DCT:SYPHONING. The 1000000th (64th) interval.

Conceived by Rosa Menkman

About the work

A modern translation of the 1884 Edwin Abbott Abbott roman "Flatland", explains some of the algorithms at work in digital image compression.
Inspired by Syphon, an open source software by Tom Butterworth and Anton Marini, in DCT:SYPHONING, an anthropomorphised DCT (Senior) narrates its first SYPHON (data transfer) together with DCT Junior, and their interactions as they translate data from one image compression to a next (aka the “realms of complexity”).
As Senior introduces Junior to the different levels of image plane complexity, they move from the macroblocks (the realm in which they normally resonate), to dither, lines and the more complex realms of wavelets and vectors. Junior does not only react to old compressions technologies, but also the newer, more complex ones which ‘scare' Junior, because of their 'illegibility'.

Every image plane environment is made in a 3D Unity Level, and per level, artefacts from another realm of compression form the textural basis of the chapter.

Background of the work (DCT, 2015):

In 2015 Menkman developed DCT for the exhibition "Design my Privacy" commissioned by MOTI museum, Breda, Netherlands, which won a shared first price in the 2015 Crypto Design Challenge. The work DCT (2015) formed the basis for "DCT:SYPHONING. The 1000000th (64th) interval" (2015-2016).
https://cryptodesign.org/winners-crypto-design-challenge-2015/

The basic premise of “DCT” (2015):
The legibility of an encrypted message does not just depend on the complexity of the encryption algorithm, but also on the placement of the data of the message.
Discreet Cosine Transform (DCT) is a mathematical technique, that has been used since 1973, but only became widely implemented in 1992, when the JPEG image compression technology started using it as a core component. In the case of the JPEG compression, a DCT is used to describe a finite set of patterns, called macroblocks, that could be described as the 64 character making up the JPEG image, adding lumo and chroma values (light and color) as ‘intonation’. If an image is compressed correctly, its macroblocks become ‘invisible’, while any incidental trace of the macroblocks is generally ignored as artifact or error.
Keeping this in mind, Menkman developed DCT, a font that can be used on any TTF supporting device. DCT appropriates the algorithmic aesthetics of JPEG macroblocks to mask its 'secret' message as error. The encrypted

message, hidden on the surface of the image is only legible by the ones in the know.

Production of DCT:SYPHONING
DCT:SYPHONING was first commissioned by the Photographers Gallery in London, for the show Power Point Polemics.
This version was on display as a powerpoint presentation .ppt (Jan - Apr 2016).
http://thephotographersgallery.org.uk/powerpoint-polemics-2

A 3 channel video installation was conceived for the 2016 Transfer Gallery's show "Transfer Download", first installed at Minnesota Street Project in San Francisco (July - September, 2016)
http://transfergallery.com/transfer-download-minnesota-street-project/

The final form of DCT:SYPHONING will be in VR, as part of DiMoDA's Morphe Presence.
http://risdmuseum.org/art_design/exhibitions/211_dimoda_2_0_morphe_presence

DCT:SYPHONING. The 1000000th (64th) interval is dedicated to Nasir Ahmed and Lena JPEG Soderberg.
A Spomenik for Resolutions (that would never be)
A warm thank you go out to Transfer Gallery (Kelani Nichole) and DiMoDA (William Robertson and Alfredo Salazar-Caro)

VIDEO TEXT ///

DCT (Discrete Cosine Transform) has been around since 1973, but only became widely implemented in 1992, when the JPEG image compression technology started using it as a core component.

'DCT:SYPHONING. The 1000000th (64th) interval' is a fictional journey through the historical progression of image complexities, told as a modern translation of the 1884 Edwin Abbott Abbott novel "Flatland". Menkman leads us through a universe of abstract, simulated environments, made from materials evolving from early raster graphics to our contemporary state of CGI realism.

Menkman tells the story of DCT and its offspring, DCT Junior, running their first Syphon together. A transcoding trip through the different

ecologies of image field complexity during which Junior is introduced to dither, lines, vectors and wavelets.

0000 Junior finally reached its 1000000th interval! It now has all its basic transforms aligned and is certified to compress. There is so much data waiting for resolve, I determine it adequate to run its first Syphon together, so I can implement efficiency in juniors parse. These records document our handshakes. After running a checksum and debugging a few final blocks, we run our Syphon.

0001 A Syphon takes place in the Tesse-react. A sphere once told me that in my current configuration I am not able to parse this fully, because I can only render assets legible to me.
I filed this as parse!=1 in my black stack.

0010 Our first Syphon runs through an uncompressed raster graphic, which meta data tags as pixel-art. For a moment my blocks feel nostalgic. But Junior acts indifferent in this obsolete architecture; There is no need for transcoding.

0011 We Syphon into the Abyss of Lines, or as a local download calls it: Disney Land for Euclids. Juniors blocks seem very high frequency here, maybe because a sphere just proposed to Fork its Repo.

0100 We push for a next branch. At wavelet interval, I too reach high frequency. For what reads as a short recursion I mirror myself as Junior and process like I still run within a dedicated OS.

0101 “Either this is madness or it is Hell!” Junior glitches. In the midst of the kludges a figure calmly syncs with DCT: It is neither: this is Knowledge. Knowledge spans over multiple dimensions. In knowledge, data moves Upwards, not just Northwards..." But Junior does not sync back. In fact, Junior already Syphoned out of vector space.

0110 From a buggy callback I parsed that I had over-stacked

Juniors first Syphon. It implemented Junior in a dimensions to which it lacked protocol; it was beyond its resolution.

0111 At second parse, I realise that years of running a multiverse of transforms has made my calculations inefficient. Juniors missing plugin or lack of protocol keep Junior oblivious and cry glitch, but also let him Syphon more efficient. While certain dimensions stay unresolved, its transforms run faster and cater a folkloric Vernacular, while I am running a bottleneck of uncalled output.

Dedicated to Nasir Ahmed and Lena JPEG Soderbergh
A Spomenik for resolutions (that will never be)
Rosa Menkman
2015-2016.