*«It is no longer necessary to deface paintings
or to put a mustache on postcards of Mona Lisa,
now art can be downloaded, modified and uploaded again,
with absolute delight»*
Luther Blissett, Art Hacktivism

Recycling in the digital context

Reuse and recycling are some of the most advertised and used strategies of our age for environment care. Something that looks so related to actual conditions and needs can maybe be found in different human attitudes which we usually don't think as connected with the idea of putting again something into a cycle.

I'll briefly analyze the relation between actual and digital reuse, focusing on the conceptual statements behind the different approaches.

Classical recycle

Design has lately been very involved with ethical issues about social responsibility and the power of communication. Among them one of the main researches is trying to make the designers more aware of the influence their work could have on several environmental problems.

It is a big issue and is important to make designer be able to know what's the impact of the material used in their work or what's the real consequence of the spread of the message they are communicating. Is important to inform them about what is possible to do in their field, and which are the alternatives to the ones that are not environmentally friendly. The project could evolve in many different ways, and the designer can try to push the client to go in certain directions rather than others. A bottle of glass can from the very first moment be designed to be reused in many other ways by the final user, or instead it can be used several times from the same company just collecting the empty pieces.

But this is not the only way recycling is dealing with design, still in the environmental field an other important direction is the redesign practice. This is a branch of product design(but it is already spread into architecture and interior design), that reuses dumped items to build new ones. This practice can be immediately be perceived as a more creative one, maybe less involved with sometimes dubious industrial recycling processes related with the production of new raw materials. Redesign can be delineate, in my opinion, somewhere in between recycling and reusing, as they are defined in the three R's of ecology (Reduce, Reuse, Recycle). It is not recycling, because it doesn't produce new raw materials of the same type of the one wasted, but it is not even just reuse, because it is reusing the items with a different function than the original one. It rather recombines dumped objects to be something else and something again useful for the society.

In this way it is underlining the importance of the attitude itself of putting something again into the design cycle more than the immediate result on the environment, trying to deconstruct the capitalistic attitude of throwing away in order to build new it is claiming against overconsumption. It also has a curious approach on the process of copyright, since redesign uses pre-made objects that have been thrown away, but that were previously produced and therefore designed, it is basically using someone else's design in order to rebuild a new item and a new layer of aesthetics above it. For instance, if a lamp is built using glass bottles, two different projects are coexisting in the same object, and two different designs(and designers) are then

theoretically having rights on it. The new object's proprietary rights, the lamp, and the ones of the original item, the bottle itself. This approach therefore can be seen as claiming a sort of openness regarding the exchange, share and reuse of ideas among different people, and is pushing the boundaries of the idea of derived work.It also differs from the classical idea of recycle because of the strongly creative approach it is made of. There is remarkable beauty coming out of recombined various materials and objects and it lays in the message that they potentially carry just trough sharp juxtaposition of different designs and worlds.

The digital scene

In the digital environment the issue about lack of raw materials is obviously meaningless. Materials are not precious as the one we deal with in the real world, and more we can duplicate them as many times as we wish, therefore there is no reason to think about any scarcity of materials in computers environment. Although in the virtual world recycle can be just discussed with metaphors, is interesting to see how this redesigning and recycling processes would work in the environment that is now involving design so much. In particular I'm interested in the role that redesigning attitudes could have on graphic design and digital art.

There are already some examples of design and art processes that can be connected with the idea of digital recycle, and it is maybe more common than what we can imagine for everyone to reuse digital data The first example we can think of is the use of our own digital templates, that can be a presentation or a data table or any other kind of structure we don't need to redo every time we need it but we can just keep on modifying for the many different application.

Net art

In more delineated fields is more likely to find even more specific cases of what can be interpreted as digital reuse, for example in the net art field is common to find reinterpretation of data, for example in the practice of turning data into something completely different which can be already evident in the act of "pipeing" something into something else in the shell language. Anything in the computer world is composed by binary code, zeros and ones that can be put into the cycle of creation again and basically become something else. [Put the example of pipeing hardware into sound that Aymeric has shown.]

Joel Ryan's research on the transformation of images into music opens many possibilities of data uses in creative processes. [Find more about Ryan's Network Traffic] This elements transformation seems to have always been fascinating for artists and musicians, and maybe a sort of pataphysical approach can be tracked in the practice of comparing different media (and world) to the point of turning one into the other using their inner structure and flow. And this attitude of questioning the affiliation of a certain approach to a precise field, and the research on whether the structure of something can be switched in between different disciplines, are behaviors totally familiar with the creative attitude.

"Do I have anything to say or does the network already take care of it?" this is how Graham Harwood introduces his work *NetMonster*, challenging already the communication system's methods about how and by whom the contents should be produced.*NetMonster* is a software that gathers data from the network's flow and converts them into a single image, that is at the end the "monster" self-constructed from the images of the search results. The outcome is a complex visual composition of different images that carries different layer of interpretation, of course about the visualization of the search flow but also about the new role of each image manipulated in the work. "Pictures in networks no longer have the same representational or poetic functions as before. The way young people use pictures on their mobile phones is a primary example of the image as notation - they are skimmed over, turned into marginalia or instantly deleted. How can we give the image a new expressive function that is more than an arbitrary icon or thumbnail managed by a database engine?"[2]

Data from a very specific field, such as networks search engines, is in a way recycled, forced again into the cycle, and turned into something completely different with a new identity.

An other project connected with the recycle of digital material is 0100101110101101.ORG's *Hybrids*, the results are digital collages created using internet pages. They reuse random websites together with artworks taken from Net.art in order to criticize the issue of plagiarism present in the art field. Conceptually they want to represent an invitation to reuse culture trough visual recycling defining copyright laws as "anything other than the means by which one group of artists limits the work of another". The idea of reusing other people data seems really appealing for net artist, as a statement against copyright and its dangerous relationship with the web and the art market many artist try to push it as far as possible in order to flip the hierarchies.

A similar example can be seen in Vuk Cosic's *Jodiblink*, a web artefact reflecting characteristic JODI's formalism, where the recycling of ideas is dragged to the extreme, openly declaring its origin, also coming from the very same field of research, already in the title of the work. This reusing attitude has been taught by JODI itself during the tutoring of the project *Not From Scratch*, developed by first year Media Design students of the Piet Zwart Institute (Rotterdam). The project presented critical and playful alterations of existing website and media systems instead of designing them from scratch.

Open source sharing

The idea of reuse for different purposes comes up in open source softwares methods too. The practice of Forking consists of the creation of a copy of the core process of a program in order to use it to start a new branch of it that will be completely disconnect from the first one.

Many linux distributions are the result of the fork of other distributions, mainly from Debian, Red hat or Slackware, and many open source programs also came out from previous version, in graphic design field Inkscape vector-graphics software started as a fork of Sodipodi that is itself a fork of Gill.

Github.com is a project that totally supports this practice, it consist of a code repository that single user or companies can use in order to store their code and at the same time share it and make it available for copies and personal implementation. Its approach is pushing the idea of copying and merging and copying again the process visualizing each passage in a tree diagram where anybody can realize the path of each project hosted, at the same time the projects are all listed in the main page and classified by the number of forks coming out from them.

The same process happens in online code repository and tutorials, people cut and paste other people's work and build new projects out of them, but also small application can be used many times by the users with different purposes and style.

Glitch art

In the glitch art methods glitches are the effects, expressed by visuals or sounds, that come as the result of a software or hardware bug, and the artists are then finding the hidden value of the errors and noises appeared, underlining this new interpretation by giving new importance to the unexpected outcomes.

In the practice of glitch art the act of transmission of data, from one environment to an other, becomes very important, since the mutation of field or medium is the new key point from which the aesthetic potential of the end result depends on.

This idea of giving importance to digital errors and noises as the generators of art, often leads to the creation itself of those effects by inserting data in a process designed on purpose.

The results of this process can be defined as a *glitch-alike*, that differs from the *pure glitch*, simply defined as "the result of a malfunction or error"[1], because it has been invoked and anticipated on purpose.

In this case we can clearly imagine how bunches of data turn into art experiments, giving dignity and life again even to elements that can be seen as completely useless for other purposes. In this sense by creating new

work of art from old data or hidden traffics it can be seen as a form of recycling/reuse, or better as a digital redesign.

A typical case of glitch artefact is a modified image created by opening an image with a software that is not meant to be for visual activities, for example a text editor, and try to then save it back in a graphical format as jpg, causing this way many errors that are going to be visualized trough the creation of abstract shapes and colors from the so-called "databend" process.

This methods are decidedly digital but if we try to imagine an equivalent approach in the classical design field, for instance the product design one, is possible to intriguing and unexpected results. In particular the result of a production error can be any wrong product that wouldn't be anymore interesting for the company business, at the same time could be interesting to reconsider the appeared object as a separate one, with a new design and identity that mirror the error process itself and can be useful for other purposes.

Music and literature remix

The practice of reusing and recombining processes has already been widely present in the music field.

Since the late 1940s and 1950s, with the advent of editable magnetic tape, songs alteration became more and more common, till the digital age where people has the possibility and the means to tear tracks in pieces and recombine songs using softwares. By creating an alternative version of a song or using parts extracted from the original one, the remix practice generates new independent pieces.

Because of its inner nature of literally taking parts from existing songs, remix met intellectual property issues. Became then important to try to draw the line between the types of remixes that can be redistributed by the new author and the ones that fall into the category of derivative work, defined as a piece including copyrighted-protected elements of a previously created work. This definition can change for some geographical areas, and this leads to remix different consequences in different countries because of the various laws in force in those areas.

For this reasons several netlabels(record labels that distributes music mainly trough digital formats over the internet) started to use liberal licensing to facilitate remixing and other project born in order to provide materials licensed to use with permission, as the case of ccMixer.

In literature the remix culture correspond to the cut-up technique, this genre literally cuts a text into smaller pieces and recombined them creating a new one.

William Burroughs used this particular deconstructive method in some of his works, for example in Naked Lunch. The simplest form of cut-up consist in cutting a page in four sections and then give to them a new sequence. Then the practice goes on tearing apart each piece in smaller parts again and again. Burroughs himself was aware of the connection of this technique with the sound sphere and was doing experiments with cassettes tape, and he analyzed the possibility of a connection between the cutup technique and the political mass media control, imagining a potential use of the cutup analysis in order to unmask the real methods use in mass persuasion.

Graphics

In different forms of art we can see that there are many attempts of criticize the authorship mechanism and the role of propriety methods in creative processes. In graphic design the idea of reuse is even more dangerous since its specific relation with commercial approaches. Graphic design by its definition has to be original, as art and music supposed to be too, but is even more difficult when you have to deal with work that is owned not just by the artist but by the client too (client that can be much more powerful than any artist). There is huge fear of sharing ideas because of the possibility to have them stolen, and this is totally

understandable since this job deals with tricky commercial aspects.

At the same time I think something is changing, and designers believes more and more in the process of sharing knowledge. There is the chance that sharing we'll lead ideas where they could never get by themselves, and at the same time designers are more and more aware of all the rejected ideas and sketches they produce while working on a project.

This new sensibility can be traced in many projects and competitions where rejected ideas are shared with other designers in order to show what so far has been always absolutely hidden to the public.

[examples of project about rejected ideas]

This is surely more connected with the curiosity around the hidden part of the designer job, but it can also have interesting implications with the idea of sharing.

Saville

One example of reuse in graphic design field can be tracked in Peter Saville's work, already during the 80s he was well known for his gesture of appropriation "lifting" an image from a specific genre, for example art history, and re-contextualizing it in an other.

A Fantin-Latour "Roses" painting combined with a color-coded alphabet became the album cover for New Order's Power, Corruption and Lies (1983), for example.

Moreover the idea of a color-coded alphabet can be interesting from the point of view of field translation, the letters can be seen as data, that at this point lose their main characteristic of creating words and messages not being meaningful letters anymore, and the colors are the result of a process that turns a string of values in a color composition. We can then easily imagine how color composition could be generated from all kind of unrelated texts just using Saville's color code, replacing for example the idea of random just with the use of the structure and the flow of an item from another field.

But even more interesting is his later approach on it, where he claims a critique on the fact that now it is totally normal to have a "graphic design ready-made" while he was the first one doing it. He then started a self-commissioned on going project entitled "Waste Paintings", where he copies from his own creative output, using his previous material to build new one, actually cutting-up two decades of his own work.

I find very curious that, finally choosing to actually divide the commercial part of his work from the self-expressive one, Saville's started to pick from his old work. This might be connected to the confusing identity that he has delineated in the recent design field, where he recognize an overload of forced approaches to style, more connected to fashion than it should be, and superficial exercises that he describes as "graphic wallpapers".

Overconsumption

As I already mentioned before, in computing there is no scarcity to resolve nor landfill to save from trash, then is of course meaningless to try to reduce their number. If instead we try to apply this idea to the very specific field of graphic design we can, as Saville seems to point out, feel how the topic becomes more ticklish.

Graphic is changing its methods and communication channels, from very physical craft means it moved to a more abstract and more easily accessible tool through the use of computers, and it keeps on changing the more it goes closer to the internet world. Right now everyone can do design, using any kind of computer software or directly working on some online softwares hosted in the browser, this obviously leads to a bigger amount of design production by professional designer but also by amateurs.

And since graphic design is the right-hand man of commerce, we can walk in the streets and see as much graphics as we can see products we should buy. This way design becomes responsible for the world tendency to good's overconsume . [Deepen here after reading Calvino's The Road to San Giovanni]

Short conclusion

The digital environment is obviously coming closer and closer to the real world dynamics. What I would like to point out is the possibility to consider some of the very established activities of the digital system as very similar to the recycling processes. The interesting fact is then why and how we can find this kind of attitudes in circumstances where there is absolutely no need to save materials or worry about pollution, and consider the possibility to exchange processes' characteristics in between the two context. Is also curious how in certain fields, like in the redesign scene, some aspects like intellectual property become totally secondary while in digital design they are still very controversial. This digital approach to reuse seems underlining the conceptual aspect of it, also bringing into question the role of conceptual statement in classical recycling and redesign procedures.

[1] Iman Moradi, Glitch aesthetics

[2] Graham Harwood, interview on netmonster.mongrel.org.uk