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# Introduction

Introduction text to the book.

# Definitions

## Statement

How could we talk about something if we don't agree on the definitions behind the words we are using. We saw the urge to define a certain number of terms here so that, at least in the scope of this publication, we agree on what they represent.

As product designers coming from the free/libre and open source software movement, we also are very attached to some words that have been defined in other fields, such as the term "open source".

This book is trying to define "Open Source Product Design" and so we are not going to define this term here – you will have to read the whole book to understand what we mean by this. But you may have already encountered similar terms as "Open design", "Open making", "Open source design" and so on. These overlap each other and sometimes set themselves apart. We're quickly going to talk about them here so we can get them out of the way.

**Copyright:** \*Copyright is a legal right created by the law of a country that grants the creator of an original work exclusive rights for its use and distribution. This is usually only for a limited time. The exclusive rights are not absolute but limited by limitations and exceptions to copyright law, including fair use.

Copyright is a form of intellectual **property**, applicable to certain forms of **creative work**. Under US copyright law, legal protection attaches only to fixed representations in a tangible medium. It is often shared among multiple authors, each of whom holds a set of rights to use or license the work, and who are commonly referred to as rightsholders. These rights frequently include reproduction, control over derivative works, distribution, public performance, and "moral rights" such as attribution.

Copyrights are considered **territorial rights**, which means that they do not extend beyond the territory of a specific jurisdiction. While many aspects of national copyright laws have been standardized through international copyright agreements, copyright laws vary by country.\* [Source Wikipedia](#)

**Copyleft:** \*Copyleft (a play on the word copyright) is the practice of offering people the right to freely distribute copies and modified versions of a work with the stipulation that the same rights be preserved in derivative works down the line.

Copyleft is a form of licensing, and can be used to maintain copyright conditions for works ranging from computer software, to documents, to art. In general, copyright law is used by an author to prohibit recipients from reproducing, adapting, or distributing copies of their work. In contrast, under copyleft, an author may give every person who receives a copy of the work permission to reproduce, adapt, or distribute it, with the accompanying requirement that any resulting copies or adaptations are also bound by the same licensing agreement. Copyleft licenses for software **require that information necessary for reproducing and modifying the work must be made available to recipients of the binaries**. The source code files will usually contain a copy of the license terms and acknowledge the authors. [Source Wikipedia](#) \**Open Hardware*:

**Open Source:** *In production and development, open source as a development model promotes universal access via a free license to a product's design or blueprint, and universal redistribution of that design or blueprint, including subsequent improvements to it by anyone.* [Source Wikipedia](#)

More on open source licensing in the "Licenses" section of this book.

**Licence:** The noun license refers to that permission as well as to the document recording that permission. A license may be granted by a party ("licensor") to another party ("licensee") as an element of an agreement between those parties. A shorthand definition of a license is "an authorization (by the licensor) to use the licensed material (by the licensee)." [Source Wikipedia](#)

### Libre/Free Software

**Author:** *An author is broadly defined as "the person who originated or gave existence to anything" and whose authorship determines responsibility for what was created.* [Source Wikipedia](#)

**Property:** *In the abstract, property is that which belongs to or with something, whether as an attribute or as a component of said thing. In the context of this article, property is one or more components (rather than attributes), whether physical or incorporeal, of a person's estate; or so belonging to, as in being owned by, a person or jointly a group of people or a legal entity like a corporation or even a*

society. (Given such meaning, the word property is uncountable, and as such, is not described with an indefinite article or as plural.) Depending on the nature of the property, an owner of property has the right to consume, **alter**, **share**, **redefine**, rent, mortgage, pawn, sell, exchange, transfer, give away or destroy it, or to exclude others from doing these things, as well as to perhaps abandon it; whereas regardless of the nature of the property, the owner thereof has the right to properly use it (as a durable, mean or factor, or whatever), or at the very least exclusively keep it. [URL Wikipedia](#)

**DIY or Do It Yourself:** The practice of doing home improvements and maintenance oneself rather than employing a professional [URL Wiktionary](#) <http://www.do-it-yourself.cz/>

**DIWO or Do It With Others:**

**Maker:** A maker is usually a white male with a subscription to the Maker Magazine.

**Hacker:** 1. A person who enjoys exploring the details of programmable systems and how to stretch their capabilities, as opposed to most <http://www.collinsdictionary.com/dictionary/english/stealusers>, who prefer to learn only the minimum necessary. RFC1392, the Internet Users' Glossary, usefully amplifies this as: A person who delights in having an intimate understanding of the internal workings of a system, computers and computer networks in particular. [URL The Jargon File](#)

6. An expert or enthusiast of any kind. One might be an astronomy hacker, for example. [URL The Jargon File](#)

7. One who enjoys the intellectual challenge of creatively overcoming or circumventing limitations. [URL The Jargon File](#)

**Steal:** to take (something) from someone, etc without **permission** or unlawfully, esp in a secret manner [[URL Collins Dictionary](#)] (<http://www.collinsdictionary.com/dictionary/english/steal> )

**Professional:** A professional is a member of a profession or any person who earns their living from a specified activity. The term also describes the **standards** of education and training that prepare members of the profession with the particular **knowledge** and **skills** necessary to perform the role of that profession. In addition, most professionals are subject to strict codes of conduct enshrining rigorous ethical and moral obligations [URL Wikipedia\\*](#)

**Amateur:** An amateur (French amateur "lover of", from Old French and ultimately from Latin amatorem nom. amator, "lover") is generally considered a person attached to a particular pursuit, study, or science in a non-professional or unpaid manner. Amateurs often have little or no formal training in their pursuits, and many are autodidacts (self-taught). [URL Wikipedia](#)

**Product design:** as a verb is the process of creating a new product to be sold by a business to its customers. A very broad concept, it is essentially the efficient and effective generation and development of ideas through a process that leads to new products [URL Wikipedia](#)

**Open making:** Open making is a practice mainly defined by the community around the website and project called OpenDesk. They seek to "to define an emerging movement at the intersection of technology, design and manufacturing. [Open design] is an evolving set of principles and best practices on design and production for a collaborative economy" [source](#)

**Open Design:** Open design is the development of physical products, machines and systems through use of publicly shared design information. Open design involves the making of both free and open-source software (FOSS) as well as open-source hardware. The process is generally facilitated by the Internet and often performed without monetary compensation. The goals and philosophy are identical to that of the open-source movement, but are implemented for the development of physical products rather than software.[5] Open design is a form of co-creation, where the final product is designed by the users, rather than an external stakeholder such as a private company. [Source Wikipedia](#)

**Open source design:** Open source design is a term coined mostly by the graphic design community. This thus embraces a practice more related to the study of graphical user interfaces for software than its physical counter part. Maybe this all due to the fact that "design" is such a broad term that applies to any action that involves making decisions or "planning something". <http://opensourcedesign.net/>

## Tools

- [Wikipedia](#) is a collaborative user-edited encyclopedia. It is fantastic tool for an ever evolving consensus on definitions.

## Objects

## References

- [Open Making Manifesto](#)

## Open questions

- Are you satisfied with the terms "Open Source Product Design"?
- Are you "free/libre" or "open source"?
- Do you think we should agree on a definition?

## Licenses

The first step in any open source design approach is to choose a license. This will condition every other step taken afterwards. The license is the social contract a designer is making with everyone else involved in the project. This contract, once set, is explicitly or implicitly signed by the other designers working on improving the project, by the manufacturers of the object and by the final users of it. This social contract is what differentiates open source product design from a more classic approach.

Usually designers think about licensing once they enter in touch with an editor or a manufacturer. This step comes then closer to the end process. This contract usually benefits parties that know each other while it restricts any use beyond those not directly involved in the creation or build process. In this classical approach, the license is mainly a commercial agreement.

Open source design addresses this the other way around and must be placed at the beginning of the process. The license is specifically made for parties that don't know each other. As an open source product designer, I don't know yet who will be involved in my project, who will build it or even maybe what purpose the object will be used for. The license can address commercial terms, but not necessarily.

As with a classic contemporary design approach, licenses are made to protect the designer. But in open source design, these licenses are also made to protect the users or any other person in relation to the design. Nowadays, more and more objects are given to you with restrictions on how you can open it and own it. Take a car for example, or a smartphone. As a user you have very little to say about how those things work, let alone the possibility to repair them when they are broken. And this is not only related to the technical knowledge to do so but also with the legal right to apply any modification.

## 4 freedoms

Open source product design is a practice that comes from free and open source software and as such is following the same principles, but applied to objects. There is a general rule that permits to determine if a licence is "open source" or not. Does it respect the [4 freedoms](#)?

Here are those 4 freedoms applied to objects:

1. The freedom to use objects as you wish, for any purpose (freedom 0).
2. The freedom to study how the object works, to build it, and change it so it behaves as you wish (freedom 1). Access to the documentation, build processes and sources is a precondition for this.
3. The freedom to redistribute the documentation, build processes, sources and copies of the object so you can help your neighbor (freedom 2).
4. The freedom to distribute copies of your modified versions to others (freedom 3). By doing this you can give the whole community a chance to benefit from your changes. Access to the documentation, build processes and sources is a precondition for this.

## Commercial or Non-Commercial

Many times, the question of the commercial exploitation of a design generates heated debates in the open source design community. We'd like to refer you to the section about economics to understand more about this, but we want to make clear here that any licence that would prevent any commercial use of a design **does not comply** with the open source principles. Why? Because this conflicts or puts limitations on the freedom 2 and 3. And if it limits those, they can not be called freedoms, right?

So stop calling your project "open source design" if you licence it with a commercial restriction. You might then want to have a look at our "Definitions" section to find a better generic name for your project.

## Is there an ideal or perfect license for open source objects?

Sorry to say this, but no. Although there is many open source licenses for software and some of those licenses might work for design documents, there is no magic solution that could work in any case. Remember that licenses are generally complex legal documents that try to cover as many cases as possible and that give guidelines on what is permitted or not. As we said, these are social contracts, and as

such could be ideal in a particular situation, but be problematic in others. In the case of open source licenses, since these grant more freedoms than they restrict, they generally tend to create less problems than some others. Fortunately also, and as open source product design will become more and more popular, we can expect that licences will improve and adapt to the new conditions brought by our future societies.

Please, refer to the "tools" chapter of this section to have an overview of the licences available and their use cases.

## Tools

### Free Art License

This is the preferred license used by Libre Objet members and Nonpareil. This license has been written by Antoine Moreau and friends and has originated in France. The F.A.L. is very easy to read and simple to understand. It has been written especially for works of art regardless of their type or expression and is respectful of the roman version of the author's right (as opposed to the english copyright)

### Creative Commons

Surprise, surprise! Creative Commons is not a license. **It's a set of licenses.** We often hear: "I publish my creations under Creative Commons." as this would instantly make you a nice person. It does not. Creative Commons proposes licenses that range from total freedom to no freedom at all. Fortunately, due to their popularity, you will find countless texts and studies that explain you the use of one or the other. Their widely use could be beneficial as more and more people understand them and their implications. If you care about restricting some right to your users, Creative Commons offer you those possibilities. Though remember, because of this, some of the Creative Commons licences are not open source. Here is the only ones that you can use for open source designs:

- Attribution-Share Alike (CC-by-sa)
- Attribution (CC-by)
- Public Domain Dedication (CC0)

### TAPR License

The Tapr Open Hardware License is a license dedicated to open hardware projects, usually electronics components involved in amateur radio. This license could be applied to any objects and addresses the specificity of open sourcing physical object.

### CERN

### GPL

The Gnu General Public License is the mother of all open source license. It was created by Richard Stallman and has been used and released as early as 1989. This license is certainly the most popular license for free/libre and open source software, but it can also apply to the designs of objects.

### WTFPL

The "do What The Fuck you want Public License" is a very short and somewhat funny license that exists as a response to flame wars that often occur between partisans of one license or another.

### Peer Production License

The Peer Production License by John Magyar, B.A., J.D. and Dmytri Kleiner is a very interesting take at the commercial / non-commercial debate that happens around open source product design. Basically, it can not be considered an open source license as it restricts freedoms on uses and distribution allowing only other commoners, cooperatives and nonprofits to share and re-use the material, but not commercial entities who intent on making profit through the commons without explicit reciprocity. To our knowledge so far, no designs have been released under this type of license.

## FabL

The Fabrication License is a new license – in the making – especially dedicated to the cases brought by growing popularity of fablabs and open source design. This license is being developed around the same community that developed the Free Art License.

## Objects

- Mmodulus (CERN license)
- Bouctje by Mathieu Gabiot (Free Art License)
- [MicroHouse](#) by Open Source Ecology (GPL License)

## References

- Ronen Kadushin about Open design

## Open questions

- What is your preferred license and most importantly why?
- Should Product designers write their own license?
- What would be the physical representation of a license?



# Designing

Other possible titles for this section:

- Design processes

## Statement

So **designing** can be divide in two parts :

- production conceptual / modelise
- Production physique / real

## Designing Tactics:Not Starting From Scratch

*"If I have seen further than others, it is by standing upon the shoulders of giants."* Isaac Newton

Sometime when you are begin with the design of an object you are going to find yourself face to face to with a empty white sheet of paper. But if you work with object with open source licences you will be enabled to implement some designing tactics that allows you to begin working from the work of others designer, instead start from scratch. At the same time, if you licence your design you will allow another designers to use your design, by this way, your design can stay alive, constantly improving and changing. In the following pages we are going to tell you some of the designing tactics that open source tactics allows you.

## Modifying

*To make partial changes to.* [Wiktionary](#)

When an object has been licenced by certain type of permissions its allows you to make changes in its design. There are many points of the object can be modified: color, shape, texture, materials, form, functionality. Is also posible to add or remove elements.

**Color modification example**

**Shape modification example**

**Texture modification example**

**Material modification example**

**Form modification example**

**Functionality modification example**

**Addition modification example**

**Removing modification example**

## Adapting

*To make suitable; to make to correspond; to fit or suit; to proportion.* [Wiktionary](#)

One of the advantages of the open source object is that you are able tu adapt them to your own necessities (or anyone else necessities). There could be diferent reasons for adapting an object. Sometimes the reasons for adapting a design could be personal (Size, proportion, taste...). Other times the reasons for implement an adaptation are related to the fisical context (Clima, scale, materials available), technological context (technical knowledge and context available) or social context (language, religion, tradition, icons..)

## Examples of adaptations

### Mixing

To combine items from two or more sources normally kept separate. [Wiktionary](#)

Another advantage of the open source objects is that they can be combined. You could take two (or more) open source elements and mix them in order to create a new object. This can be a way fast way of create usefull new object.

**Examples of mixing \*Dildo + drill"**

### Copying

To produce an object identical to a given object.

Some licences allows you to copy objects. This not only allows you to copy an object for its use or for distributing it, its also enables you to use the multiple copies of this object for reaching a bigger achievements. For example you can copy an open source single ball for playing with it, or you can copy it a million of times and make a ballpool.

### Forking

The “fork” means an object having a common root with a second one. Initially twins, these two objects will separate and follow their own developments.

**Examples of Workshop 2015 *divreved objets* by Libreobjet**



### Upcycling

Upcycling is the process of transforming by-products, waste materials, useless and/or unwanted products into new materials or products of better quality or for better environmental value. Book [Upcyclist](#)

**Examples of pallets, welcomemamy Martin?**

### Concept / modelise (Drawing/Representation Tools?)

There are multiple tools you can use for drawing or representing your designs, from analogical traditional tools like pencil, pens, watercolours or handmade models to digital tools like vectorial drawing applications or 3D digital enviroments for modeling. Analogical tools, of course, are useful but in order to share design efectively and fabricate them in a fast and precise way we will use digital tools or software of drawing and representation.

It's not because your work is done with proprietary software than you project is not opensource. But we recommend to be logical in your design process. (This digital software could be proprietary or opensource. If you use proprietary software to work in your designs its does not mean that your design is not open source. However, we recommend to be logical in your design processes.)

In the following pages, we will talk about diferent digital tools that you can use for your designs. Do not forget that this are not all the options you can use, only a few ones.

### Proprietary software

- Adobe: The softwares developed by the american multinational Adobe Systems are one of the most used proprietary softwares. You can find diferent kind of digital tools for doing diferent tasks of creative edition like vectorial drawing (Adobe Illustrator), music (Adobe Audition) and video editing (Adobe Premiere), photo editing (Adobe Photoshop)...
- Autodesk: Autodesk is an american multinational corporation that develops technical software. Autodesk's tools are usually used in field like architecture, manufacturing or engineering. Probably the most known tool from Autodesk is AutoCad, a software for 2D and 3D CAD (Computer Aided Design) drawing.

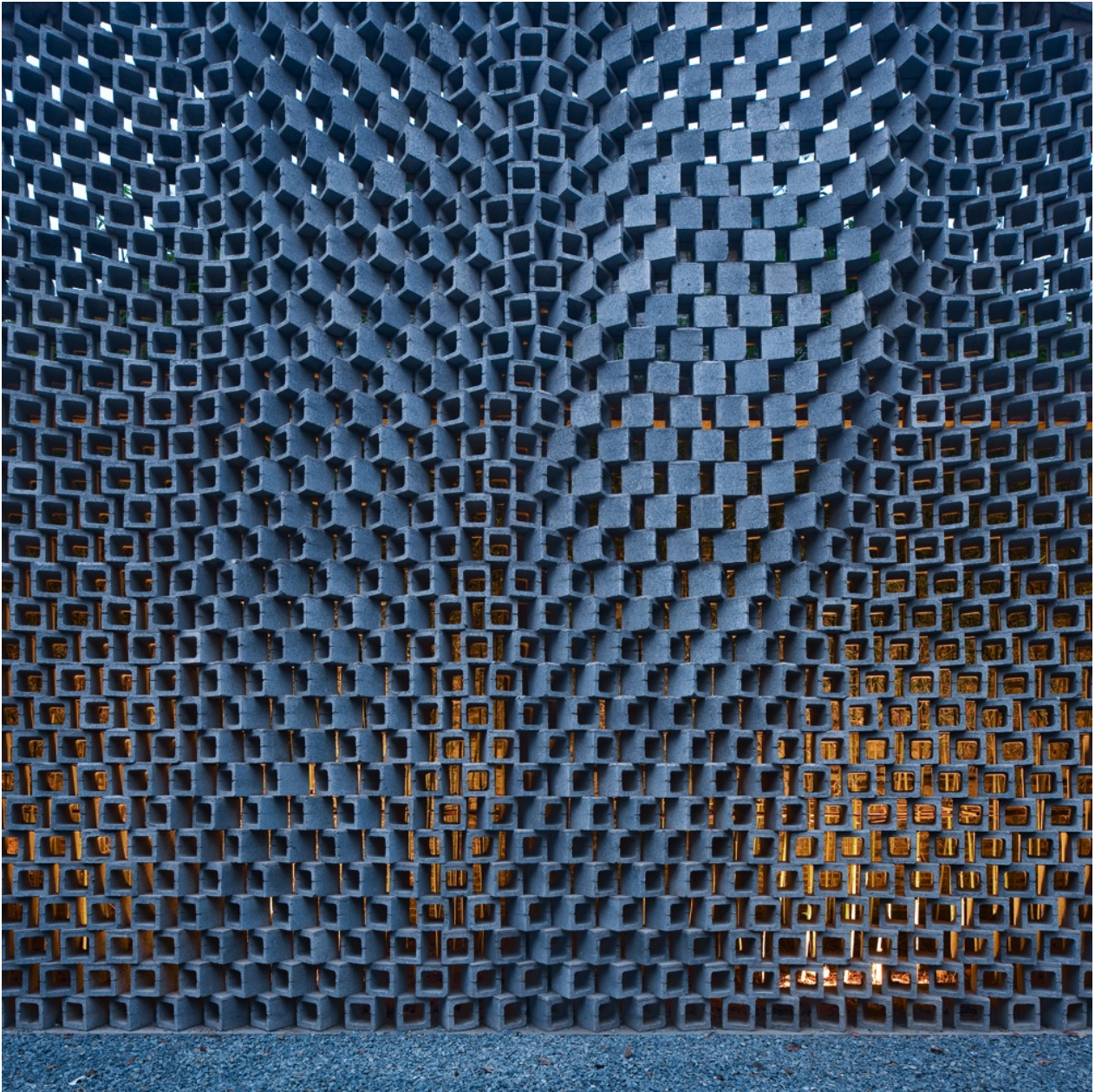
## Software Opensource for designing objects DAO/CAO

- Librecad
- Freecad
- opencad
- Blender
- inkscape

### Skills / Knowledge

- Geometric / mathematical
- Parametric design: *is a paradigm in design where the relationship between elements are used to manipulate and inform the design of complex geometries and structures.* [https://en.wikipedia.org/wiki/Parametric\\_design](https://en.wikipedia.org/wiki/Parametric_design)

[image source](#)



- Vector graphics: *is the use of geometrical primitives such as points, lines, curves, and shapes or polygons—all of which are based on mathematical expressions—to represent images in computer graphics. Vector graphics are based on vectors (also called paths), which lead through locations called control points or nodes. Each of these points has a definite position on the x and y axes of the work plane and determines the direction of the path; further, each path may be assigned a stroke color, shape, thickness, and fill. These properties don't increase the size of vector graphics files in a substantial manner, as all information resides in the document's*

structure, which describes solely how the vector should be drawn. [https://en.wikipedia.org/wiki/Vector\\_graphics#Standards](https://en.wikipedia.org/wiki/Vector_graphics#Standards)

## Production physique

### Digital Tools for fabrication

Since the very first industrial manufacture machine "the spinnig jenny" the human being has been looking for improving the automatic fabrication processes in order to reach faster and more precise results. Thanks to the digital revolution that started in the middle of the previous century, nowadays we can program machines by computer to fabricate tangible object by defining them digitally. At first, this kind of technology was only accesible to professional industry, but in the last decades it has began a democratization process of this technologies, so they has began accesible for everybody.

Some of this tools has been reduced in size, dirtiness and noissiness, so has became, somehow, lets say, domestic. In other cases, the tools are still being big, dirty and/or noisy, but there has appear a new kind of spaces in our cities that makes them accesible to the non professional people, like, for example, the fablabs. In the following lines we will explain you the diferent tools of digital fabrication that you can use for fabricating open source designs that has been defined digitally.

-CNC router: *"A CNC router is a computer controlled cutting machine related to the hand held router used for cutting various hard materials, such as wood, composites, aluminium, steel, plastics, and foams. CNC stands for computer numerical control. CNC routers can perform the tasks of many carpentry shop machines such as the panel saw, the spindle moulder, and the boring machine. They can also cut mortises and tenons. A CNC router is very similar in concept to a CNC milling machine. Instead of routing by hand, tool paths are controlled via computer numerical control. The CNC router is one of many kinds of tools that have CNC variants. A CNC router typically produces consistent and high-quality work and improves factory productivity. Unlike a jig router, the CNC router can produce a one-off as effectively as repeated identical production. Automation and precision are the key benefits of cnc router tables."*

*"CNC routers come in many configurations, from small home-style D.I.Y. "desktop" like k2 cnc, to large industrialCNC routers used in sign shops, cabinet making, aerospace and boat-making facilities"*

*"CNC routers are generally available in 3-axis and 5-axis CNC formats. Many Manufacturers offer A and B Axis for full 5 Axis capabilities and rotary 4th axis"*

[Wikipedia](#)

-3D printing

*"3D printing, also known as additive manufacturing (AM), refers to various processes used to synthesize a three-dimensional object. In 3D printing, successive layers of material are formed under computer control to create an object. These objects can be of almost any shape or geometry, and are produced from a 3D model or other electronic data source."*

*"3D printing in the term's original sense refers to processes that sequentially deposit material onto a powder bed with inkjet printer heads. More recently, the meaning of the term has expanded to encompass a wider variety of techniques such as extrusion and sintering-based processes. Technical standards generally use the term additive manufacturing for this broader sense."*

[Wikipedia](#)

## Materials

- Pallets > DIY > Basic tool
- Plywood > Cnc
- plastic, composite... > 3d print

## Tools

- Software
-

## References

[don't run beta](#)

## Objects

[don't run beta](#)

# Economics

## Statement

Often when we speak about *Open Source Product Design*, people are concerned about how to earn money with their creations? And although these concerns are very understandable – every body has to eat –, these questions come from a very narrow point of view on how designers can make money.

Since the industrialisation age and mass manufacture of objects, designers have mainly earned their living by licensing their designs and earning royalties over it. In these cases, exclusivity and popularity of the objects are key elements that influence how a designer will get paid.

But a more traditional way for a designer to earn money is to directly sell his creations. He will then be at the same time designing the object, building it and delivering it to the buyer.

Ok my design is under free open source license, that means every one can sell my work or making money with? Don't be afraid, you can do the same if you want with another opensource project. If someone make a nice improvement of your design, he should be interested to get some return, money for his work. You can also benefit of this by sell it again on your side. **illustration BD**

But patents are very expensive and the copy is always done anyway... *\*maybe in the intro ? yes, see motivation section*

Open designs for economics of the mass collaboration

Some authors has criticise the Open Source services and objects production linking them with communist movement and arguing that they hinder the development. For example Jaron Lanier, an american computer philosophy writer, tells on his book *You Are Not A Gadget: A Manifesto* that the open source productions generate a kind expropriation of the intellectual productions that he calls "Digital Maoism". However, in the best-seller book *\*Wikinomics: How Mass Collaboration Changes Everything\** the authors, Don Tapscott and Anthony D. Williams, defend that openness is creating a new forms economics development and, even more, they tell that it will be essential for the economic innovation and development in a near future.

The economic model that is described in this book is based in four point: Openness, Peering, Sharing and Acting Global.

*"Openness, which includes not only open standards and content but also financial transparency and an open attitude towards external ideas and resources Peering, which replaces hierarchical models with a more collaborative forum. Tapscott and Williams cite the development of Linux as the "quintessential example of peering." Sharing, which is a less proprietary approach to (among other things) products, intellectual property, bandwidth, scientific knowledge Acting globally, which involves embracing globalization and ignoring "physical and geographical boundaries" at both the corporate and individual level."* -[Wikipedia](#)

### Some possible answers:

- education/teaching/workshop
- focus on services, like in the opensource softwares > wordpress.com ( <https://www.bluehost.com/wordpress> )
- created a viable economic system of business like Nonpareil sell the object at the different step of construction: plan / without finish / classic finish / custom made
- sell your physical design on design market place platform :
  - adding webshop kit on your website
  - <http://www.widehandside.com/> or similar platform
  - sell printing plans or poster in shops (library, design shop, maker space...)
  - explain that open source is not free. You have the right to sell your drawing/documentation or asking people for "donation".
  - Crowdfunding?

(We must talk about building things. What is the value of an object beeing built by a creator or by some other person > refer to motivation section about copy depends on emotional value)

## Tools

## Objects

- [Modulus](#)
- LibreObjet > workshops, talks...
- Nonpareil > *autour du trait*
- [Opendesk](#)

## References

Enzo Mari

## Distribution

**Distribution** is one of the key feature of open source design. This is the main reason we attach an open license to an object, to encourage its dissemination. Distribution is not only bringing a manufactured object from its production facility to the final user, it is also a feature of the object, a communication process, a dialogue between the designers, the builders and the users. In open source product design, distribution is the second step a creator has to take after choosing a license and will mostly be the continuous step that will prevail through the design's life.

**Distribution** has to be thought from 2 interacting point of views:

- The physical
- The dialogue

## The physical

How is your object physically distributed?

As mentioned in the "Motivations" section, one of the benefits of open source product design is that the documentation can travel faster using contemporary communication tools than shipping an object in a container. This then potentially separates even more the places where the objects are imagined from places where objects are built. It's already the case when design is done in western countries for a western market and the resulting objects are produced in countries through cheap labor. But with open source product design, this relationship can be totally broken as objects could potentially be designed anywhere and fabricated where they are needed. At least, this is where we do see the benefits of it. Of course, this particular relation could be "closed" again if only specific skills and tools that are required to design and produce the objects.

## Distributing physical open source object

Something that is quite easier to figure with software is if the software itself is open source. This is normally clearly indicated in the software itself. But with objects, this can be tricky. How can I know that the object I'm using is opensource?

refer to a license or a sign somewhere on the object. marking by engraving, laser, sticker, the license name or an url where you can find further informations about this objects (license, sources...) Why? because if it is only on separate sheet/document or packaging, this information can be lost if the user/buyer decide to give this object to other. New user can have no idea about the origin and loose the oportunity of what open source can give it him (adapt, remix, etc...) This thing is still an issue about the complexity to add information on a object (small object, smooth materials...). We are still looking for new ideas.

## The dialogue

How open is your conversation?

The dialogue between a designer and any other person involved in the project will be done through **the documentation**. If you don't document your project, nobody will be able to interact with it in a constructive manner. If we could again make a comparison with software, if you don't distribute the source code in a readable manner, if you only distribute binary files, it can not be open source software. Same thing with objects, the full documentation is a requirement for open source product design.

By documentation, we mean all the all the documents one will need to copy and modify the product easily.

Documentation can take many form. It could be sound, video, schemas, 3D files, 2D files, scanned drawings, etc. We don't see were one type or the other should be excluded as long as it is the most suitable format for documenting the project. But documentation has to always be published under an open source license and be available in an open standard.

Documentation is often overlooked by designers. And many project fall short on being called open source product design because of their lack of or poor documentation. A rule of thumb when making a project is to consider that documentation will take at least 50% of the time.



## Documentation

Here are a list of things you should consider when documentating objects. This list is based on requirements we've made for adding objects to the collection of [Libre Objet](#) :

- general view (picture or drawing) of your object
- general size (L x H x D) in mm or cm or inches
- general standard views (front, left/right side, up/down)
- list of all materials used in the composition of your object
- list of tools required to build the object
- date of creation
- name of designer(s) and any other authors
- name of builder
- full license text (FAL, CC, CERN...)
- url(s) of sources (if available)
- description of each part, like technical drawing with size, scale, front
- description for the assembly, the order/way to mount (drawings, pictures, better than text but why not)
- description of potential issues or different way to improve the project after (see Entropie's Doc [http://www.asso-entropie.fr/media/filer\\_public/cd/37/cd37e323-1f8c-450e-8cbc-0fe9a12f95bb/table\\_et\\_banc\\_entropie\\_juillet2013.pdf](http://www.asso-entropie.fr/media/filer_public/cd/37/cd37e323-1f8c-450e-8cbc-0fe9a12f95bb/table_et_banc_entropie_juillet2013.pdf))
- ways of using the object

### How deep is your source?

- documentation + license + 3d/2d files For example, Entropie don't share digital files, only pdf. Not so easy to remix or fork their design before the step of making..But they do it in this case (<http://www.asso-entropie.fr/fr/design-libre/atelier/documents/>)but you don't have documentation...

### Where to publish your design?

On your own website first existing platforms :

- [libreobjet.org](http://libreobjet.org)

## Tools

- hosting platforms
- Instruction manuals / schemas
- Open standards
- file sharing
- upload / Download
- wikis
- Fablabs/Makerspaces
- Local manufacturer
  - distributed versioning
  - **Teaching / Education** is a good way to share projects and ideas.

## Objects

- Gun?

## References

- Libre Objet
- Instructables
- Github / Gitlab

## Open questions

- How can you make your object integrate in the design its license and documentation?
- How can you tell the user that the object s/he is using is open source?
- What is an object that distribute itself?

## Motivation

### Statement

Design for humans.

- What we learn at school, about protection of design: patent, Industrial design right (model and drawings deposit), a bit of author's rights, ISSUE : time limit, cost, territory limit
- Obsolescence is the state of being which occurs when an object, service, or practice is no longer wanted even though it may still be in good working order ISSUE : limited time of use, unreparability, waste, capitalism
- Copy: The concept of copying has a particular significance in certain areas of law. In each of the primary areas of intellectual property law, a number of cases have refined the question of what exactly constitutes the kind of copying prohibited by law, especially in areas such as copyright law. ISSUE : illegal copy, impossible to control (Grcic chair chinese's copy > [http://www.alibaba.com/product-detail/replica-magis-chair-one-by-Konstantin\\_60139375703.html](http://www.alibaba.com/product-detail/replica-magis-chair-one-by-Konstantin_60139375703.html))

A chinese copy is only an opportunity to get a low cost famous designer chair, but this is not the same like an original or official copy/edition in term of the emotional value...

Designer as a creator, artist, all about starting from scratch: inspiration, citation, some words to about references, kind of forking designer inspired by another but a bit stress about the fact his design is new and different not a copy and infringe the author's right. The limit of derivation in the classic copyright in design. examples of allowed derivation > Original: le corbusier LC2, edited by Cassina) <http://www.cassina.com/fr/collection/fauteuils-et-canapes/lc2> Doshi Levien, edited by Moroso (<http://www.doshilevien.com/projects/chandigarh/> examples of similar design > Norman Foster vs Ikea <http://www.dezeen.com/2015/03/25/ikea-faces-legal-action-over-alleged-copy-right-infringement-melltorp-dining-emeco-norman-foster-20-06-stacking-chair/>)

related issue : <http://www.ikeahackers.net/about> "Some months ago I received a Cease and Desist (C&D) letter from the agent of Inter IKEA Systems B.V., citing that my site IKEAhackers.net has infringed upon its intellectual property rights. [...] Long story short, after much negotiation between their agent and my lawyer, I am allowed to keep the domain name IKEAhackers.net only on the condition that it is non-commercial, meaning no advertising whatsoever. I agreed to that demand. Because the name IKEAhackers is very dear to me and I am soooo reluctant to give it up. I love this site's community and what we have accomplished in the last 8 years. Secondly, I don't have deep enough pockets to fight a mammoth company in court."

Read more at <http://www.ikeahackers.net/2014/06/big-changes-coming-to-ikeahackers.html>

'Mental Image' of design : luxury, elitist, cheap,

"Recuperation by collector/Art market" (I don't if it's the right thing for that) Original social design initiatives in the past like furnitures of Gerrit Rietveld, Enzo Mari, Jean Prouvé, some product of Bauhaus, become now masterpiece because of the "rarity" of these objects. A Jean Prouvé's school desk is about 3000€ on the art market ([https://www.1stdibs.com/furniture/tables/desks-writing-tables/jean-prouve-school-desk-pupitre-no-800-france-1952/id-f\\_2744972/](https://www.1stdibs.com/furniture/tables/desks-writing-tables/jean-prouve-school-desk-pupitre-no-800-france-1952/id-f_2744972/))

Designed locally, fabricated far away branding about great design by famous designers, fabrication on the other planet side to limit cost for end user but mainly to keep an interesting and comfortable margin for the producer

Exciting about technology third industry revolution, 3d printing at home , cnc, laser cutter and other tools available close to your living place, share everything, amazing time, but... to print what? star wars stuff( <http://www.thingiverse.com/thing:391664> ), Justin Beber dildo (<http://www.makerlove.com/Free-3D-Sex-Toys/Justin-Bieber-Sex-Toy/index.html> ), a gun (<http://www.extremetech.com/extreme/142265-the-first-open-source-3d-printed-gun> ) it can be also this : Tarek Loubani, a Palestinian physician who works in Gaza and Canada, discusses the Palestinian struggle to bring the benefits of modern (and sometimes not so modern) medical devices to the population of Gaza, consequently picking a Free and open model for hardware and software development that facilitates autonomy and collaboration with other disenfranchised populations in the developing and developed worlds. <http://www.wired.co.uk/news/archive/2015-08/14/3d-printed-stethoscope-gaza>

Back to the source, taking care of human, what open source can offer to you.

Learn more about tradition, existing design, not to rethink always the wheel, don't focus your design about revenue but more about service.

We are looking for a generous creative attitude where we know that an artwork is diverted by nature. Inspiration is everywhere. Allow copy is promote creativity, accelerate design process, not to rethink always the wheel...

Choosing opensource way/idea you can rely on a community for help, for co-working, to remix, aware with the copying, just think that a real copy doesn't really exist, because of the materials or the tools you use to remake an object might be not exactly the same.

Patent don't give you a perfect protection against company doing "aggressive" copies (see example above). What can you do if you don't have enough "big shoulder" to fight against this (lawyer to pay...) So assume copy, is a way to abstract this constraint.

You can be more close to your final users and get a objective feedback on your design. Final user can also help you by providing positive returned experiences, because you allow him/her to improve the object.

End User: you can change the role of the final user /// Oui, le consommateur n'est plus juste un utilisateur passif et peut devenir lui même créateur, producteur, réparateur. Il a tous les outils pour le devenir. Les licences libres invitent à la curiosité, à l'apprentissage et au partage des connaissances. Encore faut-il que l'acheteur aie conscience du caractère « libre » de ce qu'il achète. Le consommateur peut s'approprier un objet, en faire un usage différent ou l'adapter à ses propres besoins. Cet acquis généralement admis pour tout ce qu'on achète n'est plus aussi vrai aujourd'hui.////

You can keep control on your design regarding copyright, because with the copy left attitude, the exclusive appropriation is not possible. For example, if you design a chair with an opensource license, Ikea can be interested to produce and sell your design, but only with the same conditions as defined by the license. That means, you or another company can also sell or distribute your design. A totally different way of the traditional exclusive distributing design. Company might be not interested by selling product also distributing by a competitor.

Your design can be more spread around the world and give the opportunity to use or adapt it for people in developing countries for example. This is about democratisation.

You are specialized in custom made design, so why not sharing your design ? It can be reused, remixed in another place/country, in another context... You can democratized your work in that way. Why not ask for fees if people abroad need some help to adapt the design?

I don't know if it's interesting or in the right place, maybe more in the economical part, but choosing opensource can be an alternative to this or another way to spread design

Classic Design Editors > it is about royalties revenues (3 to 5%) When you are young designer you might be interested to work for an editor, it is not easy. You need experiences, it take time, you need connections, network, visit fairs around the world...time, energy, money and the chance to work with is low.

New kind of platform for designers to consumers <http://monoqi.com/en/bestseller-shop.html> ... article on it : <http://www.domusweb.it/en/design/2012/12/17/d2c-generation.html>

Designers with their own webshop: edited by many brand, but sell his design product on his side (may have a contract with) <http://shop.sylvainwillenz.com/> ...

keywords Obsolescence, waste, vernacular, adaptability, control, tactics, democratisation, unfinished, modifying, sharing, useful or not, ecology, forking, necessity, resilience, adapting, amatorism, education, experimentation, starting from zero, appropriation, remixing, weapons, sextoys, remixing, upcycling..

Context

Pourquoi avoir décidé de donner une dimension "libre" à votre travail et qu'entendez-vous, selon vos pratiques et votre approche, par justement cette licence libre mise sur les objets ? Que permet-elle ? En quoi cela modifie-t-il le design et la conception d'objets, de meubles, etc ?

Publier un objet sous licence libre est une forme d'alternative à la protection traditionnelle des objets de type dépôt de modèle, de brevet. Étant donné leur caractère limitatif (durée, territoires) et leur coûts relativement importants, opter pour une licence libre permet de garantir le respect et la protection du droit d'auteur, tout en assurant sa visibilité et sa diffusion. Le dépôt de brevet n'empêche pas la copie, les grands groupes dépensent des fortunes en procès pour lutter contre. Assumer la copie permet de se libérer de cette contrainte. Une copie chinoise n'est de toute façon pas la même chose qu'une copie officielle en terme de valeur émotionnelle. L'utilisation de licences libres change aussi le mode de production, de conception et de fabrication d'un objet. Le travail de designer demande énormément de qualités et de savoir-faire. Un seul objet peut prendre des années à se concevoir et requiert de multiples compétences. Souvent, plusieurs personnes interviennent dans le design d'un seul objet. Le fait de publier sous licence libre ouvre la possibilité de travailler à plusieurs, à distance et de manière ouverte par des jeux de cycles publication-modification successifs. L'idée est également de faire vivre en d'autres lieux, des projets souvent dessinés pour des contextes particuliers et pour une durée plus ou moins limitée et de permettre ainsi à d'autres d'utiliser et de s'approprier ces designs. La question de la copie est dans le milieu du design souvent un tabou, une crainte. L'attitude que nous recherchons se veut créative généreuse ou l'on reconnaît que toute œuvre est par nature dérivée. L'inspiration est partout. Permettre la copie c'est favoriser la création, accélérer le processus de conception, cela permet de ne pas ré-inventer la roue à chaque nouveau projet. C'est aussi un choix politique, un positionnement éthique. Aussi le collectif Libre Objet nous permet d'expérimenter plus, en nous affranchissant de certaines contraintes de commande, de créer des outils et des plate-formes de publication de ces objets, d'organiser des ateliers et de participer à des événements liés au design.

Qu'est-ce que ça change pour la personne qui achète l'objet, ou le construit lui-même dans sa relation avec les objets (dépassé-t-on l'opposition classique consommateur/producteur) ?

Oui, le consommateur n'est plus juste un utilisateur passif et peut devenir lui même créateur, producteur, réparateur. Il a tous les outils pour le devenir. Les licences libres invitent à la curiosité, à l'apprentissage et au partage des connaissances. Encore faut-il que l'acheteur aie conscience du caractère « libre » de ce qu'il achète. Le consommateur peut s'approprier un objet, en faire un usage différent ou l'adapter à ses propres besoins. Cet acquis généralement admis pour tout ce qu'on achète n'est plus aussi vrai aujourd'hui. Souvent l'acheteur « perd sa garantie » s'il manipule l'objet qu'il a acheté ou en fait une utilisation inappropriée. Au pire, il risque même des poursuites judiciaires dans certains cas. Avec les objets libres, nous revendiquons le plein pouvoir de l'acheteur sur ce qu'il a acquis. Et même plus. Les objets produits en grandes séries répondent-ils exactement aux attentes de chacun, de manière universelle? Ou se situe ma liberté d'action ? Si un acheteur / modificateur souhaite partager son adaptation et en faire bénéficier à la communauté, grâce aux licences libres, la redistribution est autorisée, même pour une utilisation commerciale. Combien d'objets achetez vous aujourd'hui que vous pouvez modifier et revendre ? Cette approche des objets par les licences, n'est pas uniquement dans un but pratique, mais permet aussi à l'acheteur de prendre conscience des implications « sociales » de son geste et de pouvoir agir dessus.

**\*\*Why did you chose open design?**

because is ecodesign?\*\*\* Ecodesign is an approach to designing product with special consideration for the environmental impacts of the product during its whole lifecycle. In a life cycle assessment, the life cycle of a product is usually divided into procurement, manufacture, use, and disposal.<https://en.wikipedia.org/wiki/Ecodesign> When designer is preoccupied by opensource, he is surly an humanist person. So environmental aspect is an important part of his work.

- Procurement: most of the open design project's use local material
- Manufacture: The product is construct on demande localy, you don't have to transport it fom china to europe for exemple. When a person chose an openproduct, she is not a lambda customer. She's more in a collaborative consumption and in a sharing economy than is less polluting system than productive consumption.

[https://en.wikipedia.org/wiki/Sharing\\_economy](https://en.wikipedia.org/wiki/Sharing_economy)

## Tools

## Objects

## References

**Shaker movement** is a religious sect that had guiding principles of simplicity, utility and honesty. Their beliefs were reflected in the well-made furniture of minimalist designs. The Shakers' dedication to hard work and perfection has resulted in a unique range of architecture, furniture and handicraft styles. They designed their furniture with care, believing that making something well was in itself, "an act of prayer." Before the late 19th century, they rarely fashioned items with elaborate details or extra decoration, but only made things for their intended uses. [...] Early 19th-century Shaker interiors are characterized by an austerity and simplicity. The simple architecture of their homes, meeting houses, and barns have had a lasting influence on American architecture and design.

[https://en.wikipedia.org/wiki/Shakers#Architecture\\_and\\_furnishings](https://en.wikipedia.org/wiki/Shakers#Architecture_and_furnishings) see also [https://en.wikipedia.org/wiki/Shaker\\_furniture](https://en.wikipedia.org/wiki/Shaker_furniture)

**Victor Papanek** : He was a designer and educator who became a strong advocate of the socially and ecologically responsible design of products, tools, and community infrastructures. He disapproved of manufactured products that were unsafe, showy, maladapted, or essentially useless. His products, writings, and lectures were collectively considered an example and spur by many designers. Papanek was a philosopher of design and as such he was an untiring, eloquent promoter of design aims and approaches that would be sensitive to social and ecological considerations. He wrote that "design has become the most powerful tool with which man shapes his tools and environments (and, by extension, society and himself). *Design for the Real World: Human Ecology and Social Change* in french

[http://issuu.com/pierrebv/docs/victor\\_papanek\\_-\\_design\\_pour\\_un\\_monde\\_r\\_el](http://issuu.com/pierrebv/docs/victor_papanek_-_design_pour_un_monde_r_el)



image source

DIY book *Nomadic furniture vol.1* DIY book *Nomadic furniture vol.2*

**Jean Prouvé** Jean grew up surrounded by the ideals and energy of "l'École de Nancy," the art collective to which his father belonged. Its goals were to make art readily accessible, to forge links between art and industry, as well as between art and social consciousness.

The metal furniture of Jean Prouvé was produced copiously in every studio and workshop. His work involved frequent collaboration, most famously with Charlotte Perriand and Pierre Jeanneret.[16] The style is set apart from the Bauhaus steel furniture of the time by his rejection of the steel tube technique. Prouvé had more faith in the durability and form of sheet metal, "bent, pressed, compressed than welded". His designs speak of a work philosophy that includes knowledge of the materials at hand, a commitment to collaboration between artists and craftsmen, an attention to evolving technical developments, and "the principle of never postponing decisions so as neither to lose the impetus nor indulge in unrealistic forecasts". Prouvé was influential in the development of the idea of nomadic architecture, likening a chair to a house, and designing both with portability in mind.

/// A TRADUIRE ou pas/// Ses réalisations en tôle pliée (à l'origine d'un coût inférieur et d'une résistance supérieure, à l'instar de la carrosserie des voitures) – bibliothèques, fauteuils, chaises, lits Antony, bureaux et tables Compas, tables de réfectoire<sup>4</sup> – sont exemplaires et figurent aujourd'hui parmi les meubles les plus cotés du xxe siècle (une édition originale de la chaise Antony s'évalue autour de 40 000 € ; un fauteuil Kangourou s'est vendu 152 449 €, en mars 2001 ; une bibliothèque peut valoir jusqu'à 160 000 €).

**Art and design** [Carpenters Workshop Gallery](#) "When we started out, less than a decade ago, there was little connection between art and design. Since then, things have changed so much. We are pleased to see that now there are designers who no longer do industrial design; they are creating a new kind of discipline that is closer to art", - says Julien Lombrail about the concept of the gallery. It's the art market create that kind of design. The price of the pieces are very huge, just an elite can buy it. And the "Designer" now called "artist" became stars.

**Enzo Mari** is a noted Italian modernist artist and furniture designer. about his Autoprogettazione manual: *The 19 'do-it-yourself' furniture designs, which the Italian Designer Enzo Mari published in his book 'Autoprogettazione' in 1974, marks a milestone in the contemporary design history. Positioned in contrast to the formalism at the time, Enzo Mari suggests the democratisation of design and creating a provoking alternative to the capitalist paradigm of mass consumption. Building your own furniture, when required, that's the idea.* Also that project born in 1974 just after the first oil crisis in 1973. The poverty in Italy and all Europe was huge, Enzo Mari by this project, show that problem and give an social design answer. [http://www.cucula.org/en/enzo-mari/book 'Autoprogettazione'pdf](http://www.cucula.org/en/enzo-mari/book%20'Autoprogettazione'.pdf)

Fresh news: *Modernist designer Enzo Mari has given Berlin-based CUCULA the rights to redesign and sell his Autoprogettazione furniture to raise funds for its refugee support programme* <http://www.dezeen.com/2015/11/16/enzo-mari-autoprogettazione-furniture-reproduction-berlin-refugee-organisation-cucula-humanitarian-design/> This should be used in the economic section as an example

**Gerrit Rietveld** was a Dutch furniture designer and architect. One of the principal members of the Dutch artistic movement called De Stijl, Rietveld is famous for his Red and Blue Chair and for the Rietveld Schröder House About Crate series: The original "Krat" (Crate) furniture was produced using untreated red spruce normally reserved for packing cases. It was sold in a kit form, to be assembled at home by the purchaser. The Crate furniture was a response to the economic crisis of the 1930s. It offered useful, inexpensive seating with basic construction and cheap materials. Other items of 'Crate' furniture include a Crate easy chair, Crate table, Crate desk, Crate bookcase and a Crate stool, all from 1934. <http://www.annetgelink.com/l/artists/4-ryan-gander/works/other-works/11647/> How to construct Rietveld furniture documents the best known and most typical furniture designs by Gerrit Rietveld down the smallest detail. The book contains working plans, measurements, detail drawings, lists of materials and instructions for the assembly of each piece, as well as historical information about each one. [how to construct rietveld furniture](#)

**Bernard Stiegler** is a French philosopher. He is head of the Institut de recherche et d'innovation (IRI), which he founded in 2006 at the Centre Georges-Pompidou. He is also the founder in 2005 of the political and cultural group, Ars Industrialis, and the founder in 2010 of the philosophy school, [pharmakon.fr](http://pharmakon.fr) Key themes are technology, time, individuation, consumerism, consumer capitalism, technological convergence, digitization, Americanization, education and the future of politics and human society

talk about the figure of "amator" in french:[URL Ars Industrialis](#) [URL youtube](#)

**Thomas Chippendale** was a London cabinet-maker and furniture designer in the mid-Georgian, English Rococo, and Neoclassical styles. In 1754 he published a book of his designs, titled *The Gentleman and Cabinet Maker's Director*. The designs are regarded as reflecting the current London fashion for furniture for that period<sup>[2]</sup> and were used by other cabinet makers outside London. *The Gentleman and Cabinet Maker's Director* [URL book](#)