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# The Inception, Theory, Practice and Affective Potential of Data Art

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# Overview

## Essay

This Masters of Research submission is practice-led. This body of writing is used as a vehicle to reflect on the making processes in the production of sculptures that form the exhibition, DO I REALLY NEED THIS (2015). The writing is experimental, in that it has two voices that thread throughout it. In the foreground is a voice of the practitioner reflectively writing about the process of making the works that form the exhibition. Alongside this is a secondary voice that theoretically frames the practice and interjects the writing with quotations from precedents in the field of research (this voice occasionally veers off into footnotes). The research uses an autoethnographic approach; whereby I personally reflect on the practice while using the secondary voice to relate this reflection to wider philosophical concerns.

*“Autoethnography is an approach to research that allows the researcher to focus in an in-depth manner on his or her own feelings and thoughts in relation to the research field under investigation.”* (Stokes, 2011)

The writing is at times poetic and full of personal narrative; as a result, in the central part of the essay, at

times it becomes dense with reflective writing as the maker becomes lost in thought, ultimately using this process as an instrument to locate meaning and generate a path through its construction and conclusion<sup>1</sup>. Rebecca Solnit expands on this notion of becoming lost and writes,

*“Lost really has two disparate meanings. Losing things is about the familiar falling away, getting lost is about the unfamiliar appearing. Once you’ve lost yourself, you enter into that state of vulnerability, acceptance, understanding and even awakening all come easier.”* (Solnit, 2005)

The writing also engages with a secondary approach of wandering, which Guy Debord describes as *a dérive*; this methodology was employed solely as a solution to a creative problem. Debord states;

*“In a dérive, one or more persons during a certain period drop their relations, their work and leisure activities, and all their other usual motives for movement and action, and let themselves be drawn by the attractions of the terrain and the encounters they find there.”* (Giesecking, 2013)

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<sup>1</sup> We shall not cease from exploration  
And the end of all our exploring  
Will be to arrive where we started  
And know the place for the first time.

(Eliot, 1943)

## Blog

This research has also been written in conjunction with a blog that used Tumblr as the platform. The blog is parallel and complementary, it is not only an artist work diary, it is documentary, documenting practice and in particular the exhibition *DO I REALLY NEED THIS* (Edmunds 2015), a Data Art exhibition. The blog also discusses ideas preceding their genesis through the practice and theoretical framework and its practical implementation. Alongside this, importantly, it provides an enhancement to the practice as well as discusses evolving works and theories that have relevance to the theory and praxis involved in the production of the final project.

The blog can be accessed at : <http://mres-dataart.tumblr.com//>

I have found a blog, rather than a sketchbook, as a study tool is more suited for my style of research<sup>2</sup>. Its primary benefit to me is the way in which it keeps everything in one place as a log of the research; it allows for the structure of the development of the research while still at times being rhizomatic.

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<sup>2</sup> *The research strategy uses “predominantly methodologies and specific methods familiar to us as practitioners” it is not surprising to find practice-led researchers re-purposing established methods from the qualitative research tradition. For example practice-led researchers have used interviews, reflective dialogue techniques, journals, observation methods, practice trails, personal experience, and expert and peer review methods to complement and enrich their work-based practices. (Haseman, 2006)*

*“Unlike a structure, which is defined by a set of points and positions, the rhizome is made only of lines; lines of segmentarity and stratification as its dimensions, and the line of flight or deterritorialization as the maximum dimension after which the multiplicity undergoes metamorphosis, changes in nature. These lines, or ligaments, should not be confused with lineages of the aborescent type, which are merely localizable linkages between points and positions...Unlike the graphic arts, drawing or photography, unlike tracings, the rhizome pertains to a map that must be produced, constructed, a map that is always detachable, connectable, reversible, modifiable,, and has multiple entranceways and exits and its own lines of flights (Deleuze & Guattari, 1987, p. 21)*

In addition, using the archive tool with Tumblr allows me to quickly access previously recorded individual items. The research is available not only to myself but as a record of the production and process of the practical methodology for anyone to access. Available to the wider public who can trace the developmental stages of the project, the blog will certainly create interest in my work and generate dialogues with people who view it at different stages of its construction; it will also act as an electronic calling card. The structure and easy access of Tumblr allows for systematic thinking by revising and reviewing previous posts, as well as

spontaneously posting ideas and thoughts whilst away from my studio.

## **Exhibition (Documented via The Book)**

DO I REALLY NEED THIS (Edmunds 2015) is a Data Art sculptural exhibition, shown in a site specific and academic setting. DO I REALLY NEED THIS is my most ambitious exhibition to date; its genesis, context, aims, construction and achievements are the central exploration of this text. The scrutiny of DO I REALLY NEED THIS arises through a detailed written account of the evolution of my practice and is accompanied by a brief review and analysis of the contemporary practice of Data Art; together they provide an exposé of the affective potential of Data Art. To compliment this writing and blog, I have published a book. The book visually records not only origins of the exhibition, but also acts as a document or catalogue of the work.

## Previous Practice

Over the last 5 years of artistic practice and academic contextualization, my commitment to Data Art as a creative and investigative practice has consolidated to the point where Data Art is my primary theme. My initial fascination lay in comparing and contrasting fine art practice with information graphics. Stimulated by works such as MIJIN AFSTANDEN (Besselink, 2007-2013) by Willem Besselink, I came to include not only two-dimensional visual pieces, but sculptural works; MIJIN AFSTANDEN combines aspects of sculpture, mapping and painting in a series of 12 paintings visually representing distances the artist covered per day, per type of transport, during one month. This initial interest in fine art info-graphics appealed to my own interests in both Art and Mathematics, subsequently spawning a curiosity in ways of blending the two. This gave rise to my earliest work of Data Art, PLANET OSCAR (Edmunds 2011)<sup>1</sup>, which is a sculptural visualization of the current global boom in cosmetic surgery. It maps proportionally the most common procedures performed in the 10 countries currently topping the cosmetic surgery league tables. It attempts to question the value and priority society places on vanity and looks.

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<sup>1</sup> See Appendix 2



Mapping and Data Art are intricately entwined; maps are made in the process of trying to understand how a phenomenon is dispersed. In some cases the subject of investigation may be a single variable and in other cases a number of variables may be examined in relationship to each other or other variables.

However, PLANET OSCAR seems to straddle several disciplines; by combining mapping and info-graphics in a simplistic Data Art sculpture. PLANET OSCAR was, in retrospect, not particularly successful in any of its individual disciplines, but was a crucial piece; it led to a working definition of my creative practice of Data Art, and amplified my enthusiasm for it.

Finally, during the drafting of this text, it became clear that my fascination with Data Art may have actually begun almost a decade ago, not only as intellectual practice, but also as an emotional and deeply felt response to personal upheaval and change in my life, which in turn gave rise to an internal and external search for scientific order and faith-based meaning. Without being indulgent or confessional, this text will also combine this more personal connection to my creative praxis with a referenced and objective contextualisation of my work within the setting of the currently emerging Data Art cannon.

## Defining Data Art

Data Art has not only been my primary focus in the last three years, it has been the exclusive theme of my art praxis, and culminated in DO I REALLY NEED THIS (2015) - my most ambitious project to date. This personal sense of 'where I'm at', dovetails neatly with Jameson's conceptual realisation of 'where we are at' culturally; Jameson argues,

*There is a growing requirement to decipher and interpret larger and more complex data sets on a daily basis and this translation of data enables us, apparently, to a better understanding of ourselves, our environment and our society. The practical re-conquest of a sense of place and the construction or reconstruction of an articulated ensemble which can be retained in memory and which the individual can map and remap along the moments of mobile, alternative trajectories* (Jameson, 1991, p. 51)

He goes on to state,

*We may begin to grasp our positioning as individual and collective subjects and regain a capacity to act and struggle which is at present neutralised by our spatial as well as our social confusion.* (Jameson, 1991, p. 54)

A decade after that, the ubiquity of information technology is evident in Ritzer's remark (Ritzer, 2001), "We

*now live in a world in which the dematerialized, digital world is becoming increasingly important.*” Just over a decade later we are in the era of ‘Big Data’. IBM estimates suggest that we now generate 2.5 quintillion bytes of data per day, more than 90% of which was created in the last 2 years. As to the future, Google’s Chief Economist, Hal Varian claims:

*“The ability to take data, to understand it, to process it, to extract value from it, to visualize it, to communicate it – that’s going to be a hugely important skill in the next decades.”* (Varian, 2009)

Of course Varian, working for Google, is likely to be enthusiastic with respect to the importance of data, but it is important to note his suggestion that it is not a question of raw data that is important, but *how* it is employed:

*“Because now we really do have essentially free and ubiquitous data, so the complimentary scarce factor is the ability to understand that data and extract value from it.”* (Varian, 2009)

Definitions of the terms *information* and *data* are often used interchangeably in literature, but in the context of this essay, information = data + analysis. It is that analysis through art making that allows understanding and in an ideal situation it is the understanding formed with the viewer that

gives the data value to an audience. Information generation and exchange, from BC clay tablets and carved symbols to the contemporary chip stored Internet and binary code, relies on decoding data. Writing is decoded by reading; and although this may now seem commonplace, for most of its history, writing could only be read or written by the elite and or specialists. Contemporary society depends increasingly on the electronic conversion of chip stored binary data into pictorial, audio or written information. This conversion, by software, is then most often modified and displayed by a range of peripherals or devices that the human senses can interpret. This dependence on the translation of code into data runs through all vital areas: education, work, international relations, health and domestic life. Codes are mechanisms that allow data to exist and move, for example electrically, electronically, electromagnetically, or even chemically in certain paradigms. To return to the information = data + analysis, here, analysis is often plus human processing which then gives information<sup>2</sup>. Binary code, like writing, can only be decoded directly by a machine or those few mathematicians and

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<sup>2</sup> Computation is defined purely formally or syntactically, whereas minds have actual mental or semantic contents, and we cannot get from syntactical to the semantic just by having the syntactical operations and nothing else. To put this point slightly more technically, the notion “same implemented program” defines an equivalence class that is specified independently of any specific physical realization. But such a specification necessarily leaves out the biologically specific powers of the brain to cause cognitive processes. A system, me, for example, would not acquire an understanding of Chinese just by going through the steps of a computer program that simulated the behaviour of a Chinese speaker. (Searle, 1980, p.17).

programmers who read it, the rest of us rely on devices. However, once decoded, the data can be accessed - and with human interaction - create information; this is always via the human senses: sight, hearing, touch, and less so smell or taste; this sensory accommodation of data is echoed in the following:

“I use the term ‘humanizing data’ a lot. In some ways it’s kind of a given. Data doesn’t exist without humans and if we think of data as the measurement of something, that act of measurement is by default a human measurement. We have machines that are doing the measurement as a proxy for us, but at the root of it, data is really a human thing.” - Jer Thorp (as cited in Hagel, 2014)

Canadian, Jer Thorp<sup>3</sup>, runs a flagship data art module at New York City Art School and describes himself specifically as a data artist. Thorp is also the New York Times’ resident data artist and as an ex-high-end programmer, an IT expert. Thorp’s above remark begs many philosophical questions; is measurement only a human activity? Would the phenomena measured or investigated by humans exist without humans? These are interesting questions, but irrelevant here because what matters to the data artist is Thorp’s suggestion that data artists should seek to make art that translates measured data,

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<sup>3</sup> See Appendix 7 for the transcript of Jer Thorp’s interview

often statistics, so they may be readily assimilated as human experience; a position my consolidated conviction shares. In addition, Thorp's requirement for humanizing data is a potent reminder that our increasingly dematerialised internet-led digital world – virtual, but not in a Kurzweilian (Kurzweil, 1990) sense transcendent – may be too overwhelming for the DNA coded corporeal human-being compared to the organic habitat. Also the threat of information overload and disaffection in the face of cold statistics may contribute to our lack of social inclusion and unwilling participation. However, some positions here are mixed; for example Corby argues that the growth and use of the Internet provides a *'fertile platform for mass participation and the development of new cultural forms'* (n.d. cited in Colson, 2007, p. 83).

However, others are more sceptical of the Internet's proliferation of information, for example:

*"In 2007, for the first time ever, more information was generated in one year than had been produced in the entire previous five thousand years – the period since the invention of writing"* (Bloem et al 2009, p. 270).

Alone, this flood of information seems to underline the claims evident in Jameson (1991) and Ritzer (2011); on the other hand, when we combine it with Baudrillard's statement: *"We live in a world where there is more and more information*

*and less and less meaning*” (Baudrillard, 1994, p. 79), the inherent human challenge posed by this vast mass of data and information is to provide meaning. However, providing meaning to such an overwhelming and ever increasing sum of data is in no way simple; this text will explore some of the possible solutions provided by Data Art.

To underline the enormity of the above problem, consider the Leverson Report which characterizes the web as ‘*an ethical vacuum*’ and acknowledges that ‘*even the best of internet journalists work with ‘impunity*’ (Leverson, 2012, p. 736), which again suggests that sources of information, which in print may reasonably be expected to provide verified and critical knowledge, may not provide quality information on the web because it is not subject to the same scrutiny or rigor as other mediums<sup>4</sup>. Or perhaps worse, although some of this clutter and mass of information or data is accurate and verifiable, large amounts of it is inter-personal, i.e. Twitter or Facebook or similar, and is in fact, on mass, digital gossip, chatter and babble (which is not necessarily to say that such

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<sup>4</sup> “My argument is a polemical call to humanists to think differently about the graphical expressions in use in digital environments. A fundamental prejudice, I suggest, is introduced by conceiving of data within any humanistic interpretative frame on a conventional, uncritical, statistical basis. Few social scientists would proceed this way, and the abandonment of interpretation in favour of a naïve approach to statistical certainly skews the game from the outset in favour of a belief that *data* is intrinsically quantitative – self-evident, value neutral, and observer-independent. This belief excludes the possibilities of conceiving data as qualitative, co-dependently constituted – in other words, of recognizing *that all data is capta*.” (Drucker, 2011, section 49)

ephemera is unworthy of a response, or that the data artist is not well situated to provide a response; it simply suggests that to make a claim on data which can be referenced and sourced, is a more delicate operation). This in turn, from my perspective, must influence the data that the data artist sources - for example, deciding which data must be filtered or rejected (and how to do that) - before the data artist can prioritise which data, of the mass of available data, is worth the effort required in extracting its meaning. This selection and reviewing of data, to use as a basis for developing art practice, will be explored throughout the text, as it is central to my practice.

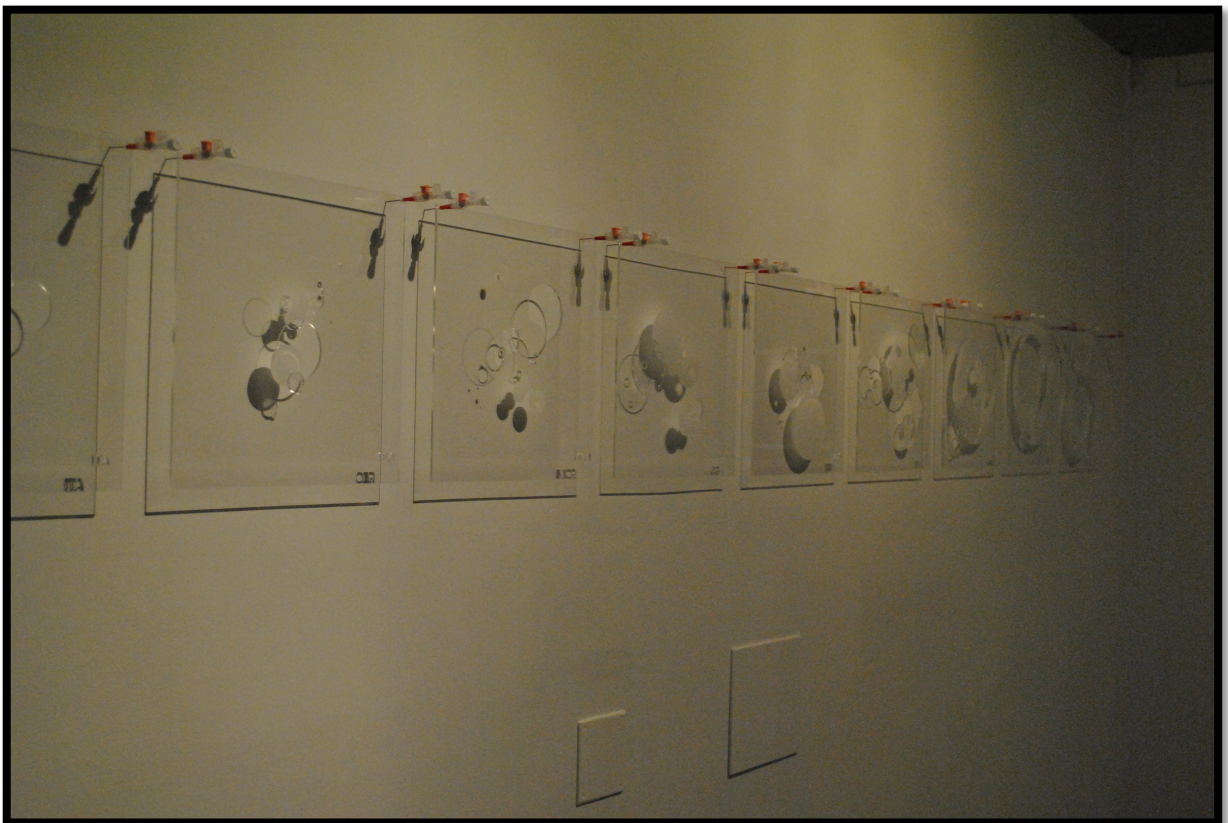




Figure 1. PLANET OSCAR (Edmunds, 2011)

Initially, my Data Art focused on displaying the facts clearly, in a visual and aesthetically organized manner. PLANET OSCAR<sup>5</sup>, for example, is a three dimensional wall mounted sculptural construct which has, because of minimal use of the z axis, obvious overlaps with two dimensional Venn diagrams. PLANET OSCAR's strategy to take a common, two-dimensional visual device from Cantor's Set Theory mathematics (Bagaria, 2014), in which it is most often a device for studying relationships between numbers (making it a cousin of mapping), but then extending it into that 3<sup>rd</sup> sculptural dimension, seemed to have community and precedence in data visualisation (for example, well-documented information visualisation practitioners, whose focus is largely on the two-dimensional, such as Edward Tufte, David McCandless and Hans Rosling<sup>6</sup>). Despite precedence and despite PLANET OSCAR'S successful and appropriately cosmetic and clinically cool aesthetic, I was dissatisfied with the piece. Eventually, Thorp's remark,

*“that a visualization may be information rich but must have visual flavor and design treatment, which makes it so that it is more memorable, it is more attractive,”* (Appendix 7),

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<sup>5</sup> See Appendix 2

<sup>6</sup> See Appendix 6

lead me to articulate what I had already begun to sense was lacking.

PLANET OSCAR was mounted on the wall using medical needles, which was not an opportunist shock choice since the data sourced was plastic surgery data - thus it may be argued that it certainly had flavour, design treatment; and in addition, careful lighting gave shadow and depth to enhance PLANET OSCAR's three dimensions, bestowing on its polish and attractiveness. However, as stated, PLANET OSCAR lacked something and after scrutinising Thorp's remark: yes it had "flavour" and yes it had "design treatment" but to make piece more "memorable" it needed more than this: PLANET OSCAR was appealing, but did not have that memorable jolt.

In simple terms, PLANET OSCAR was still too much of a pie chart, of which we have seen thousands; and therefore, it is forgettable. But "*Hindsight sight is always 20/20*", to use the title of Luke Dubois' artwork (2008), and I now see that its presentation was commonplace; and two further factors were lacking, factors that engender affect. One, it was not interactive (to be explored later), and two, it was not born in data to which I had any strong personal connection. Despite PLANET OSCAR's failings, the piece represents an essential development in the acquisition of the methodology required to construct a piece of sculptural data art, and without it I

couldn't have conceived a work as complex and fully realised as in the exhibition, DO I REALLY NEED THIS (2015).

From 2012 onward, in my work 2D became 3D, that is clearly sculptural and by 2013 the work relied not only on the elements of design treatment to make it memorable, it provided opportunity for multi-sensory viewer interactivity with the aim of making the work memorable. This "memorable" quality, at that time, I articulated as a provoked response and called it "*Revelation*" (Edmunds 2013) which I characterised as sharp and sudden emotional and intellectual insight into the data, generated by the artwork. To escape, in such a definition, the theological connotations and activate the scientific ones, I was insistent on the following.

*"A revelation may be sometimes difficult to articulate but it is never ineffable, rather it aims at clarity and is able to be understood, in addition it is verifiable and to some extent repeatable"* (Edmunds 2013).

In philosophical and practical terms, interaction is the crucial element because revelation is a form of relational transition that facilitates the viewer's access into the complexity of the problem that the artwork explores. Those few years ago 'revelation' was where I was at, today I am more strongly concerned with affect; more of that later.



*Figure 2. KLUCZ MIGRACJI (Edmunds, 2012)*

The KLUCZ MIGRACJI (Edmunds 2012), is a fully realised work and emblematic of all that follows it<sup>7</sup>. It examined the incendiary issue of current emigration from Poland to the UK. It juxtaposed the national UK entry rate, with specific journeys and anecdotal accounts of migrants; it also invited prime-minister David Cameron and MP and home secretary, Ms Theresa May, both directly responsible for immigration rate, to use the rheostat key featured to regulate immigration at a rate that pleases all interested parties. Letters received from Cameron and May, declining the invitation to attend the opening night, became part of the exhibition.

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<sup>7</sup> Klucz Migracji (Polish) translates to “The Key of Migration”. See Appendix 3

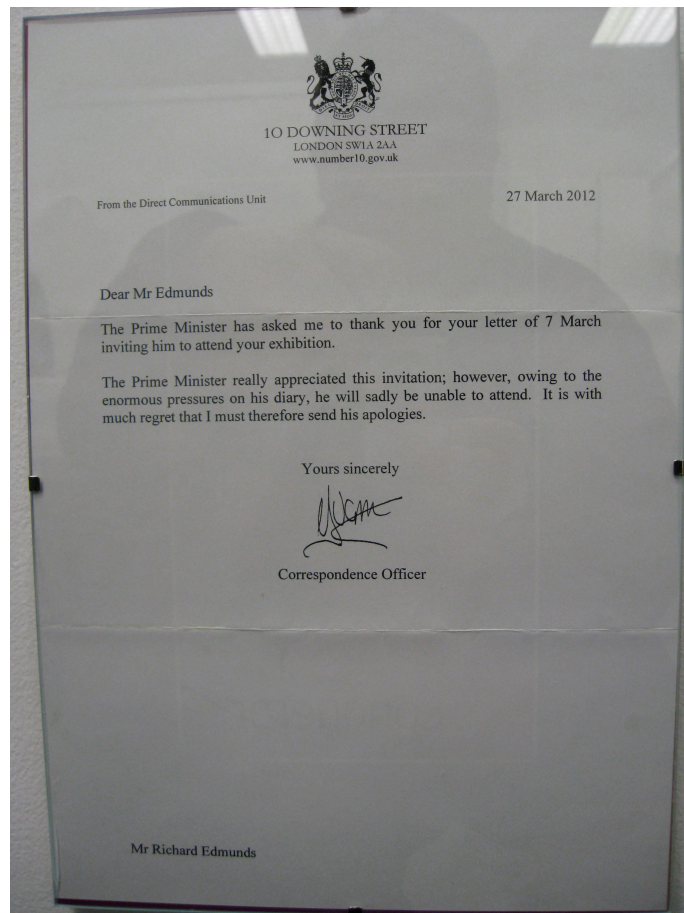


Figure 3. Letter received from Prime Minister David Cameron 27<sup>th</sup> March 2012

KLUCZ MIGRACJI followed PLANET OSCAR; it is a landmark in my artistic practice. With its clear, bold positions of polarities and binaries, it revealed a problem, sociologically and politically, but also left the audience subjective interactive potential, thus introducing them to the complex intellectual and emotional tensions inherent in the data sourced for the work, without bludgeoning them with it. PLANET OSCAR stimulated my initial thinking around “revelation” but the constructing of KLUCZ MIGRACJI was the physical and experimental testing of revelation. By the time CONSIDER THIS

(Edmunds 2013) had been made<sup>8</sup> and DO I REALLY NEED THIS (Edmunds 2015) was in gestation, revelation was all but replaced by “affect.” Bergson (et al, 1912) importantly claims, “*there is no perception without affection*”. Accordingly, Data Art attempts to harness this affect dimension into its rationale, to attempt to visualize hidden realities that are concealed within the vast amounts of available data, or to make palatable terrifying realities such as, “the world teeters on the verge of environmental collapse” (Spens 2007), which is inherent in DO I REALLY NEED THIS. Affect is sometimes described as the mental phenomenon that arises through the combination of event and experience, which further stimulates thought and emotions as well as engendering a forum for discussions, reflection, insight and possibly a decision that could lead to change. At other times, it is presented as a pre-personal imperative to action operating beneath the threshold of perception – the mood that drives an angry crowd.

However, change is not always a valid aim; CONSIDER THIS’ subject matter, UK abortion rates, stimulated a rabid pre-piece, pre encounter, vitriolic discussion, including direct insults against me, primarily questioning the gall of a Catholic adult male daring to explore the hard won feminist territory of a woman’s right to choose (Dulkova, 2013). The

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<sup>8</sup> See Appendix 4

reaction and preamble clearly demonstrated that many viewers, including the artist, came to such a piece with a preconception; a fixed moral position. By allowing women to examine their hypothetical choice set against UK data, the aim was to nudge them towards reviewing the common perceptions attached to their ideological norms, to consider them. The piece did not seek to persuade from a pro-life or pro-choice position, it sought to engender consideration, thought. That thought was intended to trigger affect. Thereafter, any change was left to the viewer, respectfully of the individual's moral choice. The responses to the work from pro-choice individuals were gratifying and allowed for affect, as a component or tool, to establish itself as a conscious item in my data artist's kit-box. Added to this, and excitingly, Jer Thorp (Hagel 2014) described an element in his work as the *Ooh-Ahh* factor and expanded so: "The beauty of the aesthetic captures us in like an *Ooh* moment", which he then suggested drew the audience in for the following *Ahh* moment. This method, in his process, gives his work two objectives; *Ooh* grabs the viewer's attention, the *Ahh* informs them. Hence, finding a balance between the two is critical, in that balance the viewer is neither overwhelmed by the aesthetics, nor lost in the information. The *Ahh* is what I previously described as a moment where the viewer is suddenly caught in revelation, a fledgling understanding; in quasi-religious terms - an

experience of epiphany, in social scientists' terms - affect; the term my work now adopts.

My most potent first hand recollection of the *Ooh-Ahh* phenomenon was Annie Kevans' series of portraits, *BOYS* (Kevans, 2004). A series of thirty innocuous portraits of doe-eyed, fresh faced, young boys; any of which could be an illustration of a character straight from an Enid Blyton book. The pieces have, with their faded sepia, grey palette and delicate brushstrokes, a nostalgic sense of purity, of tenderness and the innocence of youth. This is a perfect illustration of the drawing in to the *Ooh* moment; whether one smugly finds the pieces proficient but sentimental, or whether one is naively charmed at the touching images, beware, the *Ahh* moment is about to pounce. Having walked around the gallery room at the Saachi Gallery in 2014, I understood how the viewer learns that each separate painting uses excrement and body fluids as pigment. Appropriately so, for the series is a Who's-Who, a rogue's gallery of modern dictators and tyrants, as children. I never forgot that moment, nor that work, nor the insight that a mass murderer, such as Adolf Hitler, might have once been a sweet boy – something most of us, rationally, already know but rarely experience as a deeply felt truth. Despite that profound moment, over the years, the sense of something missing grew; but rather than the twenty-twenty hindsight telling you what I now know was missing, I'll return



to that missing something later. For the sake of argument, BOYS had the *Ooh*, BOYS had the *Ahh*, but the third, the *Ooh* experience, for me was not there.

## Context and Audience

Common perceptions and the audience preconceptions - how can Data Art, in its affect, challenge and expose them. DO I REALLY NEED THIS delivers an inconvenient truth that will provoke certain common perceptions and preconceptions, and they will be powerful,

“short-term concerns will generate the exponential growth that drives the world system toward the limits of life on earth and ultimate collapse” (Meadows, 1972, p. 184).

Even in the case of those who want to believe the evidence supporting that uncomfortable truth, holding onto such an insight is difficult. For example, THE DOOMSDAY CLOCK is a piece of data info-graphic; it uses “the imagery of apocalypse (midnight) and the contemporary idiom of nuclear explosion (countdown to zero) to convey threats to humanity and the planet.” (Bulletin of the Atomic Scientists, 2015). At the beginning of each year, the Bulletin of Atomic Scientists evaluates whether or not to move or leave in place the minute hand of the clock. The scientists consult with their Board of

Sponsors, which includes 17 Nobel laureates. On 25<sup>th</sup> January 2015 the clock was adjusted to “3 minutes to Midnight.” This adjustment was due to the current continued increase in unchecked climate change. The DOOMSDAY CLOCK is now at its closest point to midnight since 1953, when both the US and Russia first successfully tested hydrogen bombs and the Cold War began.

Common perceptions; by summer 2014, the peak of my passion for Data Art and the melancholy moment of realization that it probably is not a movement in the tradition of an art “genre”, rather more a methodology, I began to review the numerous contemporary artists sourcing data to make art practice<sup>9</sup>. All of these artists, if not exclusively data artists, were artists who employed data in their practice. One group that inspired me was Stan’s Café and their touring exhibition, OF ALL THE PEOPLE IN THE WORLD (Stan’s Café, 2007). Stan’s Café invited audiences to supply verified data; this data would then be realized as temporary sculptures in the form of piles of rice. These piles could then be compared at a glance with the pile representing the total population of the world, one grain for each human on the planet. The work raised many interesting questions and birthed many insights; the specific one that drew my *Ooh* and *Ahh* was the theme of

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<sup>9</sup> See Appendix 6

common perceptions. These are cognitive frameworks or assumptions that are held to be true, but are rarely tested. For example, the common perception ‘mankind has been to the moon’ we accept, as a ‘leap for mankind’ (Bio, 2015). The statement seems absolutely ridiculous when made not in speech, but by a sculpture that juxtaposes 6 grains of rice representing those few Americans that have actually been to the moon, against the gigantic pile containing the many billions of grains of rice representing the rest of the global population, who have not. The reason we may accept the rather glamorous idea that mankind has been to the moon, has likely more to do with the propaganda necessities of the Cold War setting and the media transmission of it, than the truth, in Steve Lambert’s terms, ‘viewed from many angles’ (Lambert, 2015). Faced with 6 grains against the many billion grains, it seems much more the case that Mankind has not been to the moon. I don’t mean this in any sense of a CAPRICORN ONE (Goulart, 1978) type conspiracy<sup>10</sup>, and although semantically I accept that mankind has been to the moon, my common perception was challenged by the obviously and overwhelmingly vast sum of mankind that has not been there. What exactly do people mean when they say mankind has been to the moon?

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<sup>10</sup> *Capricorn One* is a government conspiracy thriller based on an idea that the Apollo moon landings were faked. Three astronauts are supposed to be part of the first manned mission to Mars. When NASA realises too late that the mission will fail, the astronauts are shipped off in secret to a film set and forced to fake the landing.

Artist Steve Lambert, commenting on Data Art, suggests:

*“it is a false assumption that if people can see the truth in more detail and from more angles and in different ways then the scales will fall from their eyes.”* (See appendix 8)

This may be true of certain pieces; however, STAN’S CAFÉ, in a powerful and largely ‘single’ angled work, evidences the opposite; the scales do fall. Furthermore, Lambert’s comment begged a question: how many angles or how much detail must one see in order to grasp the truth? Or, perhaps even more bleak, what if Lambert is suggesting, and I will return to this, that even when we have clear sight of the truth (however shifting that concept is), we are still none the wiser; incapable of assimilating it, incapable of acting on it.

Returning to the notion of common perceptions, we endorse that it only takes six Americans to say that mankind has been to the moon. In addition, we are generally unaware that 6.3 million children under five died from preventable causes in 2013 (You et al, 2015), yet the pride in our growing longevity shows common perceptions require scrutiny. In addition to this scrutiny, when the perceptions are redefined, there also seems to be a requirement for some factor or circumstance to embed the redefined into the general

consciousness, in a memorable manner; for the Data Artist this is affect.

The KLUCZ MIGRACJI was the first of my works to address this problem, how to embed a notion in the mind of an audience without it being propaganda or too literal. The superficial answer was to encourage interactivity with the piece so that viewers could explore a problem and come to their own conclusions. The problem here, framed in populist parlance as Polish immigration, is in fact a real one numerically; however it is also a phenomenon of specific individuals, not just statistical values. Which in its nucleus echoes Simone De Beauvoir's rather absolute "*Generalities don't prove anything, nothing exists except particular instances*" (Beauvoir, 1969). This dialectic between the objective big picture and the subjective, and specific portrait of each individual, is essential to so much research; the qualitative of individuals and quantitative of the group. In order to explore this tension the KLUCZ MIGRACJI contained recordings of individual migrants, accounts of their journey to the UK and the reasons for their migration, to be played back through headphones. The value of the work was its demonstration that such phenomena can be analysed statistically but also that each statistic has beneath it individual human stories, which could be heard should the audience take the time to do so. To this end KLUCZ MIGRACJI not only humanised the data, it personalised it; get

to know the Poles not as numbers but as biographies. In addition, as part of a multimedia multi-faceted work, it retained Data Art's capacity to simultaneously represent unadulterated, verifiable, statistical data. Thus, the piece was more than simple "propaganda of the individual" or a feel good project claiming: "if you knew them, you would not want to kick them out."

KLUCZ MIGRACJI took the cognitive framework of the migration debate, commonly framed as an immigration debate; specifically the common perceptions of Polish immigration and challenged them. The work juxtaposed a visual representation of the rate of emigration with individual journeys for an audience to trace with their fingertips, in addition to the detailed accounts of individual journeys. This combination allowed them to gain a sense of what that journey was in human terms, by letting them in on what that migration actually means to a number of individuals. The inclusion of this component is in direct adherence to Thorp's notions of Data Art as a humaniser and a pre-echo of Nicenboim's (Appendix 9) remark, that Data Art should have "crucially a clear narrative." Perhaps the common perception here is that Poles are entering England, but the work's counter offer is, here are some people entering a space occupied by other humans; learn why, then ask, what now?

KLUCZ MIGRACJI gave me confidence that Data Art could indeed succeed in bringing meaning to data and that such meaning could affect an audience in a memorable fashion. Not only this, but after observing audiences interacting with KLUCZ MIGRACJI it seemed it had a common construct with much science. It had apparatus, almost like an experiment; it had a range of items to be observed, rather like scientific methodology, and to a certain extent the audience' interaction with the piece could be repeated; a royal flush for scientific experimental method (Key, 2015).

Most exciting too, is that KLUCZ MIGRACJI seemed to effortlessly meld qualitative and quantitative research, which often produces dialectic tension in science or social science. In KLUCZ MIGRACJI the various levels on which the piece operated seemed to flow smoothly and fluently to provoke and arouse the audience through observation and interaction.

Important too, for DO I REALLY NEED THIS (2015) was another insight won from KLUCZ MIGRACJI, as follows; Data Art work not only humanizes the data but that, when fostered by interactivity, the audience bring their human self to the piece. This bringing of the audience to the work was an enhanced feature of CONSIDER THIS, especially its data collection element, a design feature that aims to make the engagement with the work more memorable. A similar design feature, a data collection quasi participation feature of DO I

REALLY NEED THIS is the central glass cabinet (Appendix 1).

The audience were encouraged to contribute to DO I REALLY NEED THIS by leaving items behind in the cabinet; items they once wanted but now no longer need. Furthermore, earlier I had often wondered that if enough individuals “brought themselves to the piece” and left their trace, could it make my work more objective, more democratic, and could their traces mitigate my obsessions or prejudices?

I was especially interested in the latter because of my insistence on working with data that had personal meaning for me. During the preparation of CONSIDER THIS, fired by the temporary euphoria of KLUCZ MIGRACJI, I began to believe that a combination of subjective biographical information and objective statistical data could co-exist in an art work, even if could not in a strictly scientific approach. The mixed methodology of sculptural Data Art installations, such as KLUCZ MIGRACJI, could resolve the tension between statistics and individual human interest elements; that is, Data Art could combine both the need to humanize the data with the requirement to maintain the measure and verifiability of data integrity, to indeed, make truthful generalisations whilst preserving the particular instances.

Parallel with the above, I became interested in the nature of data, specifically data availability and data verification. To illustrate this; MIJN AFSTANDEN by Willem



Besselink (2007-2013) was a mapping of personal data that the artist collected; it follows that we have only their word for that data. I asked myself; what happens when artists, such as Abigail Reynolds and her MOUNT FEAR (Reynolds, 2003), take data from public sources? Or what could happen when several artists took the same data but made separate works? Or as with STAN'S CAFÉ, when it is verified data, rather than subjective data, that the audience bring with them, does this make a significant difference to the piece? or the origin and accuracy of the data? However, beyond raising the questions, I found no answers.

Despite the lack of answers, it seems that a major attraction, possibly responsibility, of Data Art is its ability to incorporate accurate and accepted statistical data; the evidence so to speak. In fact it may be precisely this quality that Lambert (2015) is reacting to as he comments on the fallacy of the truth, viewed from different angles, leading to correct action by humans. Despite the critical weight of Lambert's suggestion, the assertion or paradoxical notion, that a data artist is so savvy and informed that they can somehow embed truth in their work, is extremely critical. As said, I was unable to answer my amassing questions; therefore, pragmatically, for the sake of the artwork; I took the peer reviewed approach, that is, recognised sources carrying non-falsified, rigorous data. As Thorp put it:

*“We are always very careful to make sure that the data that we’re using is sound and that we’re representing it in the right way.”* He further emphasises *“we must be aware of biases and errors, as we must be aware of missing data”* (Hegel, 2014).

However, I was also dissatisfied by the pragmatic approach, since much data of any real interest is often privately or commercially owned or even hidden from the public; one radical approach for the commercially owned data is the hack, and for hidden or non-transparent data is the leak.

Paolo Cirio’s LOOPHOLE FOR ALL (Cirio, 2015) is a fascinating art work, as is his position: *“it’s necessary to remark on the importance of the transformative power of art, which is too often lost in solely decorative and speculative art world”* (Leitner, 2014) The implied responsibility of Cirio’s position is one that I accept. LOOPHOLE FOR ALL examines offshore accounts on the Cayman Islands and tax evasion. With an estimated \$1.7 trillion deposited and administrated by thousands of companies, corporations and hedge funds, clearly huge sums are involved. Paolo Cirio used the islands’ mechanism of strict registration anonymity but turned it into vulnerability. He created and registered his own company and from that platform subsequently hacked into

the banking database to appropriate the identities of 200,000 businesses registered there.

Artists who currently source data are increasingly becoming more widespread, but the relevance of their work depends on the ambition of the individual artist. Some work exclusively as data artists, some occasionally as data artists, but the more successful practitioners address the major political and sociological problems.

It may as Lambert (2015) said that: "*Data is the new oil.*" Especially digital data, which in its most common code, binary chip stored code, is successful in bypassing cultural, verbal, literary and national differences, so too the hegemonies of space. No wonder then, artists are drawn to it as a point of departure. A further advantage that Data Art has from past disciplines is that information has never been more easily stored, passed around, linked together, processed and compared. When Edward Snowden<sup>11</sup> leaked the data through the media, simultaneously in three different countries, it was given on a few CD-ROMs; if he had the same data on paper he would have passed through customs with dozens of suitcases and needed multiple wheelbarrows to carry them.

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<sup>11</sup> Edward Snowden is an American computer professional and former CIA employee who leaked classified information from the U.S. National Security Agency in 2013

In our current environment, where the activities of Snowden and WikiLeaks founder, Julian Assange<sup>12</sup>, highlight well the problems of private data ownership and our public interest, there is also the constant news of identity theft<sup>13</sup>, or of tabloid journalists accessing data (Ft.com, 2015), to produce titillating but largely banal copy, which in turn undermines the nobility of the white hat hackers<sup>14</sup>, who use their expertise not for personal gain or corporate profit but simply for the transparency and availability of information. The question here is then this; must the artist too become a petty thief, an opportunist burglar, or at best a “finder?” Wark categorizes the hack as taking but not necessarily stealing; that is accessing the previously inaccessible. He remarks;

*“hackers create the possibility of new things entering the world. Not always great things, or even good things, but new things.”* (Wark, 2004)

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<sup>12</sup> Julian Assange is an Australian computer programmer and journalist. He is editor-in-chief of the website Wikileaks, an international journalist organisation that publishes secret information, news leaks and classified media from anonymous sources

<sup>13</sup> Identity fraud (Identity theft) is when somebody steals your personal details and pretends to be you. They may do this to buy things in your name and charge them to your bank account

<sup>14</sup> White hat hacker refers to an ethical computer hacker as opposed to a black hat hacker who is potentially a hacker interested in personal gain and potentially destructive approaches.

Wark adds that this is true for art, science, philosophy and culture. His position is that

*“new prospects for the world can be created by mining for knowledge wherever it is stored, wherever data nuggets can be gathered. This activity, so seen, is clearly a more noble enterprise than petty theft or paltry provocation. (Wark, 2004)*

Cirio's LOOPHOLE FOR ALL offers accurate copies of Cayman Islands' company registration certificates for a \$1. The certificate has an authentic registration number affording the owner the same tax benefits as the major corporations. Cirio describes his project *“as a service to democratize offshore business for people who don't want to pay for their riches, empowering everyone to evade tax, hide money and debt” (Cirio, 2015)*, but ultimately it aims to identify, highlight and destroy the practice of tax avoidance. LOOPHOLE FOR ALL gained global interest, media and public but the response from the 200,000 plus companies displayed was mixed; the artist receiving only a few emails and phone calls from minor firms and three cease and desist orders from larger companies, one a major Chinese financial firm, another a Wall Street bank. However, no legal action was taken since it would require the firms using the loophole to expose themselves. By revealing the data, Cirio has highlighted the inequality of global

economics and provided potential access to individuals brave enough to buy themselves the same privilege as multinationals. Despite my deep respect for Cirio's work, his attitude and his courage, I knew that with only standard computing skills, hacked data was not for me, despite respecting the hacker approach at its enormous potential for enhancing the range and scope of Data Art.

## Making and Thinking, and Thinking and Making

Now, walk a while with me, a gentle *dérive* (Andreotti & Costa, 1996); when writing a retrospective account, it is easy to give the impression that an art work emerges almost intact, preceded by a period of research or deep thinking; however, it does not. That period before the idea is one of intense panic, is almost unbearable. Through anxiety ideas emerge intact and in the initial euphoria seem compelling; equally so, and sometimes only seconds later, once critically examined, they seem hopelessly inadequate. But then suddenly, there it is,

another idea, difficult to articulate, however, equally so, difficult to reject; there it is, the idea that will sustain itself through the months taken to construct a piece, however, taking hold of the idea is like trying to make a fist around a soap-bubble.

Post CONSIDER THIS but pre DO I REALLY NEED THIS, especially late 2013 to late 2014, was a time of brooding and dissatisfaction. I did not have the idea that would carry me through. Thinking was exhausting my creativity. I longed to be in the process of fleshing, that haptic process that is so satisfying after a sustained period of endless pondering. “Please God,” the artist prayed, “I just need an idea.”<sup>15</sup> Just a nucleus; something to incubate and test, that’s all I need. To be in the zone where non-conscious thought takes over, so that my conscious problem solving is directed toward the practical discipline of making Data Art sculpture. I did not have an idea; that for me was terrifying and that terror went on for months. <sup>16</sup>

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<sup>15</sup> “The function of prayer is not to influence God, but rather to change the nature of the one who prays” Søren Kierkegaard

<sup>16</sup> My terror of a blank page seemed endless, I wanted this research to be so perfect I was afraid to start; tinkering with ideas in my head without the confidence to put them down on paper. Whatever the reason I couldn’t start – boredom, lack of ideas, it’s not right, more time or what would everyone think, I had lost my confidence. I needed to take the advice to experiment and play, just to start something. But breaking the vicious circle of fear and confidence is easier said than done, I desperately needed a spark to ignite my enthusiasm, an ember of inspiration.

As said, for me, creating an artwork involves periods of excessive infatuation with an idea, punctuated by punishing periods of doubt in the work. "Please God," the artist's wife prayed, "He just needs an idea." If I don't have "the idea" I frequently find myself trying to convince myself of an idea, not managing it, getting depressed and in that depressed state of mind, the brutal and total rejection of any new idea becomes the norm; this gives rise to despair.

My main fear in all this is that the negative spiral can become so established that almost the instant an idea begins to articulate I am unable to modify or expand on it, which is to say I am in danger of throwing away a perfectly fine idea. "Please non-secular forces," the artist's friends chant, "He just needs an idea." It is this crushing self-doubt that institutes itself as the mental default position and leaves me unable to act. To rephrase, there seems to be nothing I can do. I will return to this impotence later, this nothing I can do.

Above, in the last but one paragraph, I wrote brooding, deliberately. Brood best illustrates the genesis of all my major pieces; a period of intense but unarticulated thought. It was the end of 2013 and I was quagmired in academic research, financially challenged, in insecure accommodation and with only temporary studio space; simultaneously on minimal resources I was planning a wedding. Frightening!



Anyway, going under water for the third time I saw it flash before me; the idea! Or at least my strong emotional and personal connection to the data, to return as promised: it needs to be something that engenders terror, despair and absolute sense that there is not a thing I can do. Ooh. Ahh. Now, what would I call that? DO I REALLY NEED THIS!

Breathe.

As John Lennon famously remarked; life is what happens whilst you're busy making plans. I needed a plan. I deferred my study, got married, went on honeymoon to Africa, took a full time job in a kitchen and moved home. It did me and my bundle of self-doubt the world of good and I returned ready to examine the future.

So here it is; the idea. *The Limits to Growth* (Meadows, 1972) funded by the Volkswagen Foundation and commissioned by the Club of Rome was first presented at the St Gallen Symposium of 1972. It discusses a computer simulation of exponential economic and population growth with finite resource supplies; it simulates the consequence of interaction between the Earth's and human systems.

*5 variables are examined in the original World 3 model; world population, industrialization, pollution, food production and resource depletion. The authors intended to explore the possibility of a sustainable feedback*

*pattern that would be achieved by altering growth trends among the 5 variables under 3 scenarios. 2 scenarios saw “overshoot and collapse” of the global system by the mid to latter part of the 21<sup>st</sup> Century, whilst a 3rd scenario resulted in a stabilized world. (Meadows, 1972)*

Research from the University of Melbourne in 2014 (Turner, 2014) found the book’s original forecast accurate. If we continue, then in line with the book’s scenario, early stages of global collapse have already started.

Feel the terror.....Feel the despair.....Is there anything  
you can do?

Ooh .....Ahh .....Ooh.

There in the first flush of married life, mind directed towards the future, my body satisfied by joy and passion, by love and the simple pleasure of manual labour, I began again to believe that Data Art could produce aesthetically pleasing but also intellectually and emotionally stimulating work, that Data Art sculpture and installation could indeed provide a more total experience, a more deeply rooted and human experience, more than conventional data visualisation. Away from formal study thought came with ease, whilst working in the kitchen, in the store-room, DIY for the move, driving home to my wife after a day’s work, thought came with ease. The

multi-sensory activity of physical labour, especially the tactile sense, stimulated me. I began to wonder if my audience, when interacting with my multi-sensory pieces, would reverse my process. I concluded, in line with Miebach that “*multi-sensory interactive art, by design, could focus an audience:*” (NathalieMiebach.com, 2015). It could provide them with distillate of the process I’d gone through – but in reverse. However, would they want or be able to share, in the reversed order, the impotence? The despair? The terror? And even if they were open to try, I could not expect an audience to spend anywhere near the time with a piece I had. Furthermore, they are not invited to dismantle and reconstruct the work; all the audience do is briefly interact with it. The mitigating, anti-depressant pleasure of creation is not theirs, so how are they to cope with a work that suggests the world, as we know it and all life on it, will end soon? It would be a while before I realised that although I could not infect my audience with terror, despair or impotence, that perhaps I could administer a sly homeopathic dose of genial Kitsch and that would be just what the doctor ordered.

Back in academia: “How would our understanding of data change if we could actually touch it? *I never think just with my eyes. I think with my hands, as well*” (Giudicessi, 2014). Natalie Miebach is clearly engaged with haptic exploration of a problem. Her questioning both echoes mine as well as mirrors

contemporary cognitive modelling theories of human learning, (Ormrod, 2008). The useful distillation I believe is this; the more varied the sensory experience, the more information it can transmit. If an audience is invited to interact, rather than observe, to think, to touch, to listen, to view, to feel, then what they receive is a more fully human experience. This advances Thorp's notion of humanizing the data, since it is not just the data that is humanized, it is also the capacity of the work to provide an emotional and multi-sensory experience which in turn humanizes the art work.

Whilst DO I REALLY NEED THIS is not exclusively concerned with climate change, climate change is important to *the Limits to Growth* and in turn the greenhouse effect is a major factor in climate change. The greenhouse effect, essentially, is the result of gasses which most scientists now agree stem from manmade pollution (Wang et al, 1976). These insulating gasses drive a rise in earth's temperature; even small changes, between one degree and three degrees C, have profound effects on the biosphere. The debate, now more ideological than scientific, mirrors the split in factions that debate the power of Data Art. For example, Lambert, adding to his earlier remarks on data as a red herring (Appendix 8) claims: "*Statistics and knowledge are not what motivate people but emotions and non-rational things do*". The phrase '*non-rational things*' is so imprecise it doesn't warrant interrogation; in

addition Lambert's remark suggests, *"Emotions too are non-rational"*. This notion is not only false, it is dangerously wrong. That emotions motivate action is not in dispute; it is a core concept in psychology and a widely accepted component of our modern understanding of human behaviour (Damasio, 2008). However, the suggestion that emotions are irrational is simply lazy thinking. Greenspan's (Greenspan 2002, p. 206) list of emotions includes fear, anger, joy, pride, sadness, disgust, shame, and contempt; Greenspan states:

*"Such states are commonly thought of as antithetical to reason, disorienting and distorting practical thought. However, there is also a sense in which emotions are factors in practical reasoning, understood broadly as reasoning that issues in action."*

This powerful statement evidences that emotions have their rationale and lead to action; to which Greenspan adds;

*"At the very least emotions can function as 'enabling' causes of rational decision-making (despite the many cases in which they are disabling) insofar as they direct attention toward certain objects of thought and away from others"*

and thus we are given a sense of the rationality of emotion. Greenspan's remarks are deeply affirming in the hands of a data artist, especially one with the aim of making work that provokes thought and emotion, and lasting affect through

interaction. Finally, Greenspan has arrived at a clear mission statement for Data Art, in stating emotions,

*“Serve to heighten memory and to limit the set of salient practical options to a manageable set, suitable for ‘quick-and-dirty’ decision-making.”*

This heightening of memory, provision of a set of salient options and impetus towards decision making (with the reservation that a decision need not be quick or dirty but preferably something more refined, elegant and lasting) would be a very welcome result for any of my Data Art.

Once a task becomes overwhelming, it seems common enough to question the validity of doing it at all, in the middle of not knowing what to do it seemed easy to ask; what’s the point of making art anyway? I wasn’t interested in producing a sculptural selfie similar to Tracey Emin’s MY BED (Emin, 1998), or her piece EVERYONE I HAVE EVER SLEPT WITH (Emin 1995), as similarly to Twemlow (2006), I believe *“Artists such as Tracey Emin have imported lists based on intensely personal experience (...) and exploited their incongruence in the new context.”* (p.37)

Instead, I wanted to express myself but more so to capture the Zeitgeist<sup>17</sup>. Climate change seems impossible to

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<sup>17</sup> My feelings on the Zeitgeist of today is because of our increasing ability to access global information, there is a growing awakening

address because we seem impotent in the face of the immensity of the task or because we expect others with far more power and resource to effect a change. Faith, unlike science, does not require evidence, it requires belief; I believed that I could capture an audience's attention, affect them and create a shift in their viewpoint; after all I had already done that with both KLUCZ MIGRACJI and CONSIDER THIS.

*The Road* (McCarthy, 2009) had deeply influenced me, is a bleak and unrelenting journey of a father and son through a post climate collapsed cannibalistic USA. The only 'good guys' left are the ones that don't eat humans. The father's mission, 'his warrant' was to protect his son, to find a future for him. Eventually, close to death and unable to continue, the father hands over his son to a veteran who seems still to have the resource to sustain his own nuclear family. There is nothing sentimental or Hollywood happy about this solution, every previous moment of the book has argued clearly, the fate that awaits them is starvation or cannibalism. We can imagine their future beyond its final chapter, we may however not want to; they will die out. Just like the ants in the case in DO I REALLY NEED THIS, the question is simple, do they starve, or do they eat each other and then starve. I knew from my own

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(environmental collapse, climate change, plutocracy and fascism), but along with it, a realization of how powerless we are, and how we deal with that reality.

pain in engaging with such an idea that getting an audience to engage with such a notion would require a certain trickery, subterfuge and slyness.

Both KLUCZ MIGRACJI and CONSIDER THIS, as machines transcended their content. The former could have been used for any number of migrating populations, for example, the rate of migrants arriving into the EU via the Mediterranean, (Last & Spijkerboer, 2014). Their individual journeys, their leaving date and arrival date – if indeed they arrive – and of course invitations to those leaders across the EU who may set the ideal rate. CONSIDER THIS could just as easily examined the death penalty, where and when the audience felt it appropriate. DO I REALLY NEED THIS had to reach that mark, a transcendent piece; “*Art is the chief instrument of the good ... art is more moral than moralities.*” (Dewey, 1934). John Dewey argued that “*morals eventually become norms, or ‘reinforcements’ of the established order,*” a phrase that clearly echoes common perceptions. Interestingly, Dewey then remarks: “*the moral prophets of humanity have always been poets.*” Clearly, such a position makes high demands on the artist; they are to challenge reinforcements of established order. In the last sentence of *Art As Experience*, Dewey explains the function of art as purpose,



*“As experience has been the means of keeping alive the sense of purposes that outrun evidence and of meaning that transcend indurated habit” (Dewey, 1934)*

Of course I am making big claims for small pieces, but as an artist I had crossed a Rubicon; once that is achieved all that followed must also go beyond, experimenting and developing into becoming something of lasting and substantial value; particularly a piece examining climate change.

*“Our imagination is your nightmare.”* A popular slogan of the **1968** Paris student rebellion; I began to imagine the perfect result. DO I REALLY NEED THIS already had the elements, the four medieval elements: air, water, earth and fire. I went back to my initial MRes submission; it was to be several pieces integrated into a total unified piece, called CASINO (Appendix 5). It was intended to explore risk taking behaviour, particularly life style risks such as smoking, over-eating, under-exercising or drug taking. DO I REALLY NEED THIS looks at the greatest of all health risks, the possible destruction of the biosphere. Just like the fags, the food and the booze, there’s a denial around the data, a faith that scientists will solve the problem, politics will solve the problem, economics and the market will solve it, or worse - if I just separate and recycle my rubbish, it will all be alright, won’t it? What DO I REALLY NEED THIS lacked was that democratising element that allowed the observer to enter and

alter the picture. In KLUCZ MIGRACJI the audience do not just watch the emigrants arrive but set the rate, get to know and humanize them. In CONSIDER THIS, they do not just observe abortion rates, they add their view if female, leave suggestions when male. What DO I REALLY NEED THIS needed was a vehicle for audience participation, a centrepiece.

I am a smoker; it will shorten my life; I have tried to quit; I have reason to quit; I don't; why am I telling you this? Everything you want is worthless, everything you need is priceless. One of the core debates - the clear narrative - at the nucleus of DO I REALLY NEED THIS. Why have I told you I am a smoker but don't quit - because one of the major successes of DO I REALLY NEED THIS was a smoker, who left behind a cigarette in the centrepiece, that I am coming to; but first denial. This denial, this ignoring the obvious, may well have a deeper psychological root; it's certainly a human trait even when faced with banal information. It may be that this capacity could be related to our biological make up. On a very basic biological paradigm, the Central Nervous System does not continue to transmit messages about the wonderful shirt we are wearing shortly after we have finished buttoning it. We are hardwired for limiting stimuli, but on a psychological level humans seem to deny our individual mortality in order to continue.

*The fear of death must be present behind all our normal functioning, in order for the organism to be armed toward self-preservation. But the fear of death cannot be present constantly in one's mental functioning; else the organism could not function* (Becker, 1973 p. 16)

In all events, socially and individually, humans certainly appear to have an innate ability to disregard the non-resonate; that is, information or data that does not affect our lives directly. Our global ecological problem is not one of lack of data, endless amounts of it point to future humanitarian disaster, but socially, it becomes virtualized. Cultural philosopher, Slavoj Zizek, refers to how we place our perception of the world's problems into the virtual realm,

*"A place where we hide the 'dirt of the world' the reality of the virtual that is: You go to the toilet, you flush it and the shit disappears. Of course rationally you know there is canalization and so on, but at a certain level of your most elementary experience it disappears from your world."* (Zizek, 2009)

Successful Data Art can give a real multi-sensory experience, not just in terms of representation, as perspective for example represents distance but in a much more direct manner, a simulacrum that transmits meaning by provoking cognition and emotion through embodiment. DO I REALLY NEED THIS sought to counteract disregard and denial. I

was aware that there was already terror, motivating denial, and understood that before a negative emotion arises, the physical environment and the level of engagement or interactivity generate a material experience which in turn feeds into an affective encounter. The combination of experience, emotion, of being in a situation and of a material connection, all penetrate and influence the audience, both consciously and unconsciously - this is what is meant by affect.

Henri Bergson (Bergson, 1912, p. 112) characterises affect as:

*“That part or aspect of the inside of our bodies which mixes with the image of external bodies. This is what we must first subtract from perception to get the image in its purity.”*

Clearly this is not characterised as an intellectual phenomena, rather as a corporeal or visceral one. Affect has had an important and lasting role in art, Descartes described affect (or passions) as:

*“the perceptions, feeling or emotions of the soul which we relate specially to it [the soul], and which are caused, maintained and fortified by some movement of the spirit”.* (In Solomon, 2003, p. 21)

For the contemporary observer or Data Art theorist, soul rightly presents a problem; thus affect is better rephrased to define it as the result of direct sensory engagement with the work, that is, a high risk strategy of manipulation which prompts an intensity of response through the emotion it provokes. Rephrased again, the sensory experience of art has a subconscious, tacit influence; meaning the viewer may not realize the levels on which it simultaneously functions, even for apparently disaffected and intellectually vague works of art. For example POST PARTUM DOCUMENT (Kelly. 1975) by Mary Kelly, which documents the first six years of her son's life, is a visualization of the nature of motherhood. It creates an intensity of affective charge that shocks and surprises into new insight. Despite the crasser aspects of shock, the negative connotations of emotional manipulation, affect seems justified when Data Art seeks to challenge preconceived thinking and permits us to locate hidden or fresh connections. Mark Hansen argues that affect provides

“An interface between the domain of information and embodied human experience” furthermore he states “we can recognise our intense desire to engage affectively with the virtual, at the same time as we confront the disconcerting possibility of its utter indifference to us.” (Hansen, 2003)

This latter position is extraordinarily powerful married to the denial many experience when confronted by climate change data. Zizek argues that;

*“it is well known that global warming would lead to the destruction of life but “after reading a treatise on it, what do I do? I step out; I see nice trees, birds singing and so on.”* He adds that even knowing, rationally, everything is endangered, *“I simply don’t believe that this can be destroyed.”* (Zizek, 2009)

Sometimes, you just walk into the answer because your mind is full of the problem. I was walking through the Arts Building of the University of Huddersfield, “on the scrounge” for something else, and I see it; the solution to Earth’s problems, or at least mine - the cabinet.

Daydreams begin in euphoria: the cabinet goes in the centre, people leave behind things they once wanted but no longer need; a riotous display of anti-consumer realisation; a sort of fine art big-style charity shop window. Yes! DO I REALLY NEED THIS has an ideal result. The cabinet overflows and swamps the room with landfill, then the building, then campus, then entire University town of Huddersfield, swamped by a spontaneous environmental protest; do we really need this?! Headlines in national newspapers ask, DO I REALLY NEED THIS? Huddersfield University students say clearly; no, we don’t. Such daydreams are of course a motivational fantasy, a

vector and have their use in sustaining mood and drive as an artist; however, as a seasoned artist I had learnt, the audience rarely responds ideally. The cabinet's construction anticipated this. That is, it sought to aesthetically present and highlight those few 'no longer needed' items that I anticipated would be set in it. Thus, like the refusal letters of Cameron and May in KLUCZ MIGRACJI , framed for all to see, I would let the audience display a few pieces of ephemeral consumption and let the space in the cabinet speak for those who do not; in that sense giving audience participation or non-participation equal status within the piece; after all this was only one component of a multi-component sculptural piece. The cabinet, ultimately, is a mixture of sincerity and provocation, so too the other components, perhaps best evidenced by the ant nest. That is, when the gel resource, present within the constructed ants house, runs out, the population of ants will collapse and all individual ants will die; in terms of humanized data the 'common perception' could not be clearer or more uncomfortable; when the gel, our non-renewable resources, runs out, we humans will all die.

Jameson's 'where we are at' (Jameson, 1991) began this account of DO I REALLY NEED THIS, the question now is 'where are we headed?'<sup>18</sup> *The Limits to Growth* concludes:

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<sup>18</sup> *The Limits to Growth* was originally written when my generation was born, at a time when energy resources and climate change were subjects in their infancy. Over 40 years later and still discussing their potentially

*“If the present growth trends in world population, industrialization, pollution, food production, and resource depletion continue unchanged, the limits to growth on this planet will be reached sometime within the next 100 years. The most probable result will be a rather sudden and uncontrollable decline in both population and industrial capacity.” (Meadows 1972)*

The research of internationally acclaimed scientists (Turner, 2014) with slight modification supports the above; collapse is now within the range of a single human lifetime. Therefore, if we have the information that we are destroying the biosphere, on which we as a species are dependent, what can Data Art do to transmit that information aid a change in direction?

Harmon claims, *“in the modern era of globalized politics, culture and ecology; it is unsurprising that maps and data have become a significant process.”* (Harmon, 2010)

Harmon’s choice of issues and focus do point the new way. In terms of the ecosystem, the biosphere has always been global; in political and economic terms, agrarian feudal systems have, in the last few hundred years, moved via Renaissance mercantile systems, via industrial capitalism and nation state systems, to our current globalized consumer

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ever increasing devastating effects, my generation have spent their lives dealing with both its threats and the feelings of how individually we have become a powerless generation to global issues.



capitalism. In tandem with those changes, innovation in IT has led to almost instantaneous transnational data exchange and storage; unsurprisingly therefore, entered, in its adult form, Data Art as prime contender for the 21st Century medium. However, can Data Art trigger a change in direction on an issue as profound, complex and distressing as global collapse?

I put Lambert's remark (Appendix 8) concerning truth and Data Art's red herring nature, to Jer Thorp: "*I understand the reticence in detaching from the word data because it carries so much hopeful baggage*" (Appendix 6). Hopeful baggage suggests that Thorp, like Lambert, is cautious, possibly sceptical, regarding Data Art's potential to trigger evidence-based change. Certainly however, Thorp is correct in his view that truth needs to be evidenced, not aspirational or necessarily comfortable. He then followed his remark with: "*Our work is anchored in collaboration between the cofounders of what our history is*" suggesting that he does view Data Art as a deep rooted and powerful tool. His claim, "*data is bleeding into our popular culture*" and his position that data artists are well situated to take advantage of this, evidences that Data Art is not only a tool for historical investigation, but also current investigation. However, Data Art that employs scientific methodology must have a degree of predictive power, that is, it must be interested in the future. Before we move

onto the future, I would first like to look at an example of its collaboration with history.



Figure 4 and 5. Dubois' HINDSIGHT IS ALWAYS 20/20 (Dubois, 2008)

Dubois' HINDSIGHT IS ALWAYS 20/20 (Dubois, 2008) sources US Presidents' State of the Union rhetoric; key words in ascending order are placed in eye testing charts to map the 'vision' of each; Lincoln's top word is *emancipation*, Nixon's *truly* and Washington's *gentleman*. This piece is emblematic of Thorp's notion of Data Art as anchored in the cofounders of the nation.

*“You could teach the history of American rhetoric with these”* (Sheets, 2014)

Dubois claims it therefore seems reasonable to ask what rhetoric would the current present President require to steer a new course. *“Time for change?” “Yes we can!”* Both key phrases in Obama’s campaign!

Clearly, the above Obama provocation is playful; however, more substantially, Roger Melina writes:

*“We need to innovate in innovation and find other approaches to work in the new emerging networked culture. We need to look at where the most exciting creativity is occurring, and we need to look at the burning issues in our communities and how harnessing new couplings of science, engineering, and cultural approaches can be part of creating a sustainable society.”* (Melina, 2010)

Sustainable is Melina’s key word and certainly the above is a plea for the participation of trans-disciplinary approach in establishing sustainability. In turn, the only valid reply to countering collapse due to unfettered growth is indeed sustainability.

Of course, if Data Art were on trial for being singularly negligent in failing to save the planet, then more evidence than just the above would be needed to establish it had any real role to play, let alone guilt by negligence. However, as

an artist looking for motivation, looking for a context for a piece, I had all I needed to sustain me. I knew that I wanted DO I REALLY NEED THIS to be “a collaboration between the cofounders of what our history is” and I knew I wanted it to look to future; that is, I wanted it to be more than just an *Ooh Ahh* work, I wanted the piece to supply an *Ooh*, an *Ahh*, and a lingering *Ooh* – this I shall explain later.

In 2014, to celebrate ‘the idea’ I went, with my wife, to Liverpool to visit the Biennial. My creative synapses were firing with thoughts of my historical cofounders - air, fire, earth and water - the four ancient elements, my four points of entry into humanizing the *Limits to Growth* data, my four ways toward DO I REALLY NEED THIS. My wife, she likes to shop, and me, I like to see her happy; so we shopped. And there it was, in the middle of Liverpool’s European Funded shop till you drop L1 district; my wind machine swirling confetti petals in a window display, there it was, my AIR. I went in to the shop, thinking ‘don’t ask don’t get’ and I asked, “when you don’t want that anymore, can I have it?” “Yes,” they said, “If you come and get it.” Scrounged, recycled, found art! Hindsight is 20/20 but sometimes creativity is the other way around, that is, sometimes what you come to know you know is often something you have known all along but not realised until much later; I just saw the rotation of the air machine and I knew it was what I needed; call it intuition, “*that psychological*

*function which transmits perceptions in an unconscious way”*  
(Jung, 1976).

What follows is useful in strengthening the case for intuition, or serendipity as I would prefer to frame those discoveries that occur once my tactile creative involvement is activated. Air (or wind) was my element for *The Limits to Growth* population growth, i.e. air to breathe is life. Again, in hindsight, but no less interesting, “*air pollution costs the NHS £15bn a year; more than obesity and alcoholism combined*” (Burke, 2015). Although the NHS was central to the **2015** UK election, this ‘environmental’ fact was late to surface above voters’ worries about the NHS’s future, if it could be afforded or shared.

Before making further great claims for intuition I want to distance my creative approach and my work from a common artistic sentimentality, that of the sublime. My work, like that of STAN’S CAFÉ, sources peer approved and verifiable data, and as such deals in the effable. In support of that distancing consider Lev Manovich’s seminal paper, which states that,

*“Data Art is Anti-sublime. If Romantic artists thought of certain phenomena and effects as un-representable, as something which goes beyond the limits of human senses and reason, data visualization artists aim at precisely the*

*opposite: to map such phenomena into a representation whose scale is comparable to the scales of human perception and cognition.* (Manovich, 2002)

This distancing is important to maintain precision; even Thorp, whom I greatly admire, finds the sublime (or at least the holistic) difficult to leave:

*“A reductionist approach might be: ‘let’s take these 10 million data points and bake them down to a single graphic’, I’m more interested in seeing those 10 million data points. Maybe then, we’ll be able to see a structure we haven’t noticed before.”* (Frenkel, 2013)

The only response to this, which my respect for Mr Thorp would not allow me to make face to face, is as follows; assume each point takes one second to look at, who has

16.53439153439153 weeks to look at all 10 million? Not to mention the decades required to pattern them. Of course some reduction, some focus, some emphasis is required to humanize. That said, the creative process is not a baking down, it is the open-minded application of intuition, which Isaack describes thus:

*“a pattern is presented as a complete whole without our being able to explain how it was arrived at. It can grasp the*

*meaning, significance, or structure of a problem without explicit reliance on analytical apparatus.”*(Isaack, 1978).

I assert that our not being able to explain is not the same as it being ineffable, I assert the process of creation employs intuition since it

*“can synthesize disparate ideas, achieving serendipity as it senses combinations, which did not appear to be related in the past.”* (Isaack, 1978)

However, although my work partially comes into existence through a process that is difficult to rationalize, it is neither a sublime piece, nor are its affects in anyway ineffable. Whilst shopping in Liverpool I was thinking, haptically, about several aspects simultaneously; none of them were linguistically, fully articulated; but now I had AIR, things were clarifying.

It is documented that the mass of information already available on climate change has been unsuccessful in motivating humans to change direction. We, humans, suppress and hide aspects of our reality within a form of ‘virtual experience’ (Zizek, 2009) Information that concerns everyone in a potentially catastrophic matter therefore requires new distribution strategies if it is to have affect. Zizek puts it so,

*“However thin our perception of the real truth or the Virtual-Real truth is we must draw it into the “Real-Real; the reality of the virtual.” (Zizek, 2009)*

To state in vulgar terms and take up Zizek’s earlier metaphor, we must stop flushing turds of truth down the toilet and collect them all for the compost heap. In less vulgar parlance; in order to act we must recover the important information from the virtual, restore it to the realm of human senses and be affected to trigger well informed action. A sentiment upheld by Debord:

*“In societies where modern conditions of production prevail, all of life presents itself as an immense accumulation of spectacles. Everything that was directly lived has moved away into representation (Debord, 1994).*

We must return the representation to the realm of the real, the realm of the senses. Finally, one seminal psychoanalyst who considered the virtualisation of the uncomfortable, Freud, characterises the uncanny as *“something that is secretly familiar, which has undergone repression and returned from it.”* (Freud & Freud, 1997)

Enough. ,

AIR to breathe.



By placing the covert Kitsch<sup>19</sup> of DO I REALLY NEED THIS in a non-gallery setting, it became a work with an overt fine art message, one that might otherwise have remained unseen or ignored. Viewers had the opportunity to encounter DO I REALLY NEED THIS several times, in passing or almost at random, to dip their toe in it, to swim it, and finally to nearly drown in it. As an artist I knew that the foyer as a setting was risky. I was of the opinion that the over preciousness and historical connotations of the 'white cube' gallery would make the important message of DO I REALLY NEED THIS pompous and less interactive rather than profound, and encourage participation. Again, to take up Zizek's metaphor, the risk was also that a gallery setting would give the viewer a place to dump their shit. Which links well to Duchamp (1917), who by placing a urinal in a gallery and having it viewed as art, demonstrated the institution works as a database; that is, it must be art as the boundaries of the institution dictate its definition. My deliberate mischievous taxonomy was to subvert this, by placing the work in a foyer. And thus I was saying, this is not art, this is just some 'cool objects'<sup>20</sup> in a foyer, just some Kitsch whispering something you might not want to hear; how about you stop, stop, listen to the whisper.

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<sup>19</sup> Hauser defines Kitsch, "with its inherent mediocrity, as a pseudo, or parasitic art, whose essential function is to flatter, soothe and reassure its viewer and consumer." (Hauser 1974)

<sup>20</sup> 'Cool' is used here in its slang term, i.e. great, awesome, interesting, fun.

*Ooh*

*Ahh.*

Now, recall Nicenboim's (Appendix 9) remark; Data Art should have 'a clear narrative'. Add to it; "There are two categories of storytelling; those that talk of the invisible and the hidden, and those that expose it and offer the revealed" (Berger, 2011), which in the context of Data Art is an extraordinary remark, particularly regarding the potential of Data Art to reveal. Berger adds; "Which of the two is likely to be more adapted to, more trenchant about what is happening in the world today?" (Berger, 2011, p. 86). DO I REALLY NEED THIS is not in doubt, its trenchancy is as clear as its narrative; resource depletion resulting from human consumption, if left unchecked, will lead to the destruction of the Biosphere. However, as indicated, we are already concealing this information from ourselves and most likely because there is an impotence (such as I myself experienced whilst thrashing around for an idea) that is fuelled by the common perception, 'there is nothing I can do'. I knew DO I REALLY NEED THIS must display the problem:

Air        -        population growth and air to breath.

Fire       -        industrial energy resource depletion.

Earth    -        land resource depletion.

Water - water resource depletion and pollution.

But it must also, if only as metaphor, display a solution. The Biosphere is Earth's global ecosystem; trans-national consumer capitalism is our current major global economic system. The Biosphere thrives on harmony and balance, Capitalism prizes competition and growth rates highly; therefore these paradigms come into conflict. Whilst displaying the problem of depletion due over consumption and pollution, DO I REALLY NEED THIS must also display depletion's solution, a radical reduction in consumption. The two sentences below are central to the opportunity for action framed within DO I REALLY NEED THIS; they polarise the tension within the debate, that is, between want and need:

Whatever you want is worthless.

Whatever you need is priceless.

The cabinet, formerly used to display awards, was at the centre of DO I REALLY NEED THIS. The audience were asked to place in it items they once wanted but realise they no longer need (Appendix 1). Superficially, it seems to be re-cycling but on a deeper level it aims to stimulate an investigation of consumption; consumption for want, consumption for need.

Ultimately, the cabinet is providing an option for change, an action, a direction; something to be done. In this sense the cabinet was not the *Ooh*, or the *Ahh*, but the extended *Ooh*?

To clarify the above, Thorp's *Ooh-Ahh* principle gave his work two objectives; firstly, to capture the attention of the viewer, secondly the *Ooh* moment that informs them. As stated earlier, my encounter with BOYS (Kevans, 2004) was profound, but I remained disappointed. Certainly, the quality of the paintings, the *Ooh*, was unquestionable; the *Ahh*, the sudden shocking realisation that those BOYS were mass murderers, was stunning. However, soon after I found myself thinking, what was the viewer supposed to do with that information? Mass murders start out as innocent children? Don't we all begin as innocent children? Once the initial shock of the *Ahh* dissipated, the information is actually a banal tautology; it is banal because the real problem remains, how does knowing they were, as we all are, innocent children, how does that assist us with the question, what to do about the mass murderer? I wanted the lingering *Ooh* of DO I REALLY NEED THIS to be clear and useful - after the sly kitsch of each *Ooh* element, the sudden *Ahh* of realisation that this is about resource depletion, please place what you wanted, but now no longer need (if you ever did) in the former trophy cabinet, and evaluate it; as far as possible, consume only what you

need; that is the affect and is there to make useful the painful information that we are at the limits of our growth.

“Where Picasso paints *cause*, Repin paints *effect*.” So remarks Greenberg (1939-44) arguing that Repin predigests art, sparing them the audience the effort. What’s important here is that the audience may then ask, what can a piece do? What is its role? The aesthetics and affects are directed to making the visible more deeply felt, what Deleuze and Guattari (O’Sullivan, 2001) describe as ‘*the harnessing of forces*’. My belief is that by employing the Kitsch within the elements of my exhibition, such as of a trashy dipping duck, an oddly bleak ant nest, a fairground-esque wind machine and length of industrial metal pipe, this sly seduction of the viewer allows for the subversive body blow-off, “a rather sudden and uncontrollable decline in both population and industrial capacity” (Meadows, 1972). But rather than leave the viewer gasping for air, they can return and participate in the solution, answering both of the above questions; “Ohhhhh, so that’s my role. Ohhhhh, so that’s what I can do.” The Kitsch also acts as a binary opposite to the apparent seriousness of the messages that the work is trying to convey, remaining visually playful to encourage audience participation, but

having a contextually serious undertone related to environmental destruction.<sup>21</sup>

In giving DO I REALLY NEED THIS the trappings of a scientific aesthetic (the work looks playfully technical), I claim it may be that there is too much reliance on the ill-defined, the unmeasured and un-evidenced; that some will argue that it is in fact contra Manovich (Manovich 2002). I accept that my creative practice engages with the sublime, but only as a shortcut. There is, in the final piece, a set of simple formal relationships between the components, and they certainly conjure a problem for the viewer to ponder. The problem effectively haunts the viewer and leaves them to contemplate its complexities long after viewing. However, its complexity is broken down into clear anti-sublime format; that for a while this generates an excess of answers, perhaps even a unique and personal experience, however the journey that we are all on now, as humans, is:

*Ooh, nice, but I can't believe this is going to disappear.*

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<sup>21</sup> "Kitsch" is a German word born in the middle of the sentimental nineteenth century, and from German it entered all Western languages. Repeated use, however, has obliterated its original metaphysical meaning: kitsch is the absolute denial of shit, in both the literal and the figurative senses of the word; kitsch excludes everything from its purview which is essentially unacceptable in human existence." (Kundera, 1984)

*Ahh*, SHIT! I do not want to lose this!

*Ooh*, so THAT'S what I can do to prevent that!

DO I REALLY NEED THIS?

Time for change, yes we can!

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## Appendices

### Appendix 1

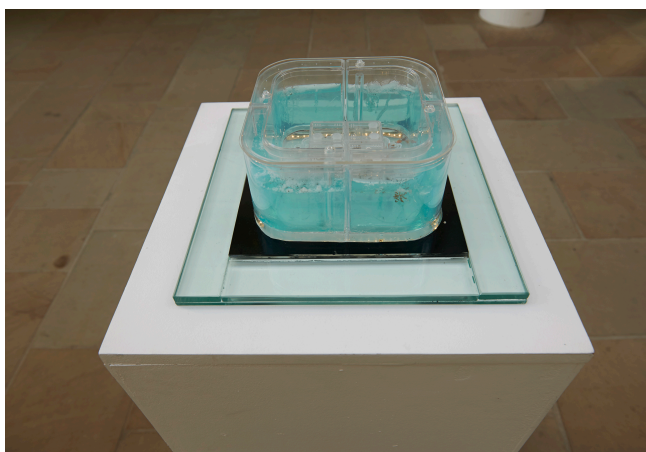
DO I REALLY NEED THIS?

Richard Edmunds

(2015)







Is a site specific, artistic response to the major threats currently facing humanity; threats that were initially catalogued in *the Limits to Growth* study from the Club of Rome (Meadows, 1972).

With the characteristic wit, depth and intelligence of Edmunds' previous works, *DO I REALLY NEED THIS* fascinates firstly, then grabs the attention with charm and provocation, to compel the viewer with a question they may otherwise flee from – as in, I really don't need this right now.

The installation is composed of four related kitsch sculptures: water, fire, earth and air – ancient and often explored themes that are given a thrilling and modern twist. Kitsch is used here with absolute precision to engage the viewer's interaction with core problems of consumer capitalism, that when confronted directly, are often overwhelming.

The benign dipping duck seems almost a harmless joke until we learn that the Water the duck drinks is an accurate scale representation of the depletion of clean drinking water left on the planet and thus a measure of the planet's capacity to support life.

This fluency of expression between amusement and grotesque reaches a peak at Earth; we watch ants crawl through nutrient

gel only to realise once the food runs out, this sealed unit will become a coffin.

Air's playful swagger has an unforgiving irony, the Dadaist audacity that drove the use of a recycled display case, found in the window of a high end women's clothing shop in Liverpool's L1 consumer paradise, is chillingly simple: as global population increases, so too does global air pollution; humanity shudders to a choking stop.

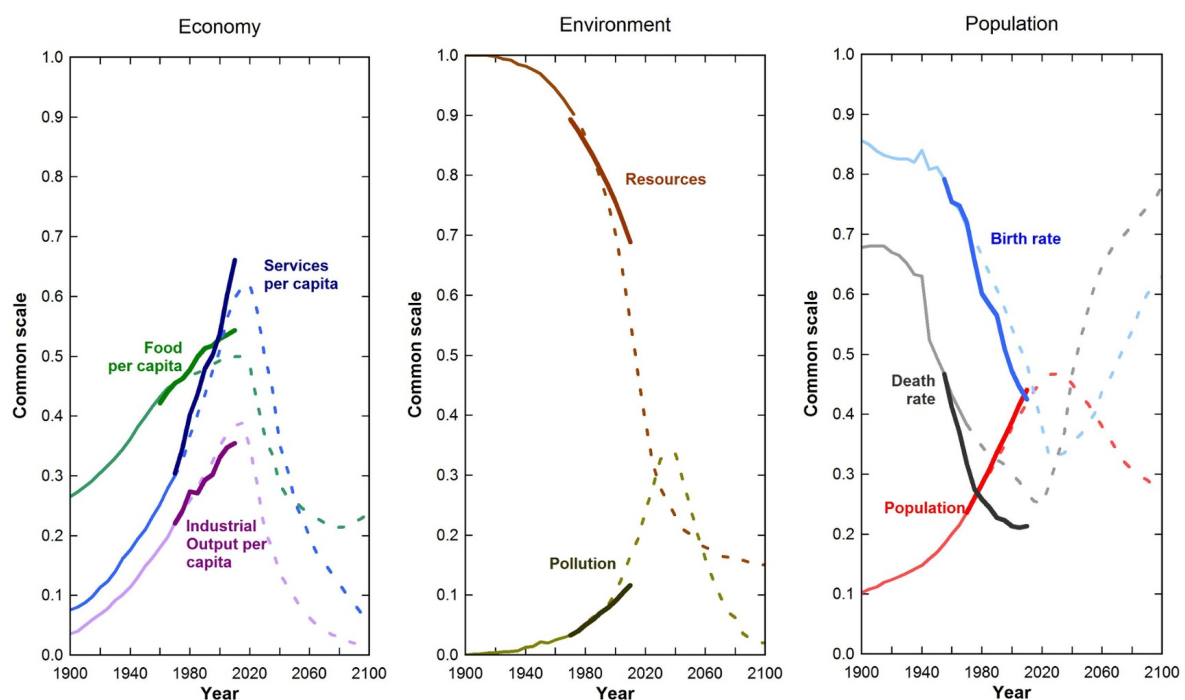
The fourth element, Fire, represents the six current oil producing continents with Antarctica waiting to come on line. Constructed from industrial pipe, it incorporates household oil lamps; six flames burn until the oils runs out. Typically Edmunds, Fire has layered meaning since the flames operate as universal symbols of life - growing, reproducing, respiring, excreting, responding, adapting and finally, dying.

The centre piece is glass display cabinet where viewers are invited to leave behind items they once wanted but now no longer need; this achieves two ends: first, a dialogue between want and need, put directly, whilst what we want may have a value, what we need is priceless. Second, as the mound of landfill grows, it perfectly illustrates how we all participate in the problem.

DO I REALLY NEED THIS is primarily a coherent work of Data Art. However, it unashamedly lays out the big question,

how do we save the planet? Its affect relies not on naive solutions or bitter nihilism, but in the power of the thought it provokes.

Four decades after the book was published, *Limits to Growth* forecasts have been vindicated by new research. Expect the early stages of global collapse to start appearing soon



Ref: Meadows, D (1972). *The Limits To Growth*. New York: Universe Books

As *Limits to Growth* concluded:

*“If the present growth trends in world population, industrialization, pollution, food production, and resource depletion continue unchanged, the limits to growth on this planet will be reached sometime within the next one hundred years. The most probable result will be a rather sudden and uncontrollable decline in both population and industrial capacity.”*

## Appendix 2

PLANET OSCAR

Richard

Edmunds (2011)



Oscar, a 31-year-old Spanish farmer, became the first person on the planet to receive a successful full-face transplant after the disfiguration through a hunting accident. Taking cosmetic surgery and its global boom as the subject, Richard Edmunds' PLANET OSCAR not only invites the viewer to look closely - it demands it. Just like the world of cosmetic surgery, beneath the immaculate surface of each sculpture there are shadows and grains, and behind those are questions: is it a necessity to repair people disfigured in war or other traumas? What about helping those who feel 'trapped in the wrong body'? Or has plastic surgery been perverted as a tool for the rich and vain?

In mapping data and numbers from each continent, Richard's PLANET OSCAR doesn't provide answers to the *why* or the *wherefore* of any individual decision; rather, it presents, with clinical precision, the naked mathematical facts of our current global boom in cosmetic surgery. The laser-accurate cutting, the use of hypodermic needles and the deliberate scarring of walls all mimic the medical world giving evidence to a compositional process that mirrors its subject.

Finally, PLANET OSCAR is not a debate or documentary, it is a work of fine art. The easy approach would be to let oneself be drawn into the critical arguments surrounding media, peer pressure and their drive to conform to an ideal of perfect beauty. The fact is, cosmetic surgery is as much a part of modern life as hair dye. Thus, Richard's work begins where this debate ends; with the fine lines of classical aesthetic composition, but without decoration, he gives us the facts. What we, as viewers, do with those facts is the pleasure and the challenge of PLANET OSCAR.

## Appendix 3

KLUCZ MIGRACJI

Richard

Edmunds (2012)





Continues my artistic exploration of the complexities of mapping and visualising data that was most recently at the core of my previous sculpture PLANET OSCAR. To encounter KLUCZ MIGRACJI is to holistically experience the dialectic between the statistic and the individual person, the number and the biography. I have returned to my favoured media, laser cutting and acrylic, but this time combined electronic, digital, social and political elements. These social and political elements are designed as a powerful forum for the discussion of the sometimes-incendiary issue of Polish immigration.



Key figures have been invited to attend the opening event and, if they accept, will be offered the finest of Polish hospitality. Unfortunately, David Cameron's busy schedule has prevented him from attending; however, both Ms Theresa May of the Home Office, and Mr Damien Green MP, Department of Immigration, are still pending. Cameron, May and Green are key in setting the rate of Polish entry into the UK, currently the highest entry rate from any country of origin; each has been delivered their own KLUCZ MIGRACJI, and invited to publically and symbolically set the rate at a level that pleases them, their electorate and other EU member states.

The sheer cheek of petitioning key political figures whilst showing the simplicity of the individual Polish journeys as lines in acrylic cracks - for the finger to trace - or journeys on a Google Earth for the eye to follow, is at the centre of KLUCZ MIGRACJI, and the contradictions it strives to reveal. This playing with scale and paradigm places the various elements in modern collage tradition; I have mixed the laser cut with an ironic plinthed potentiometer (knob on a shaft to the uninitiated) to a red light LED display, not unlike those seen in the arrival halls of airports, and a further airport-like screen showing painstakingly edited sound and video elements generated from empirical and spontaneous data.

All mischief aside: KLUCZ MIGRACJI (literally 'migration key') is a deep exploration of the central issues of migration from Poland into the UK. It is a genuinely serious piece that strives to straddle public art and the biographically integrity by the aesthetic combination of objective and subjective data. Overall, the piece is informative, but also candid and spontaneous. The Poles we meet directly almost all came here for a new beginning, and so it is especially intriguing that they are represented by the almost cemetery eeriness of the name plates. This complexity and difficulty is in pinning down the KLUCZ MIGRACJI at all its levels, is it a new beginning or a monument to an old life? This lack of a single overall view - numbers versus people - is exactly what I invite you to view, consider and debate.

## Appendix 4

### CONSIDER THIS

Richard

Edmunds (2013)



Data Art seeks to form meaning from data by fusing scientific rigor with an aesthetic awareness. It creates art works that test cognitive frameworks or assumptions but also locates its pieces within the disciplines of the artistic aesthetic cannon.

Data Art is a potent contemporary movement with roots as ancient as sculpture; it investigates issues that are political, emotional or even journalistic and this in turn exposes the work to allegations of propaganda. Data Art counters this negative criticism by affirming the validity of the data and the rigor with which the artist incorporates that data into their piece.

CONSIDER THIS is a sculpture formed of doubt with a direct question at its core: given a series of circumstances ranging from never to always under which of these circumstances would you abort a pregnancy?

Our current status quo sees polar absolutists fated to virulent argument from often pre-formed and uninformed positions. CONSIDER THIS takes a pragmatic approach. It offers circumstances reflecting Category C of the Abortion Act of 1967 under which 98% of 196,000 procedures were sanctioned last year. In displaying and collecting data the art work aims at providing a not currently available transparency whilst preserving interactees' confidentiality.

My art has always strived to provoke revelation, the directing of the viewer's sensibilities towards the experiencing of meaningful, powerful and verifiable insight. CONSIDER THIS in genesis was turbulent, and now with its public showing my hope is it provides a safe environment for an otherwise painful debate. CONSIDER THIS follows the dictum - given a problem, do not search for a solution, rather lay the question out, stare long enough and the answer reveals itself. The question again is: given a series of circumstances ranging from never to always under which of these circumstances would you abort a pregnancy?

## Appendix 5

### CASINO

Richard

Edmunds (2013)

CASINO is intended as a number of related sculptures and installations combined as an arcade, or exhibition. By taking the CASINO as a model, there is the potential for machines, games, entertainments, performances, all located in a single event or location. Thus, CASINO will provide the laboratory to apply and test the findings of the thesis, discovered in the research component of this study.

The individual pieces will represent mathematical data, similar to the statistical data of PLANET OSCAR (Edmunds. 2011), but they will also represent emotional and narrative data, similar to the personal interviews of Polish immigrants into the UK, as featured in KLUCZ MIGRACJI (Edmunds. 2012). CASINO will explore the tension between quantity and quality of data; this is a tension inherent in most academic exploration and common to most disciplines. Furthermore, CASINO will not only represent pre-existing data, it will extend the data collection ethos of CONSIDER THIS (Edmunds, 2013) by encouraging interaction to acquire new data.

Finally, and perhaps most excitingly, CASINO, by its very nature, allows for the exploration of risk, contingency, and the prevailing culture of the Consumer Capitalist Globalised World, with its ethos of winning and losing. A casino combines narratives of chance and contingency with narratives of the capitalist and monetary. CASINO will pit these narratives against one another revealing global capitalism as one necessarily partial and provisional way of engaging with the world, as opposed to the result of a natural or essentialist order.

## Appendix 6

### ARTISTS USING DATA ART

- Willem BESSELINK - <http://www.willembesselink.nl>
- Alberto CAIRO - <http://www.thefunctionalart.com/p/about-author.html>
- Tom CORBY & Gavin BAILEY - <http://www.reconnoitre.net/>
- Heather DEWEY-HAGBORG - <http://www.deweyhagborg.com>
- Luke DUBOIS - <http://lukedubois.com/>
- John EDMARK - <http://web.stanford.edu/~edmark/>
- Brian FOO - <http://flowingdata.com/2015/02/12/algorithm-generated-song-based-on-income-data/>
- Ellie HARRISON - <http://www.ellieharrison.com>
- Drew HEMMENT - <http://hemment.org>

- Ben HIGHMORE - <http://benhighmore.blogspot.co.uk>
- Luke JERRAM - <http://www.lukejerram.com>
- Chris JORDAN -  
<http://www.chrisjordan.com/gallery/rtn2/#bees>
- Mary KELLY -  
[http://www.marykellyartist.com/post\\_partum\\_document.html](http://www.marykellyartist.com/post_partum_document.html)
- Lucy KIMBELL -  
<http://www.lucykimbell.com/LucyKimbell/Home.html>
- Aaron KOBLIN - <http://www.aaronkoblin.com>
- Steve LAMBERT - <http://www.deweyhagborg.com>
- Lev MANOVICH - <http://manovich.net/index.php/exhibitions>
- Rafael LORENZO-HEMMER - [http://www.lozano-hemmer.com/pulse\\_room.php](http://www.lozano-hemmer.com/pulse_room.php)
- David MCCANDLESS - <http://www.davidmccandless.com>
- Natalie MIEBACH - <http://nathaliemiebach.com>
- Iohanna NICENBIOM - <http://iohanna.com>
- Abigail REYNOLDS -  
<http://www.abigailreynolds.com/works/44/mount-fear-east-london>
- Hans ROSLING - <http://www.gapminder.org/>
- Ben RUBIN & Mark HANSON  
[http://www.sciencemuseum.org.uk/smap/collection\\_index/mark\\_hansen\\_ben\\_rubin\\_listening\\_post.aspx](http://www.sciencemuseum.org.uk/smap/collection_index/mark_hansen_ben_rubin_listening_post.aspx)
- Ben SHNEIDERMAN - <https://treemapart.wordpress.com>
- STAN'S CAFÉ - <http://www.stanscafe.co.uk/project-of-all-the-people-twosnowhill.html>



- STANZA - <http://www.stanza.co.uk>
- Moritz STEFENER - <http://truth-and-beauty.net>
- Antonia STOWE - <http://www.antoniastowe.com/artworks/6-million-holocaust-memorial>
- Jer THORP - <http://blog.blprnt.com>
- Edward TUFTE- <http://www.edwardtufte.com/tufte>
- Fernanda VIEGAS - <http://fernandaviegas.com/>
- Evan WESTVANG - <http://bengler.no/even>

## Appendix 7

### JER THORP INTERVIEW TRANSCRIPT

<u>Interviewee</u>	<b>Jer Thorp</b> – Data Artist and Keynote speaker at  FutureEverything 2015
<u>Interviewer</u>	<b>Richard Edmunds</b> – Research Student at University of  Huddersfield
<u>Date</u>	27 <sup>th</sup> February 2015, 13:00pm
<u>Venue</u>	FutureEverything Conference, Manchester, UK

RE: You call yourself a Data Artist, through my research I emailed a lot of artists using data in their work and the result was that it is not a popular term they like. So, how would you describe a Data Artist? What is that for you?

**JT:** Well, it's a term I came up with a few years ago intentionally to provoke, as it's a weird mix of words and people don't really know how to understand that. I feel I'm an artist that works with data and also about data, like I do work that uses sensitive data, but also interrogates and is critical of systems involved in it. I teach a class called Data Art and that's my approach, this is about how artists can make art 'about' data, that's how I see it more. I think sometimes even the term Data Art gets attached to just pretty visualizations that said that's where I think my practice started with data, but that's not what I mean when I say that but like 'Subway and the Sandwich' data artists use many forms.

**RE:** I see Data Art is more of a term used for sculpture and tend to separate it from data visualization.

**JT:** I think you can use visualization if you want to, but you don't have to, there is plenty opportunity within Data Art which actually doesn't use data or isn't a representation of data, but is a critique of data structures, of power structures that are involved in data, political structures involved in data. It doesn't have to be: here's a data set, let me do something with it, let me make a sculpture from it.

I think more and more were seeing people doing work that is around data than with it.

**RE:** Sorry to sound a bit like a lawyer but you said, “We can have data visualization that carries all the information we want, it adds some visual flavour and design which makes it more memorable,” what do you mean by *memorable*, what quality of experience do you constitute as memorable?

**JT:** I think very often with visual representations of data, you know, if you take the clinical approach and do it in the ‘quote unquote’ right way, people just don’t pay attention to it, they’ve seen it before, you see a map, a chart or a graph, and so you gloss over it. Whereas I think there is a process you can take to make sure that a) people notice it and b) that it lingers in their minds; and that’s how we see a taint in our work and part of a thing we like to do a lot is not to solve, not to give the answer so that people leave with some questions and those questions stay with them. One of the biggest difficulties with data is there’s an assumption that representations of data have to be categorical, they have to be teaching us something, and if we take away that restraint, you can produce more interesting things, you can allow people to make their own narratives. Our goal with our work is always to have the work be, at least, somewhat unsettling, so that when people leave but again they want to come back to it.

**RE:** During my second year studying, I came to the conclusion of a viewer epiphany or this moment of revelation with the artwork and the data; this use of visual things to connect to people takes me back to early school, how we integrated with numbers through play and colour and touch in a visual way, why do you think that tactile appeal gets lost in an adult world?

**JT:** First of all, I think even if our cultural focus on representing data has been mostly visual, but it doesn't have to be, we do a lot of work with sound, in texture and in forms that experience senses other than visual. That said, we will continue to do work that is visual, that's fine, but it's valuable to explore other means. I always recommend to my students, if you're starting with a project with a data set, one of the good things to do with it is to sonify it, it might not be worthwhile in any way other than to just get you thinking about the data set in a slightly different manner, and that's what I think becomes really important; I try to ask my student that when they come to pick up their projects. It's like how can we do this project in invisible space, using sound, how can we show it with performance, just to get them thinking, because I do think we are constrained by this set of rules around data that become unhelpful.

RE: I sent emails to artists who work with data, one artist Steve Lambert.

JT: Yes I know Steve Lambert.

RE: He went as far as saying, “data is a red herring and Data artists are under a false assumption that if people can see the truth in more detail and from more angles and in different ways, then the scales will fall from their eyes and they will come to a new understanding. Statistics and knowledge are not what motivate people but emotions and non-rational things do”. What would be your response to Steve Lambert on this?

JT: I understand the reticence in detaching from the word data because it's carrying so much hopeful baggage right now. But at the same time, it's fundamentally a very interesting thing, and our work is anchored in collaboration between the cofounders of what our history is, in a sense. We are intrinsically interested in those kinds of approach and discord even though they're not the only ones. I think part of the problem is there's a certain type of data fetishism that exists, and like there's a cliché associated with the word 'data', I like to think we've been active in this face myself, but for not as long as my co-workers who have been working around these types of things for around 25 years, and were not seeing this as an opportunity but sort of jump on a bandwagon

against that. I do understand the critique that Steve said; that there's probably so much hollowness around the ways that currently approach data, but at the same time lowering the word also seems like...

RE: So do you think we are possibly right at the beginning of an opportunity of what we are capable with Data Art?

JT: Yeah, err, I mean, as I said, I use that term intentionally to provoke, I understand it's problematic in all kinds of ways, what I hope is that if there is a movement to come out of Data Art, that it's something broader than it's been given in pretty visualizations.

RE: I'm glad you used the term 'movement' because I originally thought about Data Art as a movement, but as it doesn't have the weight or structure to have this classification, so I now think of it as a discipline rather than a movement, but maybe there is still potential.

JT: I think the word discipline is equally problematic; my personal intent for the work I do is to make the work and then let other people classify it, I often do projects that will be found in a design show then shown in an art show, they might have scientific, artistic elements or statistical elements - I don't really care! My rule has always been

or has been for many years - I'll make the work and maybe other people can decide. If somebody, at some point, wants to say there's a movement of Data Art then go ahead and do it.

RE: Natalie Miebach said something similar that it's quite possible that her work can be put in a gallery environment, but is equally at home in a museum or a science fair. To me it's an artistic shift away from painting landscapes or marble sculpture.

JT: For some artists that's a point of contention, like they want to be very specific about their way that they are working,

RE: They want to be one or the other?

JT: Yeah, but I don't care, I fundamentally would rather be concerned with the work.

RE: How far do you believe that the Data Artist has a responsibility to add their voice towards social change concerning the global issues of our time? Because I believe Data Art has a powerful visual ability, to make it fair, as a Data Artist I've increasingly become aware of the work becoming more efficient when I attach it to issues that matter like immigration or global warming or something that affects

everybody. Therefore I'm kind of hoping you think it matters, that we need to escape the more self-referential and become more active in our choice of themes for our Data Art.

**JT:** Well, first of all I think that an artist doesn't have duty to do anything; there should be art around data that should be frivolous and absurd and has no point other than to exist, it's up to the individual artist to decide. I personally have an interest in data and activism, and I feel like the work that I do often has some kind of social agenda, but part of the problem there is that we still have this association with data and it has to serve a purpose, be operated on, or give us insight, but it can also be there for nothing, absurdity or entertainment, that's fine; and we need to be doing all those things. Sometimes by wrapping the work in these kinds of messages, in an odd way, they ignore it more because it's a bit like "Oh here we go, another climate change thing", where I think there are ways to do that type of work where the message isn't so overt, and it becomes a little more transgressive and people experience it and they change their ideas about what data is and what data can do, also their relationship with the data, I find that a little more interesting then. That then all comes back to the requirement aesthetic idea, I don't necessarily need or require my work to be teaching people something about something, often that is part of the case, but it doesn't have to be.



**RE:** That brings me nicely on to what you describe as the *Ooh - Ahh* theory when you produce work, but I was thinking about what Mark Hanson discusses about affect theory as a medium, where I take the *Ooh - Ahh* and add affect on to it - where the viewer likes it, gets it, but then has a 'Let's Do It' outcome. Which is against what Steve Lambert is saying, and the scales DO fall from their eyes, they realize what the data says, and feel the need to respond. There is unlimited information regarding the state of our planet, but we choose to ignore it, or turn it into this virtual existence, so we don't have to face it or deal with it. My work intentionally attempts to drop the scales from our eyes and create such a resonance with the viewer that it has an 'affect'. Does that have any place in your practice when considering what you are creating, this sort of after effect or delayed impact?

**JT:** It's a hard thing to aim for I think, if you try too hard at it, you lose it; people see it as a kind of persuasive act. You need to have enough subtleties so that the message can be delivered, but also enough clarity that there is some understanding from it, I think it's really hard - if the work is too overbearing, then it fails and essentially you end up just convincing people who are already convinced. This is a balance I find very interesting and tricky with my students because basically they are largely in their twenties and early

thirties, and there is a desire for the work to be accessing large issues and to be socially active, but if it's done bluntly then it doesn't work at all, people are actually turned off by it. We need to understand how we can wrap it up with enough subtlety that the message remains, but that the experience is not... you don't feel like you're being something that's been stopped and drugged.

RE: Something that Gemma Galdon-Clavell said yesterday at the conference "Data is the oil of the 21<sup>st</sup> Century".

JT: I hate that term.

RE: Why?

JT: I hate that term so much! I wrote an essay about this for Harvard Business Review last year. I think it's a terrible term for all kinds of reasons. First and foremost, the last thing we need is a new oil; second, data is not something you mine out of the ground, it's a human product; the analogy makes no sense. The only place where it becomes useful is to understand, like, can we use some of the negative impacts of oil as interesting metaphors; like what does a data spill look like, those kinds of things. That kind of terminology is what, you know, it's the puppetry that's behind the Big Data movement, companies are spending millions and millions of dollars on Big Data because of statements like that. Data is

the new oil, it just frames it in a commercialism that I just really find problematic.

RE: Something you said yesterday about Natalie Miebach that she states “we are being too polite with data”, can you expand on that?

JT: Well that was my whole theme from yesterday, we need to push and pull what’s expected of data and our use of data into territory that’s uncomfortable. There really is this puritanicalism around data that we have to use it this way, you have to do it that way, you know, go and study Tufte for three years before can.... How dare you use a Radiograph when you know that a line plot is the way to represent that data! It’s very, err, there’s fraternalism behind it, and it’s preventing us going in different ways to where we need to go. We need to be breaking more things and moving in directions that there hasn’t been much of.

RE: And do you see this as the future of Data Art, that’s the direction it will take?

JT: Hope so! I hope people will be doing things that we couldn’t even conceive of, because our frameworks don’t allow for them right now, that’s what we need to do, we need to break them down and get to more interesting places.

## Appendix 8

### STEVE LAMBERT EMAIL EXCHANGE

To...	Steve Lambert Studio <studio@visitsteve.com>
Subject :	DataArt
14/10/13	<a href="https://pod51036.outlook.com/owa/#viewmodel=ReadMessageItem&amp;ItemID=AAMkAGY3NTMyNTM3LTYzYjEtNGQ5MC05YTcyLWIyMDkwNGFkY2F...">https://pod51036.outlook.com/owa/#viewmodel=ReadMessageItem&amp;ItemID=AAMkAGY3NTMyNTM3LTYzYjEtNGQ5MC05YTcyLWIyMDkwNGFkY2F...</a> 1/2
<p>Hi</p> <p>My name is Richard Edmunds,</p> <p>I am writing to you to introduce myself as academic, as a DataArtist, but not least as a fan of your work - which may hopefully excuse some of the cheesier aspects of this mail. I</p>	

consider your work 'Capitalism works for me' to be at the theoretical and artistic forefront of DataArt and a thrilling practitioner and therefore, I would be delighted if you'd agree to respond to a few questions on DataArt and your work; this would be via an occasional e-mail exchange.

In the last six years my fascination with DataArt has become all consuming passion; currently I am researching for a Masters at the University of Huddersfield; my dissertation will not only investigate DataArt as a genuine movement but also explore DataArt's capacity to represent Data in a manner that aids human understanding in our current information flood. My own recent work has made modest inroads into the field; I am including a brief documentation of three of my pieces that illustrate my commitment to sourcing data and representing as a work of art. Initially I'll let these speak for themselves but would welcome any questions or insight you might have.

And finally, if this mail has aroused your curiosity and you have the time and desire to respond, here is the first question.

"Not including yourself, who is your favourite DataArtist and what do you admire about their work?"

In all events thank you for your time so far.

Richard Edmunds Contemporary Arts Huddersfield University
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To...	Richard Edmunds <U1064389@unimail.hud.ac.uk>
Subject :	Re: DataArt
19/10/13	<a href="https://pod51036.outlook.com/owa/#viewmodel=ReadMessageItem&amp;ItemID=AAMkAGY3NTMyNTM3LTYzYjEtNGQ5MC05YTcyLWIyMDkwNGFkY2F...">https://pod51036.outlook.com/owa/#viewmodel=ReadMessageItem&amp;ItemID=AAMkAGY3NTMyNTM3LTYzYjEtNGQ5MC05YTcyLWIyMDkwNGFkY2F...</a> 2/2

Richard,

Thanks for the email and the kind words.

I have bad news. I'm not really a fan of "DataArt" in general. I think data is a red herring. We think facts lead to change, but there are other more important factors. Most data based art work is under the assumption that if people could just see the "truth" in more vivid detail, from more angles, or in new ways, that then the scales will fall from their eyes and they will come to a new understanding and be motivated to change. (If the artist even thinks it through that far, most just have an ability to work with databases and computers and want to put that to some use, but don't really know how).

Stats, knowledge, and information, are not what motivate people, emotions and other non-rational things do.

Here's something related I recently wrote with Stephen Duncombe:

<http://www.onlineopen.org/columns/activist-art-does-it-work>

See especially the "necessary but not sufficient conditions" part.

If this is helpful and you want to continue, let me know...

Steve

## Appendix 9

## IOHANNA NICENBIOM EMAIL EXCHANGE

To...	Richard Edmunds <U1064389@unimail.hud.ac.uk>
From...	iohipocket@gmail.com on behalf of Iohanna Nicenboim
Subject :	DataArt?
15/09/13	<a href="https://amxprd0112.outlook.com/owa/?ae=Item&amp;t=IPM.Note&amp;id=RgAAAA-DiquzWE3kASZlB5zmQRFIBBwCPHVfTYXvyToLMia1r1Zd6AAAAAHBsAA...">https://amxprd0112.outlook.com/owa/?ae=Item&amp;t=IPM.Note&amp;id=RgAAAA-DiquzWE3kASZlB5zmQRFIBBwCPHVfTYXvyToLMia1r1Zd6AAAAAHBsAA...</a> 1/2
<p>Dear Richard,</p> <p>Thank you for contacting me and for your interest in my work. Your dissertation sounds really interesting and also your practice. I will be very glad to collaborate with you. So we can definitely follow the email exchange. I would love to hear more about your research! I'm a bit busy this week, but give me some days to check what you have sent me and think about the question and I will send you my answer soon.</p> <p>In the meanwhile all my best,</p> <p>Iohanna</p> <p>Iohanna Nicenboim</p> <p>Designer</p> <p>iohanna.com</p>	
To...	Richard Edmunds <U1064389@unimail.hud.ac.uk>
From...	Iohanna Nicenboim <iohanna.nicenboim@gmail.com>
Subject :	DataArt?



1/10/13	<a href="https://amxprd0112.outlook.com/owa/?ae=Item&amp;t=IPM.Note&amp;id=RgAAAA_DiquzWE3kASZlB5zmQRFIBBwCPHVftYXvyToLMia1r1Zd6AAAAAHBsAA...">https://amxprd0112.outlook.com/owa/?ae=Item&amp;t=IPM.Note&amp;id=RgAAAA_DiquzWE3kASZlB5zmQRFIBBwCPHVftYXvyToLMia1r1Zd6AAAAAHBsAA...</a> 1/2
<p>Dear Richard,</p> <p>Sorry I haven't replied to the last email, I was very busy last month.</p> <p>In regard to your questions:</p> <p>1- I'm indeed comfortable with the term. Just one thing, did you think about including also designers?</p> <p>2- As an important quality, I would mention a methodological and scientific approach. In my case, I usually follow a scientific approach both in the collection of the data and the analysis and representation.</p> <p>I would also include the quality of having a clear and transparent process. The process is a common quality of all art that deals with science, and I think in the case of Data art, it is not only important but also very transparent.</p> <p>Another quality I found important is Narrative. The artists which work with data normally don't take the data as pure material but instead they are interested in communicating a message and often telling a story.</p> <p>The last quality will be the connection with social aspects. In opposition to the fact that it might seem very scientific and more related to rational processes, statistics is used for the analysis of social phenomenons so it is strongly related</p>	

to people.

I hope I understood well the questions. I would be very happy if you could direct me to some interesting articles or bibliography about the subject of Data Art from an academic point of view.

All my best from Berlin,

Iohanna

## OTHER EMAIL EXCHANGES WITH ARTISTS USING DATA

From...	<b>Ben Shneiderman</b> <ben@cs.umd.edu>
Subject :	DataArt
12/09/13	
<p>Thanks for your supportive note. I hope you have seen our <a href="http://treemapart.wordpress.com">http://treemapart.wordpress.com</a></p> <p>My favorite DataArtist is Martin Wattenberg, whose elegant designs, graceful animated transitions, and meaningful data are always worth spending time to study.</p> <p>Best wishes.</p> <p>Prof. Ben Shneiderman ben@cs.umd.edu</p> <p>Dept of Computer Science 301-405-2680  A.V. Williams Building <a href="http://www.cs.umd.edu/~ben">www.cs.umd.edu/~ben</a>  University of Maryland <a href="http://www.cs.umd.edu/hcil">www.cs.umd.edu/hcil</a>  College Park, MD 20742 Twitter: @benbendc  Founding Director Human-Computer Interaction Lab  Glenn Martin Professor of Engineering  Member, Institute for Advanced Computer Studies  Member, National Academy of Engineering  Fellow AAAS, ACM, IEEE, SIGCHI Academy</p>	

From...	<b>Ben Shneiderman</b> <ben@cs.umd.edu>
Subject :	DataArt
26/10/13	

Dear Richard,

I understand the point of your exploration. As with many new directions there are disputes about territory and multiple competing names. I think of older computer art as algorithmically generated or using computer display devices in some interesting way. Data visualization (or info visualization) is functionally oriented (although sometimes is lovely enough to be called art), while data art is primarily esthetic, but based on some data source. Infographics covers visually appealing presentations of informative data, but is typically static, or if animated, allows little user control.

My early work on treemaps was definitely motivated functionally as information visualization (providing a tool for visual analytics). However, the Treemap Art Project is more on the side of data art, in that esthetic concerns were primary (see my blog post for the four strategies), so we removed controls, labels, legends, etc. As a result some of my information visualization colleagues and many of my computer science colleagues, were uninterested.... But some eventually came around to find it creative and appealing, even “cool”.

Interestingly, some of my art colleagues were not ready to accept it as art, since they thought the algorithmic aspects

controlled too much of the design.

All this means there are different perspectives and that people's attitudes change over time... But that is often the fate of innovations.

Have you been in touch with Ernest Edmonds and Linda Candy over these issues... They are thoughtful commenters... you are welcome to share my comments with other.

Best wishes... Ben

From...	<b>Drew Hemment</b>
Subject :	DataArt?
19/10/13	<a href="https://pod51036.outlook.com/owa/#viewmodel=ReadMessageItem&amp;ItemID=AAMkAGY3NTMyNTM3LTYzYjEtNGQ5MC05YTcyLWIyMDkwNGFkY2F...">https://pod51036.outlook.com/owa/#viewmodel=ReadMessageItem&amp;ItemID=AAMkAGY3NTMyNTM3LTYzYjEtNGQ5MC05YTcyLWIyMDkwNGFkY2F...</a> 1/2
<p>Hi Edmund</p> <p>Wonderful to hear from you, thank you for your generous words, and for introducing me to your work.</p> <p>To answer your question:</p> <p>"Not including yourself, who is your favourite DataArtist and what do you admire about their work?"</p>	

It is an obvious answer, but I would say Aaron Koblin, because he has done more than anyone to open up the field, he has done works that have been aesthetically beautiful, others that pose deep critical questions on issues such as crowdsourcing such as One Hundred Cents, and he has also taken data art into mainstream culture through he work with musicians.

Very best,

Drew

From...	Ellie Harrison <ellie@ellieharrison.com>
Subject :	DataArt?
15/09/13	
<p>Hi, I hope you got my message.</p> <p>I think I'll be too busy to answer any further questions, but FYI the Hans Haacke piece is called: Rhinewater Purification Plant (1972)</p> <p>Keep me posted on how the research goes,</p> <p>Ellie Harrison</p>	

From...	Ellie Harrison <ellie@ellieharrison.com>
Subject :	Re: DataArt?
22/09/13	<a href="https://amxprd0112.outlook.com/owa/?ae=Item&amp;t=IPM.Note&amp;id=RgAAAA-DiquzWE3kASZlB5zmQRFIBWCPHVftYXvyToLMia1r1Zd6AAAAHBsAA...">https://amxprd0112.outlook.com/owa/?ae=Item&amp;t=IPM.Note&amp;id=RgAAAA-DiquzWE3kASZlB5zmQRFIBWCPHVftYXvyToLMia1r1Zd6AAAAHBsAA...</a> 1/3
<p>Hi Richard,</p> <p>Thanks for your message!</p> <p>Much easier to respond by email than get lost in the quagmire of Facebook.</p> <p>That's so nice of Ben Highmore to put me in such great company.</p> <p>I guess the first thing to say is that I don't like to put things in pigeon holes so much in terms of 'dataArt', 'new media art', 'live art', visual art etc. I am always working in and around all these different fields and way beyond, especially with regards to my campaigning for public ownership of the railways: <a href="http://www.bringbackbritishrail.org">www.bringbackbritishrail.org</a></p> <p>My view of what art is and what it is for is ever evolving. However I would class it as a form of communication, in which artists (good ones at least) aim to draw our attention to / make visible aspects of the world, which might otherwise go unnoticed. I have found that visualising data, as I have done in the past, can be a way of communicating complex and intangible ideas in simple and engaging ways. There is more info about my approach to life / art making here. With that all said, I'd probably say my</p>	

favourite 'dataart' work would be Hans Haacke's piece when he wanted to draw attention to the pollution going on in a local river. so he installed a fish tank in a gallery and filled it with water from the river, which publicly killed all the fish inside and created a uproar about animal cruelty, even though he was just replicating what was at the same time in the real world beyond.

I am also a big fan of

Tehching Hsieh and his "One Year Performance" where he clocked in using a time

clock on the hour every day for a year. <https://vimeo.com/16280427>

And Lucy Kimbell's brilliant seminal LIX Index and the Physical Bar Charts, which she made for the Day to Day Data show I curated. <http://www.lucykimbell.com/lix/>

And of course, Michael Landy's breakdown! One person's life possessions visualised in a spectacular way.

Let me know if you need more info about any of the above.

Good luck with the research and let me know how it turns out.

Best wishes,

Ellie

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 Skype: tellieharrison  
 Ellie & Oliver Show:  
 broadcasting LIVE from Glasgow  
 every Friday lunchtime in 2012



From...	<stigmergy@gmail.com> on behalf of <b>Heather Dewey-Hagborg</b> <heather@deweyhagborg.com>
Subject :	DataArt?
05/11/13	
<p>briefly, I have generally referred to myself as an "information artist" rather than a data artist. I am intrigued by how we culturally order data as information. so I most often work with higher order "information" rather than pure streams of what I would consider unordered "data" generally.</p>	

From...	<b>Aaron Koblin</b> <aaronkoblin@gmail.com>
Subject :	DataArt?
31/10/13	
<p>Hey Richard.</p> <p>I'm very comfortable with this term. In fact I named my team at Google the Data Arts Team. I think your definition is a good one. I'm concerned with art and communications based on data, statistics, and digital technologies.</p>	

It's broad... just how I like it.

From...	<b>James Yarker</b> <james@stanscafe.co.uk>
Subject :	DataArt?
26/10/13	
<p>Dear Richard,</p> <p>I'm enjoying this 'conversation', see what you make of this and get back to me if you need another round of back and forth.</p> <p>With best wishes</p> <p>james</p>	

From...	Richard Edmunds <U1064389@unimail.hud.ac.uk>
To...	<b>James Yarker</b> <james@stanscafe.co.uk>
Subject :	Re: DataArt?
27/10/13	
<p>Dear James,</p> <p>Thank you for your previous response, I especially appreciate</p>	

your honesty regarding the obscurity of data some sculptures produce. Also the only recipient to actually question the term 'DataArt' has inspired my second question. As you have already answered in part, were there any other qualities, other than not obscuring the original data, you feel is primary to successful DataArt. .

Following on from the previous email;

1) My approach came to you as a Data Artist and I positioned some of your work as DataArt (1),  
as you did not question the term I would like to check you are comfortable with it?

From...	<b>James Yarker</b> <james@stanscafe.co.uk>
Subject :	DataArt?
30/10/13	
<p>We're a theatre company. <i>Of All The People In All The World</i> could be regarded as a piece of DataArt, we describe it as a Performance Installation but only because the suits our purposes in most contexts.</p> <p>2a) If you ARE comfortable with the term - What would you consider to be the primary methodological quality/tendency of</p>	

any work that would be included within this artistic area?

2b) If you are unable to assign a single quality/ tendency, please list a few possible qualities/tendencies in order of importance.

I have very little interest in categorisations as I feel they tend to place conceptual limitations on either what an artist may think of making or what a programmer/curator may consider booking/commissioning or what an potential audience may consider attending. If having *Of All The People...* is considered DataArt by a curator of a festival of DataArt who then offer us a booking on the strength of this then I am happy enough to sit in that company. We tend to make things and leave it up to others to argue about what they are.

James Yarker

Artistic Director  
Stan's Cafe

PO Box 16044  
Birmingham

From...	<b>Luke Jerram</b> <luke@lukejerram.com>
Subject :	DataArt?
26/10/13	
<p>You could say some of my artworks present data...</p> <p>Presenting both Analogue and digital information... Earthquake Sculpture, Stock Exchange, Tide.</p> <p>But many other projects don't do this...sky orchestra, play me I'm yours, glass microbiology.</p> <p>I have been described as a digital multimedia artist, a glassartist, performance artist, sculptor, installation artist. So you could say I'm also a data artist but not exclusively so.</p> <p>Feel free to take text and images from my site for your use.</p> <p>Hope that helps.</p> <p>Good luck with your research.</p> <p>Best regards,</p> <p>Luke Jerram</p> <p>Visiting Senior Research Fellow at CFPR, University of West of England.</p> <p>Office +44 (0)1173703376 Mob +44 (0)797 2300 941</p>	