacophony of drilling that rises from the building next door.

“A 30-year history of the American nuclear family compressed into 700 20-minute episodes. Tony, this is as close as we’ll get to having both the fruit and the garden. Family dynamics, geopolitics, critical race theory, musings on gender, whimsy, future forecasting<sup>9</sup>, the Cold War, comedy, drama, the Problem of Evil and the War on Terror – it’s all in there in some measure.”

Tony picks up the document, flips through and looks at an extensive list of quite disparate academic references compiled at the end (Fig 1.):

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8 In spite of his brilliant computational mind, Jeff was a soft spoken and frail individual. He was shy to speak, and his confidence was easily shaken. He would not speak for the rest of the episode.

9 An online community has formed around compiling moments where The Simpsons apparently predicted global phenomena before they happened. See The Simpsons Did It: <https://www.reddit.com/r/simpsonsdidit/>

# Springfield Lies at the Heart of the Valley

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fig 1. The last page of Murray's dossier.

## Compression

The other scientists' eyes widen – enthused by the fresh possibility of progress. The dataset they desired had been screaming at them from behind the luminescent guise of primetime television. Why had they not realized this possibility sooner?

Tony, who's face has softened from the feeling of being intrigued and perplexed in equal measure, mumbles:

“So you're saying we let this AI binge watch 30 seasons of The Simpsons, and out pops our answer to the Turing Test<sup>®</sup>?”

The four scientists, inwardly unsure but relieved at the prospect of having survived this inquisition, nod their heads approvingly. They had pulled off yet another great escape.

“Well gents, if no one's got any better suggestions then I suppose the uncanny valley's going to look an awful lot like Homer.”

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<sup>1</sup> In 2016, LearnMind controversially registered Alan Turing's famous test for the indistinguishability of human and artificial intelligence with the US Patent & Trademark Office (USPTO), thus becoming the de facto standard bearers of global AI research and securing the rights to the name of the thought experiment in the process.



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