



Drawing and Visualisation Research

# PLANET EARTH IS BLUE: RE-INTERPRETING COMMANDER HADFIELD'S PHOTOGRAPHS OF EARTH TAKEN FROM THE INTERNATIONAL SPACE

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Planet Earth is Blue: reinterpreting Commander Hadfield's images of Earth taken from the International Space Station, investigates drawing and written language in relation to current acts of representation and interpretation. Through undertaking a series of drawn reinterpretations of images of earth, the author attempts to visually describe that which she sees in the images while asking whether (or not) a drawing may convey an idea to an audience more precisely than words. In this practical process issues related to ways of seeing and interpreting in particular Pareidolia, Apophenia, Dyslexic Visual Literacy and Visualcy are investigated. The images examined in this paper were sourced and responded to through social media (Twitter), and although this author recognizes the significance of Twitter's contemporary theatre of exchange, this is not an in-depth investigation into social media issues. Rather this paper intends to address contemporary imaging and how new points of view (earth viewed from space and technical advances in visual imaging), might impact contemporary ways of seeing and perceiving.

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## 1. FINDING COMMANDER HADFIELD<sup>1</sup>

In support of the virtual world; while some people may be concerned that over use of social networking and other screen focused activities might disconnect us from the phenomenological experience of our worlds,<sup>2</sup> there are artists such as Christian Nold whose emotional mapping works masterfully commandeering technology and virtual space to reawaken awareness of the individual to their place.<sup>3</sup> As this paper addresses correspondence accessed through Twitter, I would like to clarify that rather than the intimacy between followers and subjects; which the Twitter community suggests, it is the free flow of live time concepts shared and expanded throughout the virtual space, that is (for me) the value of Twitter. And so when a student on the CSM MA (Central Saint Martins) Character Animation Course<sup>4</sup> showed me how to install Twitter onto my iPhone, I opted to follow a number of different news hubs including The New York Times. A few days later I read a post outlining a telephone conversation between the actor William Shatner (well known for his role as Captain James T. Kirk in *Star Trek* the 1966-69 US sci-fi TV series created by Gene Roddenberry), and a Canadian astronaut; Commander Chris Hadfield, then onboard the International Space Station (ISS)<sup>5 6</sup>. This unusual weaving together of fact and fiction inspired me to follow Commander Hadfield, and that is how I began to see his photographs of earth taken from the cupola, a glass dome look out post on the orbiting ISS. At 2:38 PM on the 28<sup>th</sup> of March (2013) Hadfield (twitter account @cmdr\_Hadfield) tweeted a photograph of a deep green lake surrounded by brown mountains, together with the image he wrote "*This Bolivian lake looks to me like a dinosaur's jaws. What do you see?*" Studying the detailed view of the lake, Hadfield's image looked to me like a little girl with a dragon. It was at this moment that I realized that if I answered Hadfield's question in words to describe what I saw, Hadfield would not see exactly what I saw. And it occurred to me that because written language is open to multiple and individual interpretations, words cannot convey an image to another as precisely as an image can convey an image to another. Artist Kelly Chorpening (2014:96-99) tells us 'In my work I explore the use of forms and mark-making that can be read as much like drawing as writing, to somehow visualize the relationship our experience of objects, places and emotions have in relation to language.' But my problem here is not that of the interchangeable possibility of the written and the drawn, rather at hand

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<sup>1</sup> Should the reader seek information on how humankind inhabits virtual spaces, academic and writer Dr Aleks Krotoski's engaging texts and TV/Radio programs are a valuable source of informative commentary on the subject. <http://alekskrotoski.com/>

<sup>2</sup> Natural Navigator Tristian Gooley 'if all we do is stare at the GPS we are going to be losing skills and awareness and a lot of fun' <http://www.bbc.co.uk/radio4/excessbaggage/> (accessed 2 February 2009).

<sup>3</sup> Christina Nold's Greenwich Emotional Map (commissioned by Independent photography) ran from October 2005 to March 2006. Source <http://www.softhook.com> (accessed 2 February 2009)

<sup>4</sup> CSM is Central Saint Martins, one of the seven art colleges within The University of the Arts London. <http://www.arts.ac.uk/>

<sup>5</sup> [http://www.nasa.gov/mission\\_pages/station/main/index.html](http://www.nasa.gov/mission_pages/station/main/index.html)

<sup>6</sup> From the 1950's NASA employed scientist Carl Sagan as a consultant adviser. Sagan popularised science through his television series *Cosmos*, in 1994 Sagan showed viewers an image of earth taken from Voyager 1 (now the most distant human made object), at a distance of 4 billion miles "*Look again at that dot. That's here. That's home. That's us. On it everyone you love, everyone you know, everyone you ever heard of, every human being who ever was, lived out their lives. ...on a mote of dust suspended in a sunbeam*" Sagan 1994 <http://youtu.be/p86BPM1GV8M>. While Commander Chris Hadfield was on the ISS, recorded *Is Somebody Singing (ISS)*– with The Barenaked Ladies and The Wexford Gleeks (on earth), words to the song are as follows –"*... Push back in my seat look out my window there goes home, that ball of shiny blue houses everybody anybody ever knew...*" <http://youtu.be/AvAnfi8WpVE>

is an issue of how to communicate clearly what is in my mind's eye. Hadfield's invitation to play had me thinking about how differently individuals interpret what they see, and how his images of earth could be translated in multiple ways depending on the viewpoint they are seen from, (by viewpoint I mean the individual's visual experience, culture and education), and also the individual's understanding of (that is the personal narrative related to), the particular location that is the subject of the image.

I will now address issues related to ways of seeing and the descriptive potential of drawing versus the descriptive capacity of written language.



FIGURE 1: CMDR. HADFIELD'S IMAGE OF A BOLIVIAN LAKE<sup>7</sup>



<sup>7</sup> Commander Chris Hadfield's CSA/NASA images are not copyrighted for use in online information contexts. All photographs included in this paper are taken by Commander Chris Hadfield, CSA/NASA. [http://www.nasa.gov/audience/formedia/features/MP\\_Photo\\_Guidelines.html#Up3ba0HnVgu1980](http://www.nasa.gov/audience/formedia/features/MP_Photo_Guidelines.html#Up3ba0HnVgu1980).

FIGURE 2: M.FOÁ'S DRAWN INTERPRETATION- BOLIVIAN LAKE. (LITTLE GIRL TICKLING A DRAGON'S NOSE)

## 2. WAYS OF SEEING: THE DESCRIPTIVE POTENTIAL OF DRAWING VERSES THE DESCRIPTIVE CAPACITY OF WRITTEN LANGUAGE

Berger (1972) tells us 'seeing comes before words; the child looks and recognizes before it can speak. It is seeing which establishes our place in the surrounding world. We explain that world with words. But the relationship between what we see and what we know is never settled...' This problematic schism, between literary description and visual experience – is what came into play for me when encountering Hadfield's extraordinary images of earth taken from the International Space Station (ISS). Yet despite facing this difficulty (of visual verses linguistic translation), it was through research over time, in which I investigated performance drawing;<sup>8</sup> that I began to understand the potential clarity of drawing. By examining concepts of drawing and performance, I came to understand that the act of drawing a landscape, performatively reproduces that landscape. Between the observing [or imagining] eye and the gesturing hand is the performative recording of that which is seen [or imagined]. Just as each researcher seeks out confirmation of their ideas, my research unsurprisingly found numerous texts supporting the clarity of drawing in relation to the intention of the author of the work. Craig-Martin (1995), confirms how drawing can clearly describe the author's view when he tells us 'the great quality of each drawing as a work of art is its capacity to embody fully the singular vision of the artist', and de Zegher (2010: 119) [re] turning to a definition of drawing in the twentieth century tells us 'With line as the prime element of a language concerned with the imitation of reality, drawing could be both a reliably accurate representation of the observed' and 'a poetically inspired' imagined 'representation'. And so in contrast to the clarity of the intention being present in a drawing, words having multiple readings fail to pinpoint one view. But despite the fact that this paper seeks to confirm the strength of drawing for the purposes of visual description, this author would also like to acknowledge that drawing might also impose visual ideas onto the viewer disallowing them to have their own interpretation. It is in the oscillating unfixed characteristic of words in the context of visual description (either in text or in recorded narration) that a reader or listener is allowed to conjure (in their mind's eye) their own images, and in so doing to inhabit the space often taken, even imposed upon, by images invented by others. Indeed in the contest of reading or listening to words some prefer to be given space to imagine, rather than to have someone else's vision thrust upon them. As Anderson (2011) explains, listeners to Douglas Adams's *Hitchhikers Guide to the Galaxy* could match Adams's vision (in their minds eye), while TV and later the movie struggled to achieve a convincing two headed character or to successfully portray Adams's end of the universe.<sup>9</sup> And so in this

<sup>8</sup> Sounding Out: performance drawing in response to the outside environment. <http://ualresearchonline.arts.ac.uk/5455/>

<sup>9</sup> <http://www.dailymail.co.uk/home/moslive/article-1364899/Radio-Its-like-TV-pictures-better-CLIVE-ANDERSON.html> (Accessed December 1 2013)

theatre of imagination and interpretation, it stands that if an individual intends to describe to another individual exactly how they see an image, then an image rather than words, is required to achieve that task.

I would now like to attempt to describe Hadfield's photographs using words, thereby outlining my intention in undertaking this exercise while also illustrating the limitation of the written word in this visual context.

### 3. HADFIELD'S PHOTOGRAPHS

Most of the photographs that Hadfield has taken of earth have no reference to context (they do not show that the image of earth has been captured from space at a distance from earth). Neither do they (in general) have a particular orientation; there is no fixed horizon or indication as to where up or down is located on the image. This giddy visual freedom (if such a dislocation from visual expectations can be called a freedom), is sometimes heightened by the shadows around geological formations (mountains and valleys) suggesting the opposite of their physical condition, mountains recede valleys protrude, rivers appear raised from the surrounding ground like floating lines of mercury- this loss of orientation brings with it a visual slip, an optical illusion akin to Wittenstein's duck rabbit figure.<sup>10</sup>

On the ISS Commander Hadfield traveled at a speed of approximately 17,500mph, while looking at earth rotating at approximately 1,040mph, and while floating in zero gravity. Despite these multiple motions Hadfield managed (with acute visually proficiency), to identify (through over 3 inches of various glass cupola windows), distinct detailed segments of earth as seen directly from above (at a distance of approximately 220 miles / 354 kilometers). When examining Hadfield's photographs, it is important to remember that all processes of image making, require the practitioner's proficiency of selection to structure the resulting composition. Hadfield's images, arrived at through experience honed to seek out a detail from within a large moving globe, reveal his highly advanced visual skills, within this very particular contemporary 'off earth' point of view. Hadfield has an exceptionally acute eye for the fine aesthetic in the coming together of various geographical phenomena. Where sea meets land, where river cuts valley, where fauna, forest, sand, ice or salt form islands on different terrain, the images Hadfield captures are exquisite compositions of the patterning and interactions in different geological details. Since 1946 when earth was first imaged from

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<sup>10</sup> [http://faculty.ccri.edu/paleclerc/existentialism/perc\\_figure.shtml](http://faculty.ccri.edu/paleclerc/existentialism/perc_figure.shtml) Notes from Wittgenstein's Perceptual Interpretation- The Duck Rabbit figure, selected extracts online edited by Paul Leclerc Community College Rhode Island 2004

space<sup>11 12</sup> we have seen so many countless spectacular pictures of our home planet that we have perhaps become complacent.

But the images captured by Hadfield stand out partly; as Garber (2013) observed “Hadfield’s photographs frequently resembl[e] abstract painting rather than geological form”<sup>13</sup>. Yet, I suggest it is also Hadfield’s celebratory eye, which enables him to select and then frame together the richness of textural and tonal differences into images of pristine sublime.



FIGURE 3: CMDR. HADFIELD LAKE POOPO BOLIVIA<sup>14</sup>

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<sup>11</sup> “The grainy, black-and-white photos were taken from an altitude of 65 miles by a 35-millimeter a motion picture camera riding on a V-2 missile launched from the White Sands Missile Range.” From ‘First Photo From Space: In 1946, rocket-borne cameras gave us our first look at Earth from beyond the atmosphere. By Tony Reichhardt *Air & Space Magazine* November 2006 <http://www.airspacemag.com/space/the-first-photo-from-space-13721411/?no-ist> (Accessed May 20 2015)

<sup>12</sup> Since the 1968 Apollo 8 image of earth rising over the moon, we have seen our home planet clearly from a detached point of view.

<sup>13</sup> [http://www.theatlantic.com/technology/archive/2013/03/nasa-or-moma-play-thegame/274212/?google\\_editors\\_picks=true&buffer\\_share=1bad8&utm\\_source=buffer](http://www.theatlantic.com/technology/archive/2013/03/nasa-or-moma-play-thegame/274212/?google_editors_picks=true&buffer_share=1bad8&utm_source=buffer)

<sup>14</sup> @Cmdr\_Hadfield 11:49-13 april 2013 ‘Lake Poopo Bolivia. The water level goes up and down dramatically with E; Nino, revealing a myriad of faces’ Accessed 30<sup>th</sup> December 2014.



FIGURE 4: M.FOÁ'S DRAWN INTERPRETATION- LAKE POOPO BOLIVIA- (A LADY WITH A BEARD AND A HIGH HAIR DO).

I will now address how I reinterpreted Hadfield's photographs, while outlining the different visual and perceptual issues Pareidolia, Apophenia, Dyslexic Visual Literacy and Visualcy that came into play.

#### 4. THE PRACTICAL PROCESS OF REINTERPRETING HADFIELD'S PHOTOGRAPHS; PAREIDOLIA, APOPHENIA, DYSLEXIC VISUAL LITERACY AND VISUALCY.

I would like to begin with an apology of sorts- one problem in my attempting to visually translate Hadfield's images, is that although I intend my drawings as playful interactions examining how differently individuals see, they may be interpreted as a kind of vandalism; particularly in the light of Hadfield's exquisite aesthetic. In defense I do not intend to impose a change of any sort on the images, but only to heighten a temporary and limited view of the overall image. And in so doing to draw attention to the area of the image that suggests to me a particular form, thus revealing to the viewer my visual interpretation of the image.<sup>15</sup>

The South African artist William Kentridge (2014:97) focuses on how we are programmed to see too much 'it is about not being able to stop ourselves seeing ... shapes.' Lying on his back looking at clouds Kentridge observed that once a shape is recognized 'you cannot stop yourself from seeing it.' How we see, interpret and understand what we see, and significantly how we describe to others what we see, is important in order to share information, to aid

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<sup>15</sup> An animated film of the drawings that I made of Commander Hadfield's photographs (showing the drawings and the photographs they were drawn from alternatively) can be viewed on line at this address [https://youtu.be/zi7R\\_WFfRMM](https://youtu.be/zi7R_WFfRMM). The description alongside the animation reads as follows: Drawn translations / interpretations of Commander Chris Hadfield's photographs of earth taken from the ISS (International Space Station) NASA (March - June 2013). Accompanied by a vocal scat improvisation titled Hum for Hadfield. Drawings and sounds are made in appreciation of Hadfield's inspiring and inclusive vision. The title Planet Earth is Blue - is borrowed from David Bowie's 1969 song -Space Oddity.

individual learning in all disciplines, and as a tool to negotiate the personal every day. This important skill of seeing and interpreting what we see, has generally been termed Visual Literacy. Advancing this concept towards an independent skill Mitchell (2007:11) coined the term Visualcy,<sup>16</sup> and when he tells us 'If seeing is like reading, it is so only at the most rudimentary levels,' we can understand how concerned he is with the 'limits of the metaphor,' that is Visual Literacy used as a term to describe the competence of visual understanding. And so I would propose that in order for this specific skill to be defined without an implication of an association to written or spoken language, we could employ Mitchell's term without the prefix of 'Literal'. In this way we can emphasize the importance of seeing and of developing the ability of perceiving and interpreting that which is seen, as separate from the ability to read and write or to work with numbers. Perhaps one-day schools will teach Literacy, Numeracy and Visualcy.

I selected to reinterpret Hadfield's images in which a detail of our planets surface revealed multiple interactions between numerous elements of various textures (including cloud, light, ice, snow, rock, sand, salt, water, forest, farmland cityscape and earth), and in which the shapes and forms suggested numerous readings, and were not therefore restricted to a singular clichéd interpretation that might direct any one particular style of marking or drawing. From March to May 2013, the re-interpreting of Hadfield's images became my daily drawing exercise, in some ways similar to how Kentridge describes lying on a hillside identifying the shapes of clouds as they reformed on the wind. The practical process was very straightforward (those readers who are of a gadget precious disposition look away now). I clicked onto Hafield's tweets selected the image he had posted and using my computer screen as a light box (placing paper onto the monitor-the screen illumination was strong enough to reveal the photograph through the paper), in this way I drew / traced the image directly from my laptop monitor. Not since my school days had I traced an image in this way – in those distant geography lessons we were required to trace a precise copy, but in my anxiety to achieve correctness I repeatedly lifted the paper to check my marks were following the landline, I did not understand that with every check the paper shifted

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<sup>16</sup> Mitchell investigates the nature of visual proficiency asking 'to what extent does verbal literacy involve ...visual competence'.



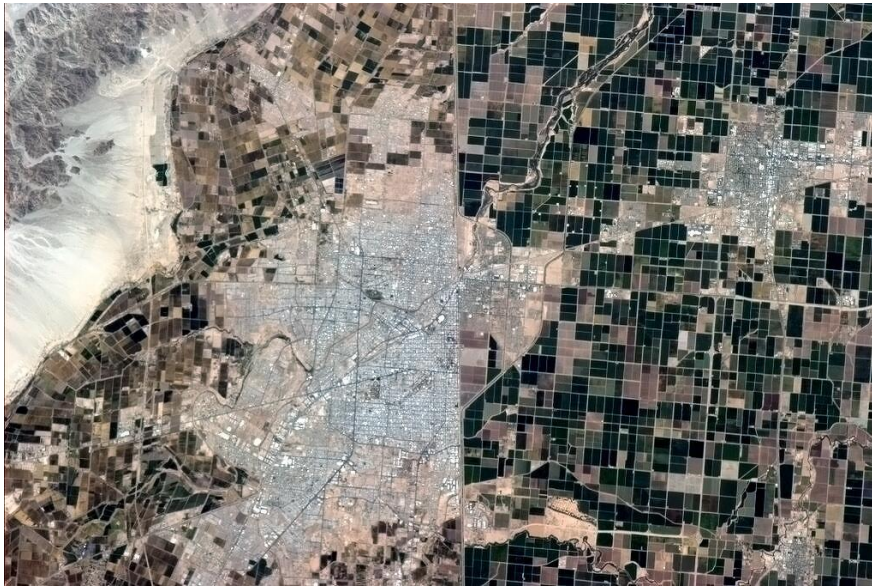


FIGURE 5: CMDR. HADFIELD US MEXICAN BORDER <sup>17</sup>

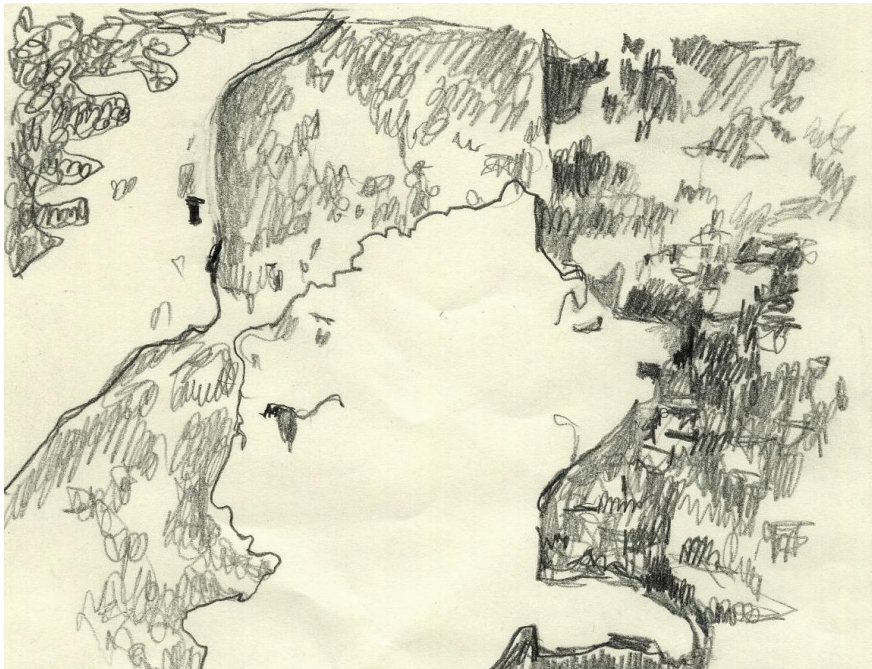


FIGURE 6: M.FOÁ'S DRAWN INTERPRETATION-US MEXICAN BORDER (WOMAN LOOKING PAST A DOG SNIFFING THE AIR)

place and reduced the accuracy. This time my process had no concern for accuracy; my traces were not intended to aspire to the hyper real copies of photographs that artist Chuck Close achieves.<sup>18</sup> Nor did my drawings desire such pristine fineness as the works of Tania Kovat's *British Isles*,<sup>19</sup> (over 2000 drawings on acetate, 'that map every isle or rock that is separate to the main body of landmass that is know as the British Isles.')

<sup>17</sup> @Cmdr\_Hadfield 2:14PM-8 May 2013. 'Same land different politics. US-Mexican border seen from space. [pic.twitter.com/rsEnFXOenN](http://pic.twitter.com/rsEnFXOenN) Accessed Dec 30 2014

<sup>18</sup> <http://www.pacegallery.com/artists/80/chuck-close>. See Chuck Close's self portrait 1966-68 available on this website.

<sup>19</sup> <http://land2.leeds.ac.uk/people/kovats/>

traces of Hadfield's photographs were solely a direct and swift method by which to convey my interpretation of the image. And with this intention foremost in my mind, to as clearly as possible, share the image in my mind's eye, I concentrated only on the areas that underlined my reading of the image, and paid less attention to other details in the frame. Three visual processes came into play; Pareidola, which as Zimmermann (2012) explains '...is a ...generalized term for seeing [figurations]...in random data.'<sup>20</sup> And Apophenia, which Poulsen (2012) warns is simply an example of "*Our relentless detection of patterns [as] part of our larger search for meaning.*"<sup>21</sup> The third visual process that I am aware of activating in the redrawing of Hadfield's images is DVL (Dyslexic Visual Literacy). DVL is a term designed by Dr Brian O'Keefe (2008) to celebrate the condition of those with Dyslexia, the four Dyslexic attributes O'Keefe has identified are: Visual thinking, Spatial ability, Pattern recognition and Problem solving.<sup>22</sup> O'Keefe (2008) explains that these mechanisms act ' ... in a non-sequential continuum that internalizes the creative interaction of an integrated cognitive experience afforded by vision - with or without the use of ocular vision - and does not require full consciousness.'<sup>23</sup> Referencing Smith-Spark, Fawcett, Nicolson, Fisk (2004: 174-182) O'Keefe goes on to tell us that while 'DVL is naturally acquired through being dyslexic. This visual ability is continuous and integrated into everything a dyslexic person does in daily life.' And therefore because I am Dyslexic, whatever I draw through observation or imagination, is always conditioned by the mechanisms of DVL.

After weeks of being awash in Pareidola, Apophenia, and DVL, rather than becoming visually deluded through so much looking, the more I looked the more I saw, mimicking Berger's (2007) idea that 'drawing leads us to discovery'.

Scientist Richard Feynman (1981) in his much repeated interview on whether the artist or the scientist sees more beauty in a flower <sup>24</sup> determined that by discovering the workings of the flower and how it influences insects and how they work – the scientist would appreciate more beauty in the flower than the artist could. Yet Feynman (1985) with his insatiable appetite to discover, employed drawing to calculate and re-figure equations into visual signs, "*I wanted very much to learn to draw,*" Feynman said "*for a reason that I kept to myself: I wanted to convey an emotion I have about the beauty of the world.....it's a feeling of awe-of scientific awe- which I felt could be communicated through a drawing to someone who had also had this emotion. It could remind him for a moment of this feeling about the glories of the Universe.*" Perhaps Feynman understood that through focusing the restless eye into steadied observation – much like the attitude of a tele or micro scope, there is, in the hand

<sup>20</sup> <http://www.livescience.com/25448-pareidolia.html> (Accessed 1/12/13)

<sup>21</sup> <http://www.minnpost.com/second-opinion/2013/11/why-we-see-jesus-piece-toast-or-hear-bing-crosby-amid-static> (Accessed 1/12/13)

<sup>22</sup> now available from <https://www.actapress.com/Abstract.aspx?paperId=32919>

<sup>23</sup> In O'Keefe's paper he cites West, Thomas G. (1997). *In the Minds Eye*. Amherst, NY: Prometheus Books. And also Gardner, Howard. (1993). *Frames of Mind*. New York, NY: Basic Books, member of The Perseus Books Group.

<sup>24</sup> The Beauty of the Flower. [www.FreeScienceLectures.com](http://www.FreeScienceLectures.com) 1981. <https://youtu.be/ZbFM3rn4ldo>

to eye (seeing and recording) process of observational drawing –a connection made between the observer and that which is being observed and through that connection comes discovery.



FIGURE 7: CMDR. HADFIELD. DRY LAKE IN THE OUTBACK <sup>25</sup>



FIGURE 8: M.FOÁ'S DRAWN INTERPRETATION DRY LAKE IN THE OUTBACK (SLEEPING MAN HOLDING A WHITE RABBIT)

<sup>25</sup> @Cmdr\_Hadfield 5:53 AM- 18 April 2013 'Dry lake like a bunny in the unmistakable outback' Accessed 30<sup>th</sup> Dec 2014

## 5. LOOKING UP, LOOKING DOWN, LOOKING OUT AND LOOKING AWAY – HOW AND WHERE ARE WE LOOKING NOW?

Mitchell (2007:11)<sup>26</sup>, addresses western societies recent surge of visual thinking by explaining “in the mid 1980’s notions such as Visual Culture were nothing more than rumors” ...’ now those theories ‘ ...inspired by semiotics, ...[are] yesterdays news’. I suggest that through this development in visual awareness together with expansions of visual technology which have facilitated new points of view



FIGURE 9: CMDR. HADFIELD IMAGE OF MANCHESTER<sup>27</sup>



<sup>26</sup> W. J.T Mitchell's chapter title, 'Four Fundamental Concepts of Image Science' is perhaps a reference to Jacques Lacan's 1973 book The Four Fundamental Concepts of Psychoanalysis.

<sup>27</sup> @cmds\_Hadfield. 9:21AM-8 Apr 2013 Manchester, England, home to two great football teams battling in the derby tonight. Who is your pick? accessed Dec 30 2014

FIGURE 10: M.FOÁ'S DRAWN INTERPRETATION MANCHESTER (THE HEAD OF A SPECTACLE BEAR FACING TO THE LEFT)

(by that I mean earth seen from space and computer generated imaging), contemporary ways of seeing and perceiving have been impacted, and it is because we are growing more accustomed to seeing these expanded views that we are, it could be said, in some way being prepared to venture away from our home planet and to explore deep space in real ways which we may until now, only have imagined in our wildest dreams.

To support this idea I would like to very briefly list a number of different images which over the centuries, have stood to expand humankind's view in relation to their location and in relation to where the place which might be understood to be; beyond their location, may also be. Ever since ancient times, when scientists, warriors, cartographers and artists have sought higher ground, either for learning, security or some other form of documentation purposes, vistas from hilltops and towers have been recorded in order to expand the home view. Helped by the invention of the telescope Galileo made ('the first realistic') drawings of the moon in 1609-1610.<sup>28</sup> Almost two hundred years later Sir John Herschel with the help of his father William; constructed a large telescope that enabled him in 1835 to draw the great Nebula in Orion. Herschel also developed a photographic process but it was the photographer Henry Drapper who in 1880 first captured a photographic image of Orion's Nebula.<sup>29</sup> Looking back to earth the first photograph taken from a balloon was made in 1858<sup>30</sup> closely followed by images made by cameras attached to flying kites, pigeons and rockets. Then the first photograph that was taken from an airplane, looking back to earth was made in 1909. It was not for almost another forty years that humankind in 1946 pictured earth from above the atmosphere, the technology employed to capture this image had been advanced through the requirement of military activities. "The grainy, black-and-white photos were taken from an altitude of 65 miles by a 35-millimeter a motion picture camera riding on a V-2 missile launched from White Sands Missile Range."<sup>31</sup>

In 1968 when the Apollo 8 mission photographed Earth rising over the moon<sup>32</sup> humankind's vista expanded to encompass a wholly detached view. It was only thirty years later that technology advanced to enable a spacecraft to travel into the distant reaches of our solar system expanding the vista still further. Scientist and Astronomer Carl Sagan requested that Voyager 1 turn back to record '.. one last look at its home planet.' At approximately 6.4 billion kilometers (4 billion miles) away, on February 14, 1990, Voyager 1 'caught in the center of scattered light rays (a result of taking the picture so close to the Sun), [photographed] Earth appear[ing] as a tiny point of light, a crescent only 0.12 pixel in size.'<sup>33</sup> Addressing the

<sup>28</sup> <http://www.openculture.com/2014/01/galileos-moon-drawings.html>

<sup>29</sup> <http://www.studiointernational.com/index.php/visions-of-the-universe>

<sup>30</sup> PAPA International- The professional aerial Photographers Association lists a history of photographic landmarks. [http://professionalaerialphotographers.com/content.aspx?page\\_id=22&club\\_id=808138&module\\_id=158950](http://professionalaerialphotographers.com/content.aspx?page_id=22&club_id=808138&module_id=158950)

<sup>31</sup> From 'First Photo From Space: In 1946, rocket-borne cameras gave us our first look at Earth from beyond the atmosphere. By Tony Reichhardt. Online at Air & Space Magazine November 2006 <http://www.airspacemag.com/space/the-first-photo-from-space-13721411/?no-ist> (Accessed May 20 2015)

<sup>32</sup> Since the 1968 Apollo 8 image of earth rising over the moon, we have seen our home planet clearly from a detached point of view.

<sup>33</sup> <http://www.planetary.org/explore/space-topics/earth/pale-blue-dot.html>

extraordinary perspective of this image Sagan delivered what has since become one of sciences most frequently repeated quotes ‘Look again at that dot. That’s here. That’s home. That’s us. On it everyone you love, everyone you know, everyone you ever heard of, every human being who ever was, lived out their lives.’<sup>34</sup> Some sixty years before Sagan’s *Pale Blue Dot*, Benjamin (1936)<sup>35</sup> found that technology (the photographic lens) had reached such a speed as to ‘perceive more swiftly than the hand can draw’. Benjamin also observed that in sound film ‘the process of pictorial reproduction has accelerated so enormously that it could keep pace with speech.’



FIGURE 11: CMDR. HADFIELD IMAGE OF PRINCE EDWARD ISLAND<sup>36</sup>

<sup>34</sup> <http://www.theatlantic.com/technology/archive/2014/02/an-early-draft-of-carl-sagans-famous-pale-blue-dot-quote/283516/> (Accessed May 21<sup>st</sup> 2015)

<sup>35</sup> This Benjamin quote from ‘A Work of Art in the Age of Mechanical Reproduction’ has been sourced from H. Arendt (ed), *Illuminations*, UK: Cape 1970, p 219-226.

<sup>36</sup> @cmds\_Hadfield 12:11 PM - 20 Apr 2013. Prince Edward Island waits for the greening of Spring . (Accessed 21 May 2015)



FIGURE 12: M.FOÁ'S DRAWN INTERPRETATION PRINCE EDWARD ISLAND (PIG)

Now it can be said that through digital, virtual and interactive revolutionary technological developments - imaging processes, which we use in our everyday lives, have long passed the pace of speech and easily match the speed of our thought. And as these technological advancements have changed visual and creative processes- so our reception and speed of comprehension has also gathered pace. Perhaps it could be said that we are now perceptually competent to interpret both Wittgenstein's duck and his rabbit at the same time.<sup>37</sup>

Images of outer space continue to expand our vantage point and our expectations to be visually amazed. But many of the images we now see of deep space, are not only the results of advanced visual technologies, they are a subtle mixture of what the machines we program can capture, and what we imagine (by employing Computer Generated Imagery the likes of which shape most of the Hollywood block buster sci-fi and super hero movies). Kessler (2012) is concerned with images of discovery from The Hubble Space Telescope 'that awe and inform', explaining how these images are constructed Kessler tells us 'Hubble images are made, not born...woven together from the incoming data from the cameras, ... and given colors [identifying different gaseous components] that bring out features that eyes would otherwise miss'. While Situationist and psychogeographer Debord (1967) in his seminal text may have warned us 'the spectacle is ... a technological exiling of human powers' and ' ... philosophizes reality [turning] the material life of everyone into a universe of speculation'

<sup>37</sup> [http://faculty.ccri.edu/paleclerc/existentialism/perc\\_figure.shtml](http://faculty.ccri.edu/paleclerc/existentialism/perc_figure.shtml) Notes from Wittgenstein's Perceptual Interpretation- The Duck Rabbit figure, selected extracts online edited by Paul Leclerc Community College Rhode Island 2004

I propose the images from space that now immerse our society, reach beyond tempting or taunting us with desire for material gains, instead those extraordinary images that startle beyond our everyday imagery, awaken innate traits grown from curiosity, to dream, to reach further, and to explore.

Yet it is because contemporary technologies displaying extraordinary visions continue to advance, that our expectations of the spectacularly amazing also continue to grow, and we now seek even more extraordinary backlit and surprising visual spectacles to be satiated, so perhaps Debord was correct to warn us of the dangers of a universe of speculation after all.<sup>38</sup>



FIGURE 13: CMDR. HADFIELD IMAGE ANKARA.<sup>39</sup>

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<sup>38</sup> A review by this author (aka MK Palomar) of the 2013 London Maritime Museum's exhibition *Visions of the Universe*, investigates the spectacle of space imagery and different processes employed throughout history to image space.

<http://www.studiointernational.com/index.php/visions-of-the-universe>

<sup>39</sup> @cmds\_Hadfield. 10.30am 17 April 2013 Ankara, capital of Turkey, ancient city, home to 5 million of us and source of Angora wool. (Accessed 21 May 2015)





FIGURE 14: M.FOÁ'S DRAWN INTERPRETATION ANKARA (MONKEY BALANCING ON ONE HAND)

## CONCLUSION

That we each have our subjective point of view, and at the same time interrelate as part of the whole, underlines the existence of multiple interpretations of the world. There are countless ways to read a picture and each one of us can add to those readings with our individual points of view.

Commander Hadfield's popularity brought him to take part in many online video calls, and in answer to the question 'What do you like most about being on the ISS?' Hadfield answered

*"My favourite thing is looking out the window because it's fundamental for your soul to see the world that way [Hadfield gestures his hand over his heart],.....to see it as one small place one bubble of air that keeps us all alive, that we're responsible for, and just how close we are to each other, it's a perspective that's healthy for us to see*

*as a species and I'm doing my very best to let everybody see that as clearly as I can."*

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While his message is almost prophet like in the context of delivery (spoken to camera while floating in the space station), Hadfield's images might inspire his audience in other ways. His photographs revealing to us the importance of being a " *healthy species*", and caring for our fragile planet, are perhaps also teaching us how to gently grow away... preparing us, to explore and discover, to lift up, off and away from our planet's surface. To ease out of our comfort zone, one small step at a time, maybe even to think about boldly going 'where no one has gone before.'

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<sup>40</sup> [https://youtu.be/BAtlo\\_AGFWs](https://youtu.be/BAtlo_AGFWs) (Accessed 21 May 2015)

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