

Occult Computing for Artists: An introduction

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Abstract

The text *A Guest + A Host = A Ghost* once appeared in black print on a green wrapper around a candy given out by Duchamp at an exhibition. This artwork is considered as a point of departure because of its timely connection to theatrical performance and occult computing.

The alarming ability of people and organizations to misappropriate and recolonise wild configurations and marvelous tactics, condensing them into a homogenous version for easy digestion, is not to be overlooked. In this genealogy the act of creating is defined, like most things in the twentieth-first century, by acts of consumption.

The artwork from which this paper transcends epitomizes the notion of a code and cypher key and thus gives insight into the arcane and ubiquitous nature of central technologies existing among us (and their cultural, political and occult substructures). Precisely relating to the manifold of time in which we exist, this small monograph, albeit briefly, both critiques and draws parallels between contemporary computer culture, performance and arcane cultural practices such as; cyphers and their simultaneous concurrence and conflict with present-day modes of expression in contemporary art forms.

Occult computing for artists: an introduction.

The text, *A Guest + A Host = A Ghost*, by Marcel Duchamp initially appeared in black print on green tinfoil wrapped around chewy caramel candy (see Figure 01). In 1953, Duchamp stood at the entrance of Galerie Nina Dausset, Paris, and handed out this candy at William Copley's opening.[1] Duchamp's *A Guest + A Host = A Ghost* is an obscure work to which very little commentary or explication has been devoted (Gould 2000). The chewy caramel as symbolic object migrates across the dividing line that separates artist and audience. Its consumptive edible form had haptic repercussions for what an art object means. This emphasis on the 'post optical' (Arns 2004) and the paraphernalia associated with haptic chewy caramel with which the artwork exists was executed well before relational aesthetics (about which we will not and simply can not speak anymore about, in case we die of overconsumption).

Duchamp placed an emphasis on the underlying speculative performance of the estranged everyday object in the context of the art gallery space. This concept of the 'hacked' estranged, object (or even more recently, so called, détournement of graphical search engines and various other commercial software - think, tubejaying) has become almost an interminable derivative, recurring as if on repeat command with variation, in almost every contemporary art exhibition since Fountain, the glorious (male) urinal put up for reappraisal by R. MUTT. Woefully forgotten are the complex codes in the titles that accompany these works, bearing numerous meanings and overtones simultaneously in many languages.

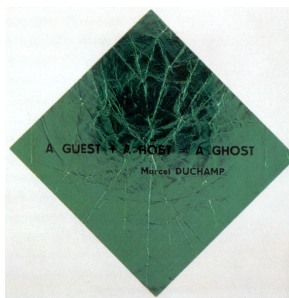


Fig 01 *A Guest + A Host = A Ghost* Marcel Duchamp. The remaining wrapper, black print on green tinfoil once wrapped around a candy. Image: Claire Copley.

Codes are left to distil over centuries, brewing away with potency, an alchemical function, as background process. According to Gould (2000) *A Guest + A Host = A Ghost* is arguably his most profound work with regard to the 'reader'. It inspires contemplation by (remote and local) audiences a deliberately obfuscated work functioning as cypher. The idea of an active 'reader' and therefore 'writer' is especially notable in the processes of consumerism when applied to technology. At the moment, regular unsuspecting computer users are people who are relegated into being 'read' only 'users', denied the ability to participate in less cursory or 'writerly' modes of communication with the digital culture realm. Read/Write exceeds the so called, unparalleled 'freedom'

of typing a status update in standard commercial Read/Only media (think Facebook, Tumblr, Google+ [your chose of social media here]). Barthes extends 'writery' to have a performative function where the reader is 'no longer a consumer, but a producer of the text' (1974, p. 4). Furthermore, Lawrence Lessig uses the terms 'Read/Write (RW)' and 'Read/Only (RO)' to describe cultural obstacles when it comes to ones access to permissions and rights. The former, Read/Write 'analogy is to the permissions that might attach to a particular file on a computer. If the user has "RW" permissions, then he is allowed to both read the file and make changes to it. If he has "Read/Only" permissions, he is allowed only to read the file' (2008, p. 28). Read/Only he claims is 'less practiced in performance, or amateur creativity, and more comfortable (think: couch) with simple consumption' (2008, p. 28). Repetition of Read/Only tasks makes us seem more like mere scripted robots or instrumental mechanisms than humans. For instance, regular (unsuspecting or uncritical) users of social media outlets could be thought of as guests on a cruise ship, they do not have to think about navigation and are in the meantime exploited and controlled beyond all means within the simple role of they consumer that they endorse. They are regulated and subject to surveillance and must play firmly within all rules. In this way, we can now see how the word consumption has been restored to its root origin, the Latin *consumere* meaning to squander and waste. It must also be noted that the word consumption was used in the Middle Ages to describe a terminal disease (tuberculosis), something threatening that could literally devour you.

For persons who possess an awareness of technical code, there are alternative user paradigms with enhanced privacy measures, and for those *_who know_* there is also the deep web or darknetz/s, which according to Lee Brannon (2014), could very well be like 'Paris in the 1920s'. These darknets are a constructed interchange of forked URL sites and server mirrors; a covert tool for the implementation and dissemination of data across numerous servers, with no one centralised location, for instance the Tor project or Freenet allow such discrete browsing to take place. These spaces are not indexed by commercial search engines therefore it is a place to communicate electronically in relative freedom (depending on technical competency) where one is able to freely enact multiple presences, share and carve up data (returning the modality of the cut-up to its former status as a weapon against consumption).

02 Self Determinism Vs. Being Spoken

Now that we have well and truly set sail in our pirate ship from the relative safety of the cruise vessel into the wild and deep waters of unfathomable darkness, we can breathe in the magic void of the shell (computer terminal) and marvelous mess of codes, constellations, nebulae, interstellar gaps and awesome gullies that can be found in ones computer console. In the console shell you feel a tremendous sense of freedom and awareness. A sense of vertigo arises, perhaps as if you were hanging

from earth upside down on the brink of infinite space. But as a pirate knows, freedom comes with risk and responsibility, and can only exist when you have the ability and sense to acknowledge the rules and then go beyond that to abandon them.



Fig 02 /dev/null Ever wonder where it all goes? #dev/null is a *nix file where unwanted files are redirected – could be understood as a very sophisticated 'trash'[OsX] or 'recycle bin'[windows]. Image: Nancy Mauro-Flude.

Command line computing is an expressive language within a shell console or computer terminal interface where code is executed. An alternative to the Graphical User Interfaces (GUI) widely used in operating systems (OS) such as Windows or Mac based systems (GNU/Linux uses GUI's too but has more of a sophisticated user base that potentially know the command line). Put simply, the in's and out's, codes and install initiations are often problematic to comprehend for someone unacquainted with programming. To entirely reference shell basics, permission groups, types and *nix command line culture per se, would exceed the scope of this small introduction.

Let's take a very brief detour to explicitly define permission types: r – Read w – Write x – Execute. This was touched on about already in regard to Read/Write and Read/Only. Technically these are file permissions and the shell is merely an interface to manipulate them. They are not explicit functions of the shell per se as one can use other languages to manipulate permissions. For instance, potential assignment operators are + (plus) and - (minus); these commands tell an operating system whether to add or remove the specific permissions. As an example, say I have a file named `HOST_GUEST_GHOST.txt` that currently has the permissions set to `_rw_rw_rw`, which means that the owner, group and all users have 'Read/Write' permission. The command to change permissions is 'chmod'. So to set a file to permissions on `HOST_GUEST_GHOST` to simply Read/Only, you would enter this full command line to change permissions:

```
#chmod 740 HOST_GUEST_GHOST.txt.
```

Then to check your computation you write:

```
#ls -lah.
```

This shows the permission status of the files: `–lah`, meaning "list all human" readable files in this directory (this is a more than human realm).



Fig 03 T. Shirt “Go away or I will replace you with a very small shell script”. Image: Nancy Mauro-Flude.

$A\ Guest + A\ Host = A\ Ghost$ performs a function with an equation, a cryptic summoning wrapped up in cyphers. The structure of Duchamp’s equation $A\ Guest + A\ Host = A\ Ghost$ is analogous to the command line and when broken down has three separate components; command, (+) options and (=) parameters. The options flow on from the command, and define the parameters the command should act on.

I will spare the reader too many *nix specifics, and besides, the terminal in which commands execute can also be harsh and cursed at times, not unlike the rough sea, or the raw truth (see figure 05). Instead of being Read/Only, or even, Read/WriTerly, there is also a notion of being ‘spoken’, where one becomes a medium and as such not the measure of ones actions entirely. If we add the conceptual notion of spoken (or re-written), we are also acknowledging there is more than a deterministic control to the measure of our actions at play. Perhaps to be ‘re-written’ or ‘spoken’ is to surrender oneself to something larger than oneself. This ritualistic form treats the human being not as the full source of the action but rather as an ontological vessel. Put simply, this reveals evidence of other forces at work that could be `_jouissant_` or `malign`, in which code as a parable comes to the fore. As we can see in images 2 or 3, instead of hidden in a candy wrapper these GNU/Linux initiates wear their preferred code on their T-shirt.

03 $A\ Guest + A\ Host (+\ 127.0.0.1\ |\ local\ host) = Ghost$

The artwork $A\ Guest + A\ Host = A\ Ghost$ provides a reflection on what is to be a channel, or a medium for agency, rather than an individual fully in control of ones actions. In the host, guest, ghost and unsuspecting visitor continuum; Duchamp twists the roles of the consumer and producer, sender and receiver, reader and writer by subverting the cultural paradigm of the performer, audience continuum. It is important to note that the candy may at first travel in the pocket of the unsuspecting audience who on entering may grab the

candy and place it there for later. In these circumstances the artwork secures remote access while remaining undetected.

The host (Duchamp) invites the (unsuspecting) guest, while an uninvited presence (ghost, or hacker) comes through the ‘backdoor’. The back door is in computer science a maintenance or testing tool but also a clandestine entrance, known to an intimate few, perhaps deliberately put in place (by someone for good or for evil/black or white hat) or left by a lazy system administrator or unsuspecting user for a hacker to uncover and gain access. The slippage of personhood, from guest to host to ghost, depending on the ‘consumption’ of the object, and the position of Duchamp as a gatekeeper at the entrance is a thought provoking play on agency and the notion of a cypher. Clearly referencing to the Holy Trinity by obtaining a ‘host’ during a Catholic ritual of communion, from the priest, one achieves closer contact with the source, the Holy Ghost. $A\ Guest + A\ Host = A\ Ghost$ is a formulation of instruction, a simple equation expressed in an intelligible language, which is executed in accordance with logical and conditional patterns. Once interpreted (read) and executed (written), it does not give rise to a definite result, instead the cypher encourages sumptuous play, in its performance of code, that takes pleasure in re-writing the existence of an object of candy as paraphernalia, and the oral gesture of chewing as another way to be spoken.

Another speculation is that perhaps if Duchamp were with us today, is that he might have added a further equation:

$A\ Guest + A\ Host (+\ 127.0.0.1\ |\ local\ host) = Ghost$.

It is not so outrageous to claim that he may very well be with us now simultaneously speaking through us reading this monograph.

Whatever the case if we for a moment assume that Duchamp is a Dantesque (grey hat) type hacker (the preferred one for this author), in GNU/Linux (*nix) terms, in this equation the artwork extends and channels or pipes (|) the Ghost through 127.0.0.1, also referred to as ‘localhost’, an IP address. A webserver is a process that requires an IP address and runs on a personal computer. A common saying in hacker culture is ‘There’s no place like 127.0.0.1’ (home), a play on the chant, ‘There is no place like home’ (an incantation prayer by Dorothy from Wizard of Oz who, by clicking her heels together three times and repeating these magic words, executes a code – a perfect example of a speech act – and is magically transported home to safety).[2]

04 Performances by Coders

Now we are coasting along the deep and choppy waters, let us consider for a moment the notion of performance as a magical act – in particular the performance by Richard Stallman, the founder of the Free Software Foundation whose alter ego St IGNUcius often manifests at the end of his lectures (see Figure 4). Initially, Stallman pragmatically and fluently relates a

genealogy/nativity-type story about the GNU system, explaining how Linux is one of its kernels, underscoring the fact that the media have locked onto the term Linux but have neglected to acknowledge that the system should instead be called GNU/Linux.[3] The audience is presented with technical facts, evidence and a variety of opinions, which expound how:

GNU is a longstanding project developing and advocating for access to source code and creation of free operating system tools;

Linux, a kernel developed by Linus Torvalds, was the last missing piece; and

There are numerous similarities between Unix and Linux systems but they should not be conflated – for instance, apparently one is required by law to write *nix, instead of UNIX because the latter is trademarked.[4]

Included in Stallman's monologue is a description how Emacs (a programmable lineage of text editors and extensions he has written) became a way of life, bordering on a religion, as well as one of the most powerful computer tools.

Stallman ends this talk by turning his back to the audience, donning a cloak and headdress, and then revolving back to face the crowd as the smiling St IGNUcius. He then begins to sing the free software song:

"Join us now and share the software;
You'll be free, hackers, you'll be free.
Join us now and share the software;
You'll be free, hackers, you'll be free..."[5]



Fig 04 Stallman as St IGNUcius. Photo: Wikimedia commons.

'I am St. IGNUcius of the Church of Emacs and I bless your computer, my child. Long may you run.'~ St. IGNUcius on an AMD64. This text is performed by Richard Stallman, in this mystical act it he discusses his accouterments, 'That is no computer disk, that is my halo –but it was a disk platter in a former life. No information is available about what kind of computer it came from or what data was stored on it. However, you can rest assured that no non-free software is readable from it today'.[6]

This dialogical satire of St IGNUcius the performance by Stallman (pictured in Figure 04) usually concludes the serious part of his lecture concerning how the GNU operating system developed by his frustration of not being able to fix his own printer, as he was locked out, unable access to the printer driver code. How GNU, the free operating system tools are typically used together with the Linux kernel but hardly ever acknowledged by the wider community as GNU/Linux, people just say Linux. Further he explains the calamity of how these licensed products have been taken up by some of the very kinds of organisations that lock users into being consumers and have restrictive copyrights about their content and end-products (e.g. multinational companies, the military and the entertainment industries).

Before the current wave of international surveillance scandals, contemporary electronic movements (anonymous, darknets and cypherpunk communities) and related computer sub-cultures had been obscure in popular culture. Accomplished hackers sought anonymity for many personal and political reasons. In general, they avoided celebrity. The recent Snowden global surveillance revelations may have temporarily masked the fact that espionage, surveillance and control is not new, although the scale and depth of its mechanisation is unprecedented.

Forebear, Elizabethan occult magician/polymath John Dee's cypher system of mirrors for remote communication was implemented for the British Naval command, concurrently his purportedly transcendental ability to connect with elementals and ghosts in the ether and his large influence on occult thought is also well documented. Therefore we can see in this small example of how cyphers and their coded implementations fall vertically across genres and time; and hence, how the activities of these obstinate characters and their consequent exposés have been exploited.

Stallman seems to have an alter ego, not just as seen in his transformation into St IGNUcius, but also in the very manner he conducts himself; wearing no shoes in formal university settings and surrounded by a entourage of Eastern European women who sell Free Software Foundation merchandise and give away propaganda stickers. Stallman imbues his words and actions with an authority all of his own, transforming himself into an agent provocateur working outside (some) conventions. The romantic performance of the heroic outsider artist or rebel figure relates to many free culture advocates, such as WikiLeaks' main representative Julian Assange. For instance, Assange is now a common household name even though his site itself runs on the anonymising Tor network [a.k.a darknetz]. We see magazines like Rolling Stone featuring articles on hackers as if they are the new genre of rock star.[7]

For the purposes of this introduction, the important components are the performance of code, the hacker, and how these slot into the advocacy of a free

software code base which functions as a dynamic open repository (perhaps even a deep vault) for people (who know how) to extend upon it.[8] Barbara Maria Stafford reflects upon the recurrent idea of the 'digital magoi' and their ability to be 'in direct contact with code' (Stafford 2008). Also, the research of Florian Cramer argues that 'Information as a code that executes into political action and into utopia existed before the Free Software movement. It was central to...the original 1614 Rosicrucian manifesto *Fama Fraternitatis*' (1998, p. 51). We can draw similarities between the occultism, the free software movement and the philosophers of the reformation who were protesting—among other things—the authority of the priestly hierarchy as the sole interface to God, and who demanded that everybody be able to read the bible (source code) in order to establish their own relationship with *Him*.

05 User insisted too much, dying badly

Authorship and acknowledgement of prior or existing art is not new, but has been brought to prominence through the twentieth century corporatization of techné (creative industries). Thanks to that the upper middle class are now even able to purchase hardcore from online band merch, dissidence from the tattoo parlor, activism from Greenpeace and feminism via Chanel.[9] However it is the discussion of where people draw the line in acknowledging technical contributions to an artwork that is the pertinent topic, for instance, designers or artists who never acknowledge the coders' contribution. In principle, the tools of free software remove the stern barrier between software users and developers (Read/Only) as the software's source code is made available for users to modify and extend. It delightfully and undoubtedly becomes exposed to idiosyncratic configurations in a process often termed 'forking' (in version control systems such as GitHub, a shared code repository). But it is vital to share not only the source of the concept and/or code, but also the genealogies, histories, traditions and philosophies that play out in this collaborative field.

The ramifications of the free software movement for me as an artist is that I'm able to both acknowledge, build on and respect another person's work. This is not to say that I ruthlessly mine my lover, mentor's (...place intimate role here) deep thoughts and show them in an exhibition premise at a much later date, or that I overtly discuss on social media the considerations of someone else, as if my own. To instead acknowledge that one is influenced throws individual authorship into high relief.

Of Stallman's GNU Manifesto, Aymeric Mansoux writes 'Looking at the text itself, we can see that the tone and the writing style used by Stallman make the GNU Manifesto closer to an art manifesto, than to yet another programmer's rant or technical guideline' (Mansoux 2011). The way in which the 'legal system has had to deal with collaboration in its management of difference within the aesthetic and information economy is suggestive of a path applicable to other new and

immaterial forms of production', in which Mansoux's text *My Lawyer is an Artist* (2011) articulates a concise position for the artistic decision to choose an alternative to standard copyright and licenses for artwork.

The individual that gave his or her name to a discovery did not create or discover it all ex nihilo; rather, he or she was the one who brought together many separate streams. Source code contributes to a larger body of knowledge for people to acknowledge, extend and tweak to their personal disposition; the beauty of it is that it allows for complexity.

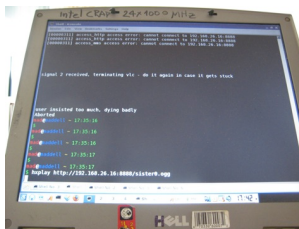


Fig. 05 A typical computer console. IMAGE: Nancy Mauro-Flude.

If we wormhole back in time to the publication of the first 'How To' manuals, or 'machine books', the necessity for idiosyncratic custom builds was discussed in the seventeenth century. Jan Lazardzig highlights how these early 'how to' manuals, or 'machine books' emphasise the Readerly/Writerly activities of the machines, quoting the ingenuous engineer Heinrich Zeising, for the general social body:

'...emphasizing and explaining the technical apparatus. This pointing gesture...collapses the role of the viewer in the picture with that of the viewer in front of the picture: 'I hope to please every refined person who looks carefully at these machines and reads their principles and properties. The gentle reader is truly considered... the most blissful person since he can benefit from these inventions for his own purpose with ease and free from worries' (Lazardzig 2008, p.158).

Here we see how the seventeenth century engineer Zeising thinks it is worthwhile to have a Read/Write mode. That is, to be able to acknowledge, and then copy, an invention and in so doing, gain an understanding of how its creator thought and felt, while always bringing in one's own idiosyncrasies and vision, in the understanding that all these efforts are related and have a larger common purpose.

As artists, programmers and/or users in a networked community with we are always faced with our own necessary processes of self-discovery, which, for regular users of computers, should also entail finding out how operating systems work, and how to discover a computer's internal system, language and power. What is truly of deeper interest to me are the ongoing connections with the occult.

Although these propositions are radical, in practice Free Software and Open Source are not entirely progressive movements, as always, there is social stratification of class, gender and race to navigate. Jaron Lanier contends that: 'Even though the open-source movement has a stinging counter cultural rhetoric, it has in practice been a conservative force' (2010, p. 125). While Lanier's point may be accurate, he neglects to take into account how the movement's innovation has flourished elsewhere as a social and economic process. The GNU/Linux Free Software Foundation campaigns for computer users' freedom to cooperate and control their own computing conduct. There is an argument that open source software principles of 'freedom of information' and 'universal interoperability of systems' (open standards) are more valued than the principle of 'knowledge sharing' passionately emphasised by the Free Software Foundation. The former includes the latter, but the latter inevitably does not include the former. With its eclectic combination of earnestness and missionary zeal, Stallman's Saint GNUcius's act is a radical manifestation of this philosophical connection between performance and occult, of technocentrism and the often-intangible nature of software development.

The dilemma is not that it is proprietary software (closed to the source) being used to program the computer (some proprietary applications are open source and cost money) it is rather an ethical, and arguably, a spiritual issue. When the source code is both copyrighted and closed, a problematic situation arises; the user may be unable to modify the software to his or her needs or acknowledge the source. We need to be in direct contact with the source code, lest we may die of thirst. We are not the measure of our actions, not entirely, so in the end it depends on how one would prefer to be 'spoken' by mercantile forces or by something quenching, vast and incomprehensible. It is unfortunate that many of us have lost an inner sense of the mystical (which lies outside of the consumer standard). Perhaps artists today must first restore their sense of the spiritual, for without that nothing matters anyhow.

References

1. F. Naumann, *Marcel Duchamp, L'Art à l'Ere de la Reproduction Mécanisée*, reproduction #191. (Editions Hazan, Paris, 1999), 179.
2. For instance, this subculture shows many of their favourite codes via t-shirts fashion featuring witty idioms as shown on the *ThinkGeek Merchandise* site, viewed 18 December 2013. ff<<http://www.thinkgeek.com/product/5d6a/>>.
3. L. Frank Baum's 1900 novel and MGM's 1939 motion picture *Wizard of Oz* starring Judy Garland.
4. I attended Stallman's Lecture 'Free Software in Ethics and in Practice' at Stanley Burbury Theatre, University of Tasmania, on September 30th, 2010.
5. For an account of the genealogy of the Unix machine and its offspring of *nix derivatives see Hardie, M (2007). I am required by Law to write *nix, instead of UNIX as Selkirk, C writes '...I used the term "*nix" to denote Unix, or more precisely Unix-like operating systems, this is due to the fact that "Unix" is a trademark, and as such cannot be used in this way. However, as the operating systems we are discussing owe

their historical roots to AT&T's "Unix", we will describe them generically as "*nix" ' (2004).

5. Richard Stallman website, viewed 12 December 2013, <<http://www.gnu.org/music/free-software-song.html>>.

6. Richard Stallman website, St GNUcius, Viewed 12 December 2013, <<http://stallman.org/saint.html>>.

7. This is quite diverse and one could claim in fact the 'Hacker' is the new celebrity which can be comprehended seen in diverse Mass Media coverage from respected computer magazine Wired, or popular culture arbiter Rolling Stone, to more vernacular publications for instance Mirror UK. See Quinn Norton, (2012); Rich, N 2010, 'The American Wikileaks Hacker: Jacob Appelbaum fights repressive regimes around the world - including his own', in *Rolling Stone*, 15 December 2010, viewed December 2 2013, <<http://www.rollingstone.com/culture/news/meet-the-american-hacker-behind-wikileaks-20101201>>, Pisa, N 2013, 'Julian Assange dubbed Rockstar of the Year by Italy's Rolling Stone', *Daily Mail* 2010, viewed January 10 2013, <<http://www.dailymail.co.uk/news/article-1338566/Julian-Assange-dubbed-Rockstar-Year-Italys-Rolling-Stone.html#ixzz2h6Hx47yv>>.

8. Richard Stallman states 'Some people don't realize that Saint GNUcius is Saint GNUcius's way of not taking himself too seriously. Therefore, Warning: taking the Church of Emacs (or any church) too seriously may be hazardous to your health.' Viewed 10 September 2013, <<http://stallman.org/saint.html>>.