Design in The Unitive World:

Methodologies for coping with the interdependency of everything.

Abstract: This paper, through the study of theories including; ‘the unitive world’, ‘chaos theory’ and ‘actor network theory’ describes an idea in which everything is interdependent. Firstly, it outlines the implicit complications for designers. Before moving onto suggest and discuss possible design solutions, utilising design thinking and alternative design methodologies. The paper then concludes by discussing how we measure success and how this can be incorporated into our understanding of design in the unitive world.

Key terms: The unitive world, chaos theory, actor network theory, interdependency, jiji muge hokkai, spider-web, network, diagram, mapping, ANT, SPIDER, meritocracy, money, measuring success, religion.

Note: there are many in text citations to audio and video content, for which the following conventions have been adopted.

Dsc	Audio Disc Number
Tr	Audio Track Number
TC	Video Time Code

Introduction

"If the doors of perception were cleansed, everything would appear to man as it is: infinite."
(Blake, 1793)

Jiji muge hokkai, in Zen Buddhism is broadly described as the highest world of enlightenment (Avatamsaka Sutra). Watts (2004, Dsc 3, Tr 7) simplifies this, describing jiji muge by saying: ‘Between thing and thing, between event and event, there is no block.’ Following this Watts describes how the Zen Buddhists would represent this imagistically: “Imagine a multi-dimensional spider-web, covered in dew in the morning … every drop of dew on this web, contains in it the reflections of all the other drops of dew, and of course, in turn, in every drop of dew that one drop reflects, there is the reflection of all the others again.” (Watts 2004, Dsc 3, Tr 7) Watts would then go on to describe the esoteric interdependency of any one thing to another. Explaining that if a specific, distant star existed differently, i.e it was brighter, dimmer, larger or smaller, we too would exist differently. (Watts 2004, Dsc 3, Tr 7) Such interdependency and context is explained, not only through said eastern philosophies but also in such ideas as chaos theory’s, ‘butterfly effect’ exemplified scientifically by Edward N. Lorenz (1962, p.130).

If we are to subscribe to this idea; the interdependency of everything, as designers, we are presented with the following paradox: That ‘good’ design or at least, well thought-through design is sympathetic and reflective of each level of its network. That is to say that a chair is sympathetic of its user as it is of the ground it sits upon. However, the chair is also interdependent of and upon everything and everyone else in the unitive world. This conflict, then, between designing for an objects network and the idea that the network is infinitely interdependent would make the task of designing anything at all hugely daunting. Perhaps even, seemingly impossible.

Whether or not we would consider ourselves ‘enlightened’ in the sense a Zen Buddhist would, we, as designers, have a certain fundamental duty to fulfil. To attempt to explore and understand every connecting aspect and consequence of what it is we want to achieve. In his talk ‘Atheism 2.0’ suggesting we, the secular world, should not shun religion but embrace it’s advantages. De Botton (2011, TC 14:21) states: ‘There is something to learn from the example of religion, even if you don’t believe any of it.’

Diagramming

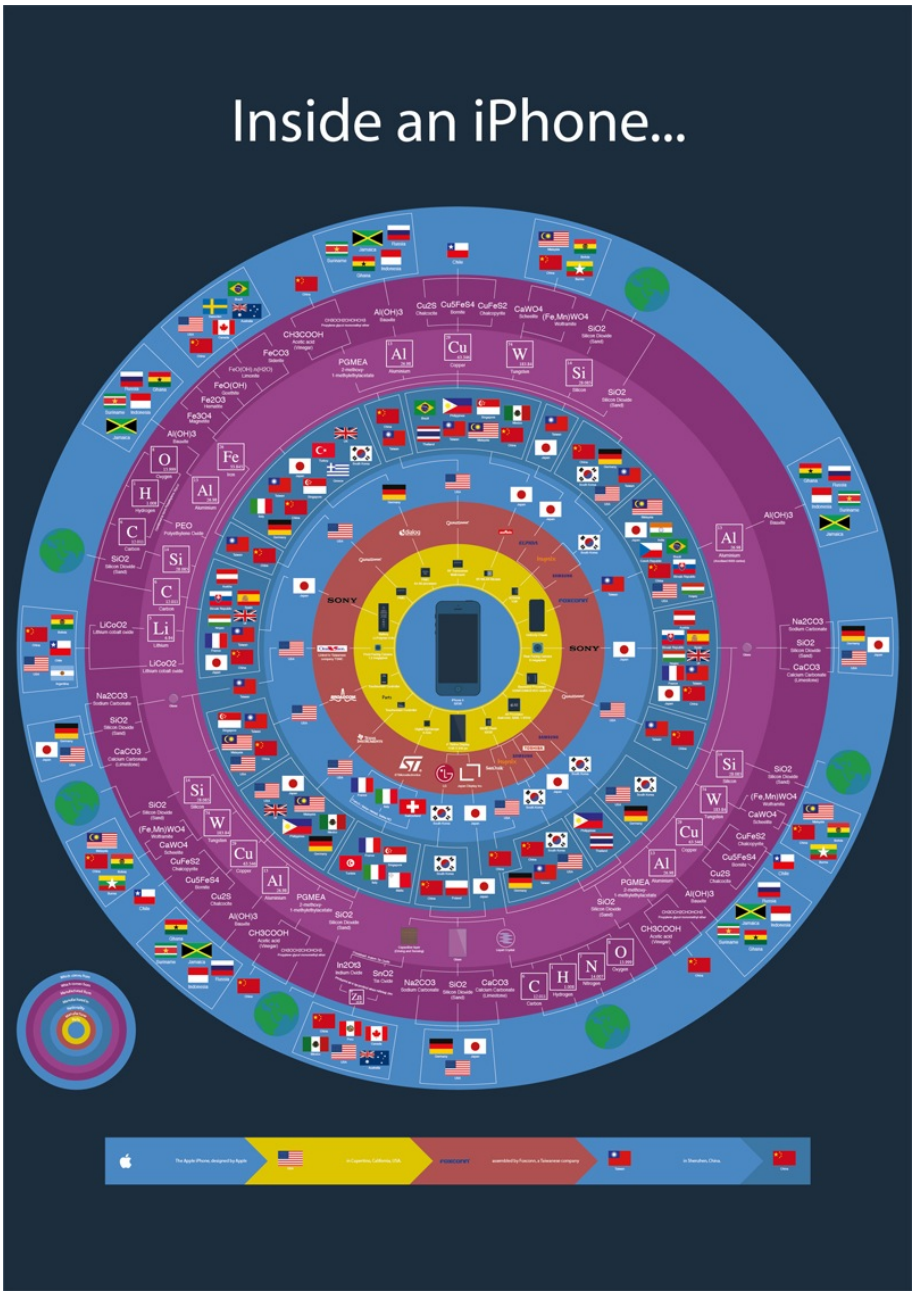

Figure 1 ‘Inside an iPhone…’ diagram showing the component dependencies of an Apple iPhone 5 16GB (Armitage, 2013).

Such as the eventual success of Harry Beck’s Tube Map or as he would call it ‘The Diagram’ (Carrier, 2007) would suggest; in communication design, as it is in many other fields, the

simplification of information and the methods used to do so are essential to it's communicative purpose. That is to say, we are much more able to comprehend complex information when it is represented, visually, in simple terms. We may refer to this process as 'diagramming'. Another example of a result of successful 'diagramming' is Dmitri Mendeleev's periodic table, Mendeleev set out a parameter in which 'the elements in any column, or group, of the table are similar to their column-mates' (Colorado.edu, 1996). This basic rule enabled Mendeleev to lay out his elements in such a way that they could be interpreted, and the table re-interpreted and extended for hundreds of years to come (Colorado.edu, 1996).

It could be argued, however, that the simplification of information is inherent by nature and indicative of the loss of information, that the person consuming the information is immediately aware that something is being hidden from them, or that the information be difficult to interpret by anyone other than the diagram's creator. Beck's superiors in 1931 illustrated this by rejecting the first draft of his 'diagram' tube map (Carrier, 2007). However, there is no denying that the revised, evolved and improved versions of the map are a huge success (Carrier, 2007). This is also true of Mendeleev's periodic table (Colorado.edu, 1996). Which brings us to our first methodology: using the diagramming process to begin to understand the unitive world in the context of a single design (fig 1).

Figure 1 shows how parameters have been used to diagram the iPhone 5 16GB, it's 16 most expensive components and their dependencies on physical materials, manufacturing processes and geographical context. Each circle or 'zone' represents a parameter for expansion into the next 'zone', in some ways representative of Ray and Charles Eames' 'orders of magnitude' in their film 'Powers of Ten' (Eames, 1977). It's circular form is also an acknowledgement of both the multi-dimensional spider-web described by Alan Watts (2004, Dsc 3, Tr 7) and SPIDER, described by Tim Ingold (2008). As well as the simple fact that in each 'zone' there are likely to be more resulting items to arrange on the diagram than the previous parameter. Thus creating an exponentially expanding concentric circle arrangement. This methodology does, to some degree, in the authors opinion, go some way into visually representing the unitive world.

Success

In distinguishing design from art, visual, communication and graphic designers often choose to argue that such mediums have a distinctly commercial aspect. After all before William Addison Dwiggins coined the term 'graphic design' in 1922 the field was known as 'commercial art'. The The New Oxford Dictionary of English (1998, p.386) defines 'commercialism' as 'emphasis on the maximizing [sic] of profit.' Thus there is a distinct correlation between visual, communication and graphic design and monetary values as a measure of success. But as this paper previously discussed the success of diagrams such as Mendeleev's periodic table and Beck's 'diagram' tube map, while they may have incurred some financial benefit for their respective creators, we do not see the monetary aspect as a measure of their success so much as we do their extended usage and how well they fulfil their purpose. This view on success could be described as a meritocratic perspective (The New Oxford Dictionary of English, 1998, p.1159).

In design, monetary success is, as it is in the majority of professions a widely recognised measure. Especially on an individual, peer to peer and social status level. De Botton (2009, TC 1:49) suggests this anecdotally in saying 'The dominant kind of snobbery that exists nowadays is job snobbery, you encounter it within minutes at a party when you get asked that famous, iconic question of the early twenty first century: "What do you do?" and according to how you answer that question, people are either incredibly delighted to meet you or look at their watches and make their excuses'. He goes on to describe society's 'spirit of equality' in which we have 'done away with the class system' and now believe 'anyone can rise to any position' (De Button, TC TC 3:45). This, however, brings with it a greater sense of expectation, entitlement and responsibly, if anyone can amount to being the greatest, implicitly, anyone can become the lowliest of lows. This would

suggest that we need a kinder, gentler perspective on success. Which brings us to our second methodology: diagramming the elements of a product and their individual usage as a measure of their success. (fig 2)

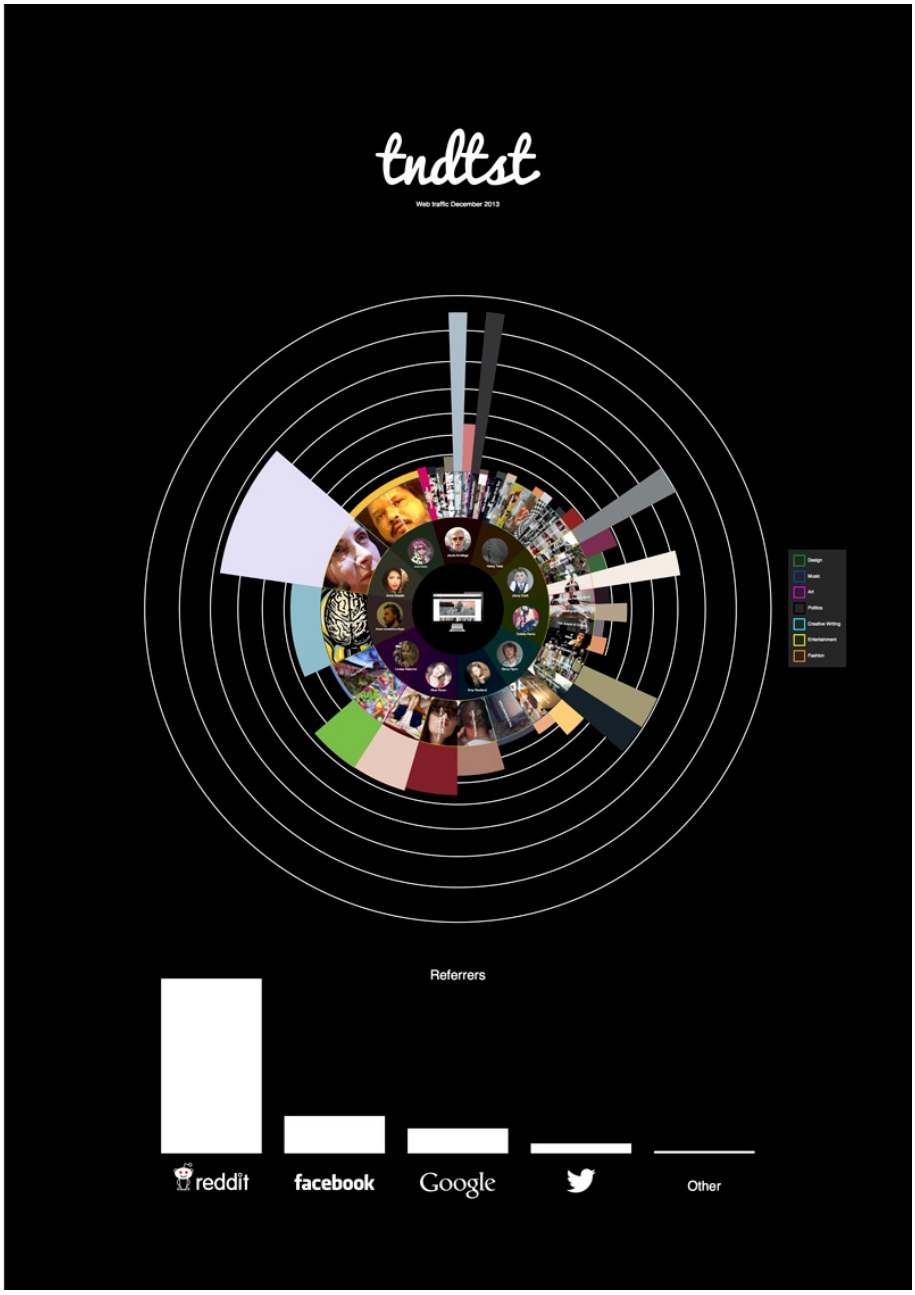

Figure 2 'tndtst' diagram showing the readership of individual articles that make up an online magazine. (Armitage, 2013).

Figure 2 shows how parameters have been used to diagram an online magazine with the outermost zone, a bar graph representing the readership of individual articles as a measure of their success. Using the readership figures as a measure of 'usage' may seem like a logical gauge of success considering the way in which we have found the periodic table and tube map to be 'successful'. That they are used frequently. The problem is that we have to be very careful when interpreting and representing such information. Especially if we subscribe to the idea that everything is interdependent, and even more so if we believe in meritocratic values. As De Botton

(2009, TC 6:25) states ‘The problem is if you really believe in a society where those who merit to get to the top, get to the top. You’ll also, by implication and in a far more nasty way, believe in a society where those who deserve to get to the bottom, also get to the bottom … you’re position in life comes to seem, not accidental but merited and deserved.’ So our conflict here lies: chaos theory and the unitive world would suggest; the vast interdependencies of everything in the world in which any one thing or event can have an effect, mostly unpredictable, accidental or chaotic on any other one thing or event contrasts with the ‘success’ of the article being ‘merited or deserved’.

Reality

Sander E. van der Leeuw (2008) admits in his paper ‘Agency, Networks, Past and Future’; ‘I over-simplified and distorted what it was he was trying to express’ when discussing his differences with Jan Kalsbeek, an experienced potter who van der Leeuw articulates as phrasing his opinions in ‘a priori’ terms, in contrast to van der Leeuw’s ‘a posteriori’ terms. That is to say that van der Leeuw, coming from a scientific background thought, at the time, information must be empirical, that facts and figures must be quantified and evidence shown conflicted with Kalsbeek’s epistemological understanding of his own expertise. A very similar conflict is also evident in *figure 2.* When gazing upon a diagram we expect the information to be from a positivist, ‘a posteriori’ approach but in fact the outermost circle, the bar graph, represents what is actually epistemological, it is theory based, not fact. Yes the figures the bar graph represents are factual but it suggests that the articles with higher readership figures are more successful, more important or are simply ‘better’ than the others. Which is entirely theoretical.

Perhaps for the sake of this paper, we can describe *figure 1* purely as a ‘diagram’ where *figure 2* confuses itself between a ‘diagram’ and an ‘infographic'. The distinction being, diagrams, coming from scientific fields, here it is important to mention both Harry Beck and Dmitri Mendeleev have scientific backgrounds, are based on empirical knowledge where ‘inforgraphics’ represent data suggestive of epistemological knowledge. Therefore it is important to understand exactly what it is we’re trying to achieve through the use of an infographic. *Figure 2* was produced to help better understand the nature of ‘tndtst’ in order to improve the way in which it functioned and was marketed. In reality, had it been published, predictably, through irresponsible representation of information, it may have had a damaging effect on the functionality of the magazine. It could create competition, envy, damage the self-esteem of the authors and cause articles to mimic the ones being represented in better light. When in-fact the articles which show lower readership figures could be victim to other networked elements, obvious examples include the time of day at which it was published, the rate at which the article was shared online and search engine optimisation issues, etc.

We are brought back then, to how we measure and represent success. As Watts (2010, TC 3:09) may deduce, we’re letting the ‘metaphysical tail wag the dog’. Explaining that concepts such as our measures of time and distance are but observed regularities. To observe said regularities we must look at things through something regular. A clock to measure time or a ruler to measure distance. These concepts are human inventions, inches, seconds, miles, minutes, centimetres and hours do not really exist. Not in the sense that a rock or even an event exists. They are not thing nor event, they are merely concepts. Money as well as our bar graph, are too, conceptual measures of success. It may seem unspeakably outlandish to suggest that money does not exist. Though the following apocryphal story may, nevertheless convince otherwise:

> ‘*The great banks of the world, at one time, got absolutely sick of the expense and security measures involved in shipping consignments of gold from one bank to another. So they decided that all the chief banks of the world would open offices on a certain island in the south pacific, which was balmy and comfortable. There, they would store all the gold in the world. They put it in great subterranean vaults reached by deep elevator shafts. Then all they had to do, when one bank or one*

> *country owed gold to another, was to trundle it across the street. This was very efficient and it went on beautifully for five or six years. Then the presidents of the world banks got together and said "Let's have a convention out on this island and take our wives and families". So, about seven years from the date of opening all those presidents and their wives and families went out to this pacific island and they inspected the books. Everything was beautifully in order. Then the children said "Oh, Daddy, can't we see the gold?" They said "Of course you may see the gold" and they said to the managers "Let's take our children down to the vaults and show them the gold" and the managers said "Well, um, it's a little bit inconvenient at this time and perhaps the children would not really be very interested. After all it's just only old plain gold." And the presidents said "Oh no, come now, they'd be thrilled. Let's go down and see". There was further humming and hawing and delays. Finally it came out that a few years before there had been a catastrophic subterranean earthquake. All the vaults had been swallowed up and all the gold had disappeared. But so far as the bookkeeping was concerned everything was in perfect order.'* (Watts, 2013, TC 1:20)

We see, from this perspective, that money is no more than bookkeeping, it may represent gold, riches or valuable materials somewhere, somehow, but to us, it is no more than a number. Once printed on paper, now more commonly interpreted on a computer screen.

Conclusion

During the course of this paper we have established the difference between the empirical diagram and epistemological infographic. Learning that perhaps it is important not to confuse the two and furthermore the responsibly of representing concepts such as money and success. We may say that there is a 'line of reality' one should not cross when embarking on the journey of understanding the vast networks, assemblages, spider-webs, ANT colonies, dependencies and interdependencies of everything.

It seems as though it is against ones nature to conclude in what seems like such support of positivist methodology. But that is not at all the case. Truly, what we can take from these findings is a responsibility not to present episteme as empirical. But instead to use such 'a posteriori' data for our own 'a priori' conclusions. For example, we can read many ways into the the 'a posteriori' data presented in *figure 1.* Possibly concluding in appraisal of Apple's network, which is shown to, through many stages, create an iPhone out of mainly, sand, oxygen and rock. Or conclude on the other hand in disgust at Apple for, seemingly unnecessarily, shipping thousands of tonnes of material, thousands of miles around the world. However in *figure 2* it is difficult to conclude anything other than what it appears to be suggesting. That some articles are better than others.

Therefore in beginning to understand our designs, surrogates, inventions and made objects in the unitive world, if we use a diagramming methodology, we must do so carefully, in a manner that is conscious of the 'line of reality'. This is not to say that what we have distinguished to be 'infographics' should be shunned and ignored for their improper representation of information but we should understand it's very network and realise the effect that the information we're presenting may have. Essentially we should, when representing networks, understand the consequences the representation of the network has on it's very own network.

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