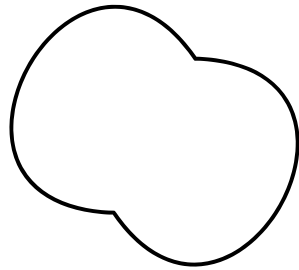Authors: S V   LUDIVINE LOISEAU

Relearn publication 08—2013

Generated on 27—09—2014

1 Colophon

colophon

Authors: PIERRE HUYGHEBAERT   ERIC SCHRIJVER   S V   LUDIVINE LOISEAU

This publication is a reflection of Relearn, a summer school organised by Open Source Publishing from the 26th to the 30th of August 2013, in Brussels. It was edited during the summer school by the participants and refined afterwards. As it is a restitution, there are different levels of content: written introductions are set in Latin Modern Prop Light 10, note taking is set in Not Courier Sans, a monospace font.

Process

— The content of the publication was written on Ethertoff, a wiki now based on Django and integrating Etherpad as a writing tool for live collaborative editing.

— The layout is drawn in HTML/CSS/Javascript.

— CasperJS is a browser in the command line, which, through a table of contents, prints all needed web pages into PDF files.

— Ghostscript turns the PDF in black and white and concatenates all the PDFs.

Typefaces

AUTOPIA

Autopia is a font made by Antoine Gelgon during the Can it scale to the universe worksession. It is used for the introduction texts. It was made using autotrace with the stroke function. Whereas the software potrace would vectorize shapes by the outline, autotrace has an option to vectorize the shapes by its skeleton. Antoine fed autotrace with rastered font specimens of the font Utopia by Robert Slimbach, donated by Adobe in 2006 to the X Consortium and the TeX Users Group.

HERSHEY-TIMES, —FUTURA, —SCRIPT

Hershey fonts are stroke fonts drawn for engraving. Those variants were generated during the Gesturing paths worksession: the paths of the SVG files of the font were translated into Metafont.
http://en.wikipedia.org/wiki/Hershey_font

Licences

All content produced during Relearn can be reused, modified and redistributed under any of these licenses:

— Creative Commons BY-SA 3.0,

Files

These are the git repositories to the different Relearn projects. Please reuse, modify, redistribute as you wish, keeping the existing licences.

RELEARN WIKI
Relearn website, using Etherpad as an editing tool.

```
git clone git://git.constantvzw.org/relearn.be.git
```

CAN IT SCALE TO THE UNIVERSE?

```
git clone git://git.constantvzw.org/relearn.can-it-scale-to-the-universe.git
```

GESTURING PATHS
This includes the Hershey metafonts.

```
git clone git://git.constantvzw.org/relearn.gesturing-paths.git
```

OFF GRID

```
git clone git://git.constantvzw.org/relearn.off-grid.git
```

XTREME PATTERN METHODS

```
git clone git://git.constantvzw.org/relearn.Xtreme-Pattern-Methods.git
```

CHEATSHEETS

```
git clone git://git.constantvzw.org/relearn.cheat-sheet.git
```

Support

2 Introduction

introduction script

Authors: ERIC SCHRIJVER   OSP   COLM O'NEILL   S V

By and large, graphic design students bring a laptop to school, and create their work using digital tools. This hard- and software represent a technological and cultural heritage that is seldomly questioned, and a potential that goes unexploited. Using free and open source software and engaging in its culture provides an alternative by making a design practice possible with a more intimate and experimental relation to its toolbox.

Beyond the implications for design practice, the culture of free and open source software challenges traditional education paradigms because knowledge is exchanged outside institutional borders, and participants move between roles easily (teacher, student, developer, user). Following from their series of workshops and «print parties», OSP proposes a summer school experiment. A first try to move across the conventional school model towards a space where the relationship to learning is mediated by graphical software.

Where did it happen?

In the Constant Variable F/LOSS Arts Lab, where OSP has its studio. Variable is a three years long residency, from a proposal of Constant VZW, an association for Arts and Media, with a focus on free culture and feminism. Variable is a lovely space to meet people, and paths with the other studios sharing the house. It's an experimental workspace for diverse practices working with free software and tools, somewhere between a hackerspace and a co-working space. It is, at times, a classroom, a conference venue, an (ir)regular meeting place, a studio, a residency space, a gallery, a kitchen table and cafeteria.

- Constant: http://constantvzw.org
- Variable wiki: http://variable.constantvzw.org/
- Snapshots of Variable activity: http://variable1030.hotglue.me/Variable

Why a summer school?

The idea of a summerschool raises as a crystallisation of many influences, from the space itself as described previously, to the research focus of OSP, to curiosities arising from previous workshops, also straight from teachers with many experiences inside OSP, to the nascent group of teachers called 80 columns. Amongst other vibrations.

After a year of OSP having installed its main terrain of practice in Constant Variable, after years of squatting spaces everywhere, we realized that having a workspace shifted our way of working into classical studio rhythms and habits which goes against our practice and the logic of the tools we use, which implies mostly the "research" dimension. So to be back on our tracks, seeking to remain awake and in a constant relearning posture, we decided to revamp the trips, print parties and activities defining OSP: to get back together. As "never alone" has become the motto of OSP, learning and relearning with other people is on top of the many ways of better relearning.

So we do workshops, lots of workshops, various workshops in different places and contexts. Most of them create frictions with the question of the commission we received by the host institutions which mostly implies some sort of outcomes. We are not against outcome; as many people we like to make things. But the process seems quite important to our eyes and it is never

tangible enough in our workshops. We started imagining a school where we can rethink the frame, the scale and the process.

As most of us are also teachers in art schools, this school desire, or "reflex", is also linked to our teaching experiences. We realized and we noticed how some of the contexts — conditions of our practice — can create friction. Most of the problems came from the initial awkward and clumsy positioning of the educator relative to the student.

– Is it the school frame or the academic setup that goes too far in the fixing of roles?

– Is it the students or participants themselves which keep comfortable in the passive postures ?

– Is it us? Our way to bring new objects without finding the ways to make them solidify?

If we are teachers, we are also designers. And we feel sometimes absurdely alone working that way. Especially when we discuss with other designers… If this need to extend and diffuse our knowledge, to exchange with others through our experiences of workshops, print parties and courses has reached a kind of urgency state, it is because we would like to get out of the exception. We want to be contagious.

And it seems these questions also gather other teachers, particularly in this Libre Graphics network. As an example, we can mention 80c. 80 columns is a reflection group, which exists now through a mailing list. It is defined as "a network of artists, musicians and designers using, teaching, learning, writing free software as part of their practice." It took shape from a discussion at the Libre Graphics Research Unit meeting in Madrid in April 2013. And in a way, we hope this Relearn experiment can find an echo in the discussion as an example or as a counterexample, at least a miniature to consider.

Summer school in the context of pedagogy/free software

Teaching with free software/being informed by free software

As a teacher, the "software" of Free software challenges us. Within the context of the Free software project too there is an exchange of knowledge, and it is interesting to us for two reasons. Firstly, this exchange of knowledge takes place largely outside the context of traditional educational institutions and art institutions: on forums, mailing lists, hackathons and developer meetings. Secondly, the participants display a surprising agility in moving between roles. The road to go from a user to a developer on a Free software project is often a gradual one. And the person who is the lead developer on one project will be a helping hand on another project.

That is not to say the culture of Free software is a utopia: it has its own imbalances and blind spots, and while the practioners like to see the culture of Free software as a meritocracy, it is not always friendly to minorities. It lacks the institutional guidelines traditional structures have tried to put in place to guard themselves against their own biases.

Yet as teachers, teaching with Free software still is a great opportunity to share practices from this area. In a context where each project requires its own set of digital skills, Free software's focus on learning and exchanging beyond institution is invaluable for students to acquire. As teachers, we can integrate this into our classes: not hiding bugs, but using the knowledge of the community when they arrive, and showing how we do that. And also, sharing an attitude in which being a teacher is not an essential position. Rather, it is part of a social contract, in which we imagine it a good role to take on for the moment: tomorrow it could be someone else.

Free software introduction, mailing—lists, attentions, Relearn's toolset presentation

The culture of free software has its own specific practices for working together (often across a distance) and the tools that go along with it. Software is full of conventions and pre-suppositions: about how you will use it, about what it is meant to do. Changing tools and being attentive of the changing attentions embodied in these new tools is one of the ways in which we expect to relearn.

We will use a website to work together: http://relearn.be/

This website is a hybrid between two writing models: it is a wiki, using Etherpad as the writing tool.

— Wikipedia is the most well known example of a wiki, but there exists many sites that use this format. The main idea is that the loop between reading and editing a page is kept the shortest possible. Ward Cunningham, the author of the first wiki software:

— "You're browsing a database with a program called Wiki Wiki Web. And the program has an attitude. The program wants everyone to be an author. So, the program slants in favor of authors at some inconvenience to readers."

— Etherpad is a predecessor to Google Docs, which was open sourced when Google bought out the team. Etherpad was one of the first realtime collaborative editing applications. The new version is much lighter —running on the popular node.js platform, and allows other tools to hook into it through a programmatic interface.

To share our source code together we use a program called Git. More about git, practical: http://relearn.be/r/cheat-sheet::git-and-the-command-line and with reflection: http://relearn.be/r/notes::merging .

On http://relearn.be/r/cheat-sheet::git-and-the-command-line you can also read about the UNIX command line, which is the way in which we will be accessing git and many of the other tools specific to each worksession. The UNIX command line embodies a history of engineering culture and an interaction model which we think are quite rich to confront oneself with.

During the week, there is also the possibility to file issues on our issue tracker. You can do so by posting a message to the mailing list. An issue tracker comes from the same family as the bug tracker, a database to submit and follow up on bug reports: errors found in the software (more on bugs: http://www.jamesshuggins.com/h/tek1/first_computer_bug.htm). Basically the issue can be anything you encounter that is of interest across worksessions: especially that which connects to wider issues of pedagogy.

The open content of the worksessions

It's important for us to shift the focus of what we consider to be content. We've gotten used to the idea that a workshop setup is for a group of people to work together towards a common goal. A production sprint. This, of course, has proven itself to be

productive, exciting and quite fun along the way. Some of Relearn will model itself on this, and the setup is very similar, but we want to test out a couple of ideas that we hope will keep this week equally productive and experimental.

If we try and consider that the time spent learning, the processing of this new information, the understanding of it and then what it takes to really get to grips with whatever subjects we will learn about during the school are as valuable as other producing periods. We hope we can find new ways of explaining, new ways of doing. We're are all equal facing the subjects of the worksessions. Some of us have thought more about how to introduce this to one another, but the curriculum so to speak is deliberately open to be rewritten. More precisely, we feel like questioning the typical teacher-student relationship which could be a healthy mindset to find better ways of understanding fields and techniques.

Tools to think with

Today's creation is largely done with software, yet the role of software in this process is not always valued. Art education's late 20th century focus on concept over execution has led to understating the role of the tool. It goes hand in hand with a certain myth of transparency: Adobe sells its product with the promise that it will not interfere with people's creativity:

"The message from Adobe is clear. The less you think about source code, scripts, links and the web itself, the more creative you are as a web designer. What a lie."
-- Olia Lialina, "Turing Complete User" http://contemporary-home-computing.org/turing-complete-user/

For the European research project LGRU, a team of editors led by Alexandre Leray and Stéphanie Vilayphiou created a reader that goes into these exact subjects: http://reader.lgru.net/pages/index/ .

participants

Authors: ERIC SCHRIJVER   S V   THOMAS BUXÓ

Stéphanie Balvay FR
Student from France, in the Art and Desing school in Saint-Étienne., interested in digital and graphic design using open software like processing, inkscape, scribus, etc.

Sébastien Biniek FR
Freshly graduated in MA graphic design at ÉSAD • Valence; researcher at ANRT in the coming months.

Lasse van den Bosch Christensen DK/NL
Danish MA student at Piet Zwart Institute Media Design and Communication, Rotterdam. Background in graphic design. Currently expanding on interests in programming, particularly interested in how design-related Internet-based services, platforms or phenomenons impact the field and society as a whole.

Thomas Buxó FR/NL
French graphic designer, more Dutch than the Dutch. Teaching in the Netherlands at Artez, Arnhem and KABK, Den Haag.

Juancho Capic ES
Freshly graduated in graphic design in Madrid. Juancho is a freelancer working as a mix between illustrator and a graphic designer, interested in investigating FLOSS tools for the experimental phase of learning something new leading you to different results that you could imagine.

Cristina Cochior RO/UK
Romanian graphic designer based in the UK, currently interested in conditional design.

Kevin Cocquio BE
Brussels-based graphic designer, practicing sign painting since two years.

Aurélie Commerce BE
Young graphic designer, interested in the connection between art and science, a kind of urban gleaner.

Caroline Dath BE
Caroline Dath studied Graphic Design at ESA Saint-Luc Liège and at the ERG (Ecole de Recherche Graphique) Brussels. Founder

and partner at Kidnap Your Designer, a graphic design studio
based in Brussels since 2006. She is also a teacher at the ERG
(Ecole de Recherche Graphique) Brussels, in the Graphic Design
section.

Simon Egli CH/DE
Metaflop

Antoine Gelgon FR
Student in graphic design at ÉSAD • Valence.

Eleanor Greenhalgh UK/NL
Freshly graduated from MA Media Design Networked Media, Piet
Zwart Institute, Rotterdam.

Christoph Haag DE
Christoph Haag studied design at the Department of Hybrid
Space/Academy of Media Arts Cologne. Approaching graphic
design from the commandline and the commandline from a design
perspective, he is currently extending usage into programming.
Lives and works in Augsburg, Germany.

Élise Hallab
Graduated in art in France, with works around publishing, then
moved into a choreographic course in Nantes, and now pursuing
her researches in the field of graphic design. Also involved in a
screen-printing project based in Nantes.

Gijs de Heij NL
OSP, freshly graduated from Artez, Arnhem.

Niek Hilkmann NL
"Praxis makes perfect" is a sentence Karl Marx might have said if
he were a little more witty, and as such, most projects by Niek
Hilkmann relate to social spheres and folly. Besides being a student
at the master Media Design And Communication at the Piet Zwart
Institute in Rotterdam, he is also a composer, art historian,
teacher, conductor, web-designer, film-maker, photographer and
much more; a true excess of a meta-modernist digital age.

Pierre Huyghebaert BE
OSP, teacher at La Cambre, Brussels.

Loraine Furter CH/BE
Brussels-based independent graphic designer and researcher,
specialised in contemporary independent publishing — paper and
web. Co-initiator and responsible of the research project FBSP.

Anne Laforet FR

Teacher at ÉSAD Strasbourg and researcher, currently investigating the relations between digital and analog, in particular "neo-analog" artworks.

Marie Lécrivain FR/BE
Marie Lécrivain is a young graphic designer specialised in publishing, graduated from the Erg, Brussels. She has been a bookseller, a media archivist, the initiator of the FDDDL and is now a librarian assistant at St-Bride Library, London. She is also the co-publisher at La Houle along with translator Jean-François Caro.

Alexandre Leray FR/BE
OSP, <stdin>, will teach in September 2013 at La Cambre, Brussels.

Ludivine Loiseau FR/BE
OSP, teacher at ERG, Brussels.

Sarah Magnan FR/BE
OSP

Cyril Makhoul FR
Student at ENSBA Lyon.

Pierre Marchand FR/BE
OSP

Vincent Moisan BE
Brussels-based graphic designer, web designer/developer and photographer. Before graphic design, I studied programming and started to code websites by myself for fun or commissioned works. Since then, I increasingly tried to integrate code in my design process and to tinker my own tools — digital or physical. Kidnap Your Designer

Colm O'Neill IE/BE
OSP, student at La Cambre, Brussels.

Lídia Pereira PT
A recently graduated graphic designer from Portugal. Starts in September a Masters degree in Media Design and Communication at the Piet Zwart Institute in Rotterdam.

Peter Reid UK
Librarian working at Bath Spa University in the South-West of the UK. A lot of students here are overwhelmingly visual in their thinking, outlook, mentality. I want to help translate the visual / textual / computational, and still be a University librarian.

Samuel Rivers-Moore ^{FR}
Young graphic designer recently graduated from ÉSAD Strasbourg. Interested by words and codes, entities and identities, systems and chaos.

Damien Safie ^{BE}
Damien Safie studied Graphic Design at ERG (École de Recherche Graphique) – Brussels. Partner at Kidnap Your Designer, a graphic design studio based in Brussels. Now teacher at ERG, in the pluridisciplinary Media section.

Eric Schrijver ^{NL/BE}
OSP, teacher at ERG, Brussels.

Femke Snelting ^{NL/BE}
Constant, teacher at ERG, Brussels.

Diane Steverlynck ^{BE}
Textile designer, teacher at KASK, Gent.

Anna Stoppa ^{UK}
Works within the arts, between publishing and education with particular interest in the conceptual aspects of the field.

Magda Tyzlik-Carver ^{PL/UK}
Based in Falmouth, Cornwall. A researcher and independent curator interested in experimenting with free software practices for curating.

Stéphanie Vilayphiou ^{FR/BE}
OSP, <stdin>, will teach in January 2014 at ERG, Brussels.

Wendy Van Wynsberghe ^{BE}
Constant VZW, Constant/Variable.

introducing by couple

Authors: ERIC SCHRIJVER   STÉPHANIE BALVAY   AURÉLIE COMMERCE   OSP   CHRISTOPH HAAG

ÉLISE HALLAB   PETER REID   CAROLINE DATH   COLM O'NEILL   VINCENT MOISAN   S V

SAMUEL RIVERS-MOORE   NIEK HILKMANN   ANNE LAFORET   DAMIEN SAFIE   ALEXANDRE LERAY

THOMAS BUXÓ   LUDIVINE LOISEAU   FEMKE SNELTING

COLM BY STÉPHANIE B

Colm, whose name is from Ireland, is studying graphic design in his last year in La Cambre school. He knows OPS from workshops he did there. He participates to the organization of the workshop as one of the official photographer and does a lot more with his friendly contact.

STÉPHANIE B BY COLMAC

Stéphanie studies in the school of Art and Design in Saint-Étienne, France. She is in her fourth year, in a department, which covers design at large. Her interest in F/LOSS came from her involvement in a research group of the school, focusing on Free Culture and Free Software. Her main interests reside in graphic design.

CHRISTOPH BY PETER

Christoph (surname Haag) is from Augsburg, in Bavaria, Germany. His home town is

PETER BY CHRISTOPH

He is a librarian from Bristol working at Bath Spa University. Born in Wales

Germany. His home town is also the home town of Bertolt Brecht, and they still celebrate his life by a festival each year (Brecht's that is, not Christoph's — YET; though of course, there will be a fair few in that town who wish to celebrate Christoph's birthday even now). Christoph studied in Cologne, doing a non-conventional design degree. It was a four-year course, and at the end, from the humble births of a throwaway project to do with demonstrating the electronic transmission of sound waves, he and three others found their first taste of fame. This project, manifested as an interactive installation, was picked up by galleries accross the globe, as far abrest as Sao Paulo, and the Arnolfini art gallery in Bristol, UK. The group travelled the world and no doubt the wisdom held true amongst the young men: "what goes on tour, stays on tour." (!) Peter was privileged to visit that same exhibition in Bristol in 2010 (where nine months previously he had bumped into Eric, also of OSP and renowned tight pants mega-initiative). Christoph had previously met Simon from our dear workshop, at the Libre Graphics Meeting in Madrid, in 2013. Christoph does not like presenting his ideas but is a fascinating, very knowledgeable and humble person of whom one might say "He really knows

University. Born in Wales with roots in Scotland and living in England, so completely British. Interested in ballet and football and is a very knowledgeable person and nice guy to talk to.

what he's NOT talking about." (Peter on the other hand wishes to say nearly everything he thinks, including what the Beastie Boys might call "some crazy bulls***t".) If you get a chance, speak to Christoph, and you too may wish to hear him one day SING!

- -

CAROLINE BY LUDIVINE
Caroline is 30 years old and teaches at Erg, which makes at least two things in common with me. She is from Liège but feels like a real Brusseleer. She founded the studio "Kidnap your designer" in 2006 and was joined by Damien about 2 years later. The studio mainly works in the cultural field in Belgium and France. They recently drew the identity of a project called La Panacée in Montpellier. Following Stefan Sagmeister's philosophy, she considers the end of this seven year period as a good moment to requestion her practice. So, it sounds like a moment where Relearn is right on time.

LUDIVINE BY CAROLINE
She studied typography at École Estienne, in Paris for four years. Just after graduating she moved to Brussels, at first for an internship at Speculoos. She then worked with there for four years and eventually joined the OSP project. She is now totally devoted to OSP and her lessons at Erg, where she teaches typography (BAC 1-2-3). She is 30 years old and she did a parachute jump for this occasion and "allez c'est chouette".

PIERREH BY ELEANOR
is a graphic designer and
teacher of Book Doing and
Print Making (before the
binding) at La Cambre; is
from Brussels; works in OSP;
has his own design agency
Speculoos; connects analog
and digital tools; has very
nice pieces of Franglais that
you can taste immediately.

ELEANOR BY PIERREH
I knew a bit the part
concerning her Piet Zwart
post master, in Networked
Media. She is interested in
how groups are working and
dialoguing. Some of the
previous workshops she
proposed were about
consensus and dissensus. She
made an experimental
collaborative drawing session
using a Ouija board
(spiritism).

[http://www.newscientist.com/blogs/s
hortsharpscience/rexfeatures_582062k
.jpg]   U R NEVER ALONE
She's now doing a residency
in Constant Variable for 3
weeks.

ANTOINE BY KÉVIN
Student at ÉSAD Valence,
intern at OSP since the
beginning of the month.
Before that he came from
suburbs of Paris where he
studied graphic design. His
graduation subject is about
Gilbert Simondon.

KÉVIN BY ANTOINE
Kévin is: the founder of Club
Lettreur; works with Salut
Public; studied at La Cambre
in Typography.

CLAIRE BY LASSE
Claire works: with Wendy in
Constant Variable; with
textile and now electronics;
on invisible cloth!

LASSE BY CLAIRE
Lasse is studying at the Piet
Zwart Institute. He is a
graphic and web designer and
is currently working on a
project around the use of
photostock pictures in
graphic design.

NIEK BY PIERRE M.

He is an artist from Rotterdam, actually studying at the Piet Zwart Institute. He is very impatient to leave Rotterdam. …confusion & vagueness > http://yoshimi.bandcamp.com/album/sowieso

PIERRE M. BY NIEK

Pierre M. is part of OSP. He smokes a lot. He used to be an artist before moving to the countryside. Pierre has been doing, among other things, cartography and forestry. Being isolated lead him scratch the Linux code and go on the Internet. Pierre designed pizza menus but doesn't design no more since he is in Brussels but does programming, which is actually design.

JUANCHO BY CYRIL

Juancho: is from Madrid; just gradutated; works as a freelance now; did an Erasmus exchange in Portugal; has one sister.

CYRIL BY JUANCHO

Cyril is from Lyon in France. He studied Fine Arts, and is now doing an internship at Kidnap your designer. He started to study medicine before moving to Fine Arts and Graphic Design. He has two brothers.

VINCENT BY MAGDA AND FEMKE

He is French. He moved to Brussels three years ago after studying graphic design in France. He is already interested in programming. He works with Kidnap your designer, developing his own practice on the side. He studied at Erg only for a year (that's enough).

MAGDA BY FEMKE AND VINCENT

She is a researcher in the UK, in digital economies. She is interested in Free Software practices and its relation to curating. She is currently doing a PhD.

FEMKE BY MAGDA AND VINCENT

She is a teacher at Erg. Her course is named "Toolbending". She has been teaching since 1996. She is also a graphic designer. In 2003, she came to Brussels to work with Constant VZW. She writes articles about Open Source stuff. I (Vincent) forgot to say that she founded the Piet Zwart Media Design course with Mathew Fuller! She put this more into practice and use those tools. She co-founded OSP in 2006 and is still close to them but now focuses on a research labs in Open Source.

CHRISTINA BY THOMAS

She is interested by conditional design. She is Romanian, and studied in Birmingham where she has been doing some Processing.

THOMAS BY CHRISTINA

French, lives in Holland.

SARAH BY ANNE
Sarah joined OSP after Erg | after collaborative work in graphic design, and passionate about how code makes design | also archivist | developing an archive of immersive (digital) art

ANNE BY SARAH
Teacher Arts deco Strasbourg | Arts Hors Formats, teaching about interferences btwn arts & cmptr | Anarchéologie des médias / Medias Anarcheology | writer, thesis about preservation of digital art | zkm project

DAMIEN BY SAMUEL
French & Irish | part of Kidnap your designer | interested by learning | teaching at Erg

SAMUEL BY DAMIEN
Studied graphic design at Strasbourg Arts Décos | interships in Brussels and London and Strasbourg | looking for a job | appreciates graphic design without manierism | follows OSP from Strasbourg | uses free fonts, also from OSP

LYDIA BY SIMON
From Portugal | Med ia Design P iet Zwart master | after graduation | politics

GIJS BY LIDIA
A website at eleven years old | sabattical year before college | internship at OSP | finding how to combine design and programming

SIMON BY GIJS
Ex-alcoholic moved to gambling | graphic design in Zurich | then exchange Royal College in London then xxxx | wrote a thesis about typography where shapes are influenced by the tools | makes tools | a font with opentype features, which responds to the text | metaflop | metapolator | with a nice cat (on picture)

MARIE BY LORAINE
Know each other | met at
Erg | editorial practices |
involved in the same
projects, around books
mostly | after graduation,
created La Houle | with a
translator | literacy texts |
translations | internship at a
studio in London | and now
at St Bride Library |
publishing/graphic design +
libraries/taxonomy

LORAINE BY MARIE
Loraine was involved in
publication + students
council | starts to focus on
publishing | medium,
economics and structure |
from Lausanne | more
involved in collaboration,
near OSP | connection
between paper and digital |
hoping to begin a PhD soon
on small press — interview
on Wednesday | Marie
discovered Constant and
introduced it to Loraine

STÉPHANIE V. BY ERIC
Stéphanie was born at the
same era as Eric | Is from
around Grenoble | drawing
mangas as kid | bought a
Wacom tablet | design
school, shifted to starch
appproached, ending up in
the Netherlands | Rennes,
Valence (strong connection,
with Alex) | internship in
Paris before Rotterdam |
extracting herself from
French culture to the tiny
bright star in the North |
meeting Femke (and Wendy)
in Rotterdam | forging
Constant relation |
graduating from PZI |
moving to Brussels, as the
carrefour de l'Occident | se
tting up st din | joining OSP
| interested in how to
practice tools + copyright!

ERIC BY STÉPHANIE V.
Met Eric three years ago |
impressed all OSP with silver
tight pants, and his ability to
make a statement to mix
things that seems opposed
like maths and these pants |
wrote a letter to OSP, a
touching one | background in
multi-disciplinary arts,
graphic design amongst
others | tries also to get a
PhD at Kask | was teaching
at The Hague | now teaching
at Erg

HARRISON BY PIERRE H.
Met Harrisson and flyers in the toilets of Schaerbeek, full of Coca-Cola. A super excited guy was behind the flyer. | Harrisson can sometimes be a bit stressy, but is cool most of the time. They did a conference together in Berlin. He's interested in SciFi. | Now doing a lot for Charleroi (Eden) | Stretched between Open Source and other stuffs (like working for free for a concert place/squat in Swizerland) | Putting up the Invisible University (before discovering it's also the name of a sect) | They like to share things over the BBQ | Harrisson is a bit upset to miss the summer school.

3 Work-sessions

can it scale to the universe → introduction

Authors: PIERRE HUYGHEBAERT ERIC SCHRIJVER OSP S V ANNE LAFORET ALEXANDRE LERAY

LUDIVINE LOISEAU

On translations, from big to small, from analog to digital, and vice versa. This worksession focuses on mediation, translation and communication. Meeting computer tools and formats implies to know the extent, the weight and scale of these otherwise virtual entities. At the translation between analog gesture and digital format the notion of scale becomes pertinent. Going from digital to analog, we are used to seeing a discrete logic of blobs as produced by the print head of the inkjet printer. But 1980's technology of plotting tables shows that a printer can also be commanded in a much more gestural and continuous style. From a small scale to a large scale and from large to small, what tools can we use for this translation? What is lost in the scaling? Can we measure the approximation, the distance between instructions and graphical interpretation?

Clone the repo here:

```
git clone git@git.constantvzw.org:relearn.can-it-
scale-to-the-universe.git
```

Keywords

translation, language, scale, milieu, plan, mediation, conversion, micro/macro, compensation, perspective, perception, rulers, optic, distortion, error, aberration, etc.

Problematic(s)

This is about the question of scale in the context of the digital, and how scaling triggers artifacts. How does reformulating a system into a transformation device, invites for intermediate systems ? Can it scale to the universe? It depends on how you define the universe…

In a mathematical universe, taking transformation matrices, the scaling happens on the a and d parameters

```
a b c d e f

identity = 1 0 0 1 0 0

translation <= e f
scale <= a d
rotation <= a bunch of sin and cos on a b c d

scale, translation, rotation
```

This is a description of the universe with x-axis and y-axis. But this is Flatland and we are not geometric figures. Our universe is much richer. You can include much more ingredients in the universe.

The big picture is already visible in the banal, usual and not necessarily spectacular objects. To illustrate this, we could talk about an experiment we did with OSP when we were in Vietnam. We did a reprint of the Libre Graphics Magazine, as it is has an open license, but because the only available technology in print shops was inkjet printing we could only print 2 copies of it.

Another example is the Balsamine theater logo and the font we modified at the occasion. The lowercase b features a mise en abîme of the former logo pieces, but the technological limitations made impossible to go further than one level.

The human body is the reference point. Our body is the center to sense/measure reality. Foot of the measure of the king.

Measuring units: inch, feet, point
cf. French units of measurement the "pied du roi" (the king's foot), plus da Vinci, Romain du Roi.

The typographic point is the primary unit of measurement of printing and typography.
Its value ranged from single to double over time.

[http://symonsez.files.wordpress.com/2010/06/libertyconstruction1880.jpg]
Busy French construction site for Lady Liberty 1883.

One foot is not a measure. Two feet, you go beyond your body. Group as a group.

Scaling is a key aspect of the human condition.

> "Situations involving scale can only give us a better
> understanding of a situation or the function of an object.

Scientists blow up DNA structures to tactile dimensions,
engravers reduce drawings to the size of stamps and coins,
architects and product designers make small mock-ups to get
a better understantding of the spacial features. Scaling
becomes a tool to help them place their ideas within space
and time, and the relative size of things is a key aspect of the
human condition, something we often pay little attention to
but are always intuitively aware of. I am particularly
interested in the mechanics of scale as part of the technical
process of design.''
— Dries Wiewauters, Affine transformations, 2010, Arnhem

Playing scale changes in the body
change of environment

BODY
performative aspects
relation to the body
relational guidelines
the body in relation with different scales
when it's too high or too small, it gets out of our reality field
apprehension

body — optic — perspectives
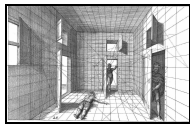
[http://math.univ-lyon1.fr/irem/IMG/png/0003.png]
Jan Vredeman de Vries, Perspective (Leiden, 1604-5)
Walking is the way, Esther Ferrer
MesuRAGEs by Orlan

cf. OSP Valence experiences with Turtle fonts

From the moment the scale overflows our capacity to apprehend what is at stake, we feel the urge to invent intermediary systems.

▱
[http://oldcomputers.net/oldads/wow/6809.jpg]
(Could have been the) Last CPU blueprint

CARTOGRAPHIC
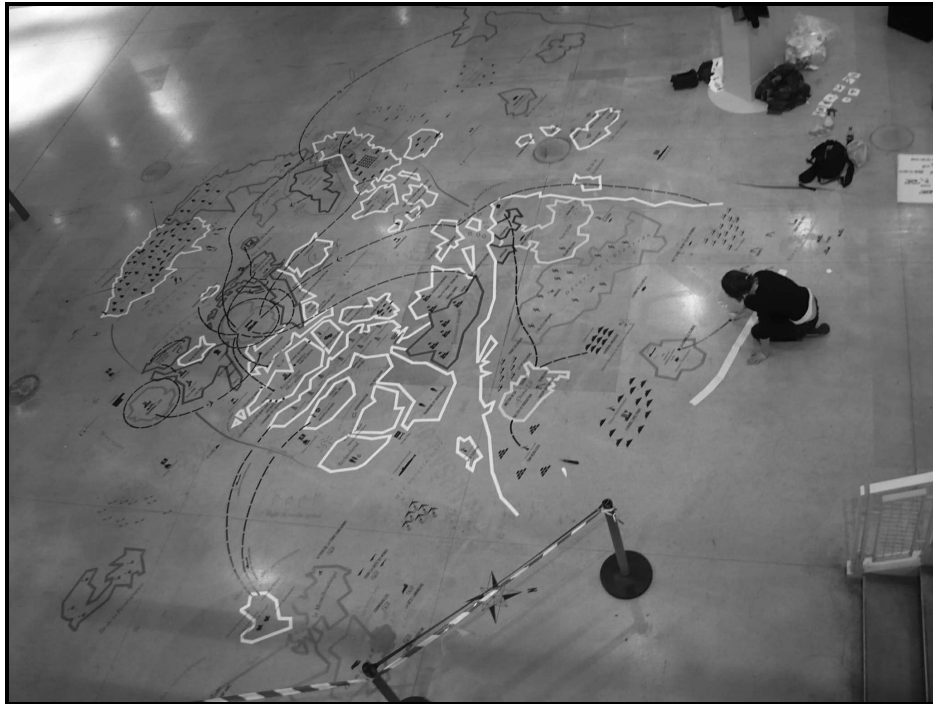
links to the urban scale - carto - GPS - space - (la matière noire
qui fait tenir les trucs ensemble) Qgis

References
    – Michaël Borremans, Trickland
    – Powers of Ten, 1977, Eames Office:
http://www.youtube.com/watch?v=0fKBhvDjuy0
    – Dead Pixel in Google Earth, Helmut Smith:
http://helmutsmits.nl/public-spaces/dead-pixel-in-google-earth

[http://helmutsmits.nl/wp-content/uploads/dead-pixel-in-Google-Earth-03.jpg]

    – Graffiti Markup Language:
http://www.graffitimarkuplanguage.com/kml2gml/
    – Map, Aram Bartholl

[http://www.geocyclab.fr/wp-content/uploads/2011/10/map-arles-2-600.jpg]

shift between space of origin to space of
Conversion is costly. What is lost? What is emphasiz
ex: Fonzie reading machine

[http://www.arretsurimages.net/media/breve/s107/id10635/original.35148.jpg]

Google earth 3D abberation

[http://www.trumanlibrary.org/education/nhd/images/dymaxion_map.jpg]

[http://www.genekeyes.com/FULLER/1944-antigravitywg009.jpg]

Dymaxion Map: Buckminster Fuller's attempt to limit disto

GRID AND RASTER

images - pixel - grid
image upscaling/downscaling (G'MIC)
jpg compression
robot portraits — surveillance cameras (cf. the TV show CSI)

Untitled (Total), 2000, Tom Friedman
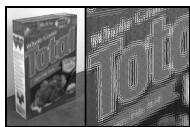
[http://www.beachpackagingdesign.com/wp/wp-
content/uploads/boxvox/6a00e54f0014bd8834011571627582970c.jpg]
(nine identical cereal boxes, cut up into small squares reassembled
in a single larger version)

Typography
– Unicode

– Deja Vu font
– Sébastien Truchet
– hinting

http://www.freetype.org/ttfautohint/image/LiberationSerif-Regular-TA-dollar-19px.gif

– PDU, Dries Wiewauters
http://www.drieswiewauters.eu/all/project_21/
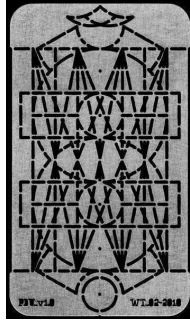
[http://www.drieswiewauters.eu/graphic/project_13/images/PDU_1.png]

+ his Pantograph Specimen

http://www.drieswiewauters.eu/graphic/project_19/images/ps_2.gif
Pantographice
http://www.drieswiewauters.eu/all/project_26/

Infinite Line, Niko Princen
http://www.nikoprincen.com/infiniteline.html

To collect

Catalogue of limits
– Illustrator canvas : 1296pt
– fontsize limits cf. PDF references a chapter is dedicated to implementation limits
– animated gif speed limit in Gimp
– catalogue des limites musicales
– http://fr.wikipedia.org/wiki/Speedcore (les beats sont trop rapides et se confondent à l'oreille)

Catalogue of intermediate systems
– pantographer
– rubber from Lyon printing museum
– electricity transformer

Collection of mesure instruments or convertisseur

– le typomètre
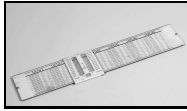
[http://collections.bm-lyon.fr/MIL_01CTF00101388OB02/Source0.jpg]

– inch converter
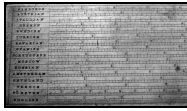
[http://upload.wikimedia.org/wikipedia/commons/4/4f/Inch_converter.jpg]

– cf. French units of measurement
–
http://en.wikipedia.org/wiki/Units_of_measurement_in_France_before_the_French_Revolution

– Parisienne : caractères de 5 pts
– Nompareille : 6 pts
– Mignonne : 7 pts
– Petit-texte : 8 pts
– Gaillarde : 9 pts
– Petit-romain : 10 pts.
– Philosophie : 11 pts.
– Cicéro : 12 pts.

Texts, books

For both art and life depend wholly on the laws of optics, on perspective and illusion; both, to be blunt, depend on the necessity of error.

— Nietzsche, "A Critical Backward Glance", The Birth of Tragedy

The last historical act of writing may well have been the moment when, in the early seventies, Intel engineers laid out some dozen square meters of blueprint paper (64 square meters, in the case of the later 8086) in order to design the hardware architecture of their first integrated microprocessor. This manual layout of two thousand transistors and their interconnections was then miniaturized to the size of an actual chip, and, by electro-optical machines, written into silicon layers. Finally, this 4004 microprocessor found its place in the new desk calculators of Intel's Japanese customer and our postmodern writing scene began.

For the hardware complexity of such microprocessors simply discards manual design techniques; in order to lay out the next computer generation, the engineers, instead of filling out uncountable meters of blueprint paper, have recourse to Computer Aided Design, that is, to the geometrical or autorouting powers of the actual generation.

— Kittler, an IBM processor blueprint big as a stadium, http://www.ctheory.net/articles.aspx?id=74

— Xerox and infinity, Jean Baudrillard
— Type Spaces, Peter Burnhill, Hyphen Press 2003-09, 2003
— On Longing: Narratives of the Miniature, the Gigantic, the Souvenir, the Collection, Susan Stewart, Duke University Press
— http://en.wikipedia.org/wiki/Athanasius_Kircher

osp wood pantographer
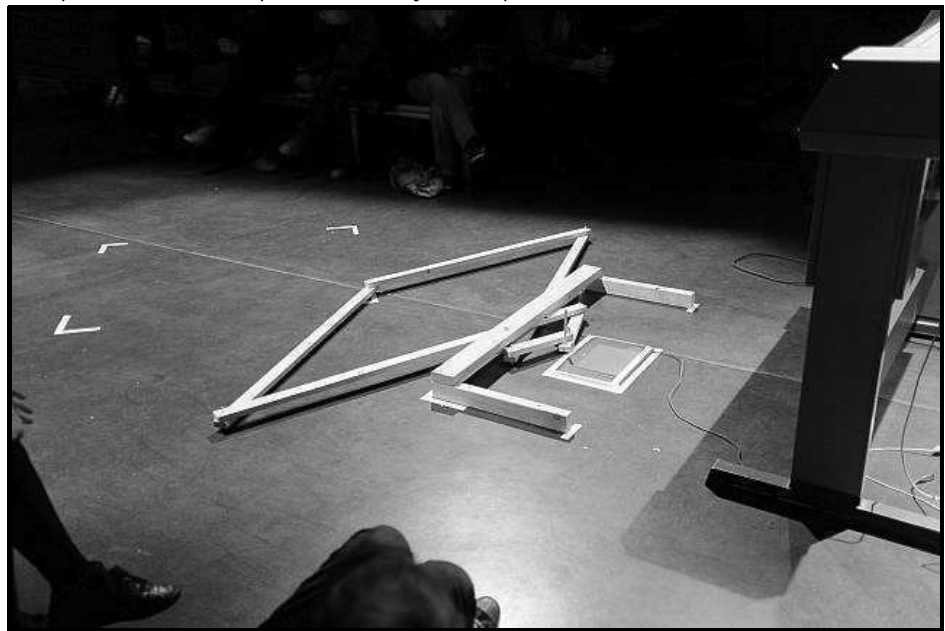
— plotters
— Turtle g
— G'MIC http://gm
— Literal Draw : vector-based drawing applicat
http://osp.constantvzw.org/tools/literaldraw/

— GPS devices

— LLVM, http:

— QGIS http://www.qgis.org/

— GRASS http://mirrors.zerg
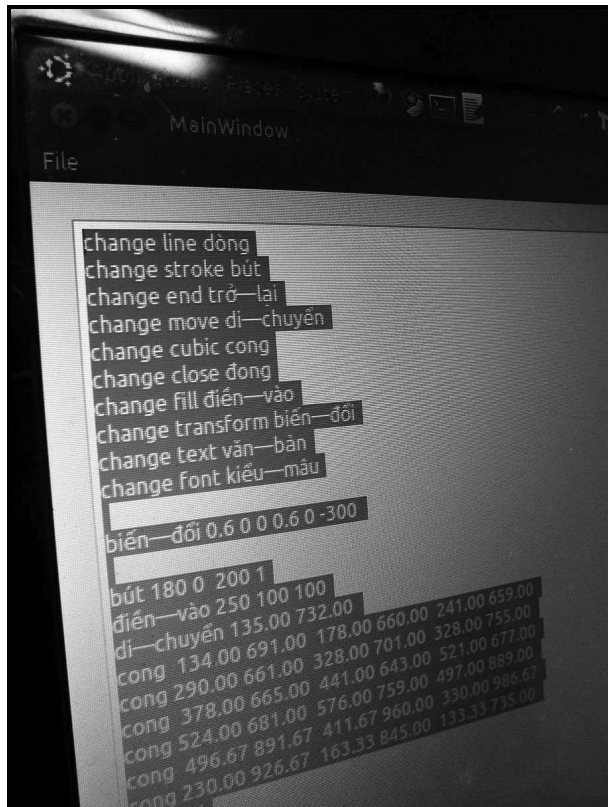
— Shaply

OSP scaling samples

    — Libre Graphic Mag Vietnam version

    — Cinéma du Réel cartography

    — the b of Balsamine theater (in the boot of the boot of the boot)

    — Balsamine fanzine

    — Africa map

List of simple exercices

    — test another tool (open a font in Fontforge, an eps file in Inkscape)

    — the trace the longest straight line by hand

    — fix the pantograph working with the graphical tablet

    — image selection : how can it scale to the universe?

    — find a proposal for each picture then try to apply it to another picture

    — strategy switch: does something that works for an atom

work for a pea?
    — select an existing object, familiar. Can it scale to the
Universe? How does it scale? What Universe?
    — scale the referring space
    — scale the space, the object
    — see what are the most interesting tools for this

OUT?

[http://pmcdn.priceminister.com/photo/295044331.jpg]
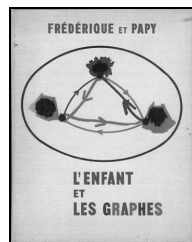
L'enfant et les graphes: how space is used to visualize abstract
math concepts

[http://aliceintheinternet.files.wordpress.com/2010/02/lewis-carroll-logic.jpg]
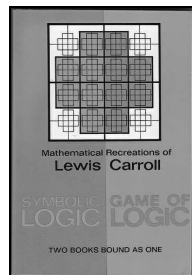
Lewis Caroll, The Game of Logic

Pierre de Rosette

Money is one conversion system, optical devices, mathematics.

[http://michelkoven.files.wordpress.com/2012/09/trickland1.jpg]

Graph of the Linux 2.4 Kernel

[http://fcgp.sourceforge.net/images/lgp-total.png]
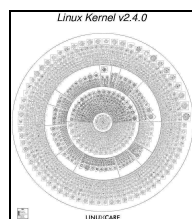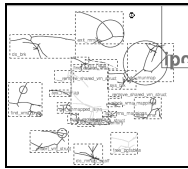
[http://fcgp.sourceforge.net/images/mm_mmap.c.png]

[http://fcgp.sourceforge.net/images/key.png]
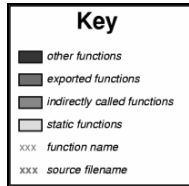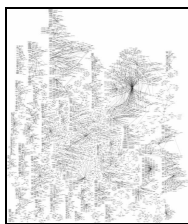
[http://infosthetics.com/archives/haskell_universe2.jpg]

graph of haskell packages dependencies

can it scale to the universe → notes

Authors: PIERRE HUYGHEBAERT   ERIC SCHRIJVER   OSP   CHRISTOPH HAAG   COLM O'NEILL   S V

SAMUEL RIVERS-MOORE   NIEK HILKMANN   ANNE LAFORET   MARIE LÉCRIVAIN   DAMIEN SAFIE

ALEXANDRE LERAY   THOMAS BUXÓ   LUDIVINE LOISEAU
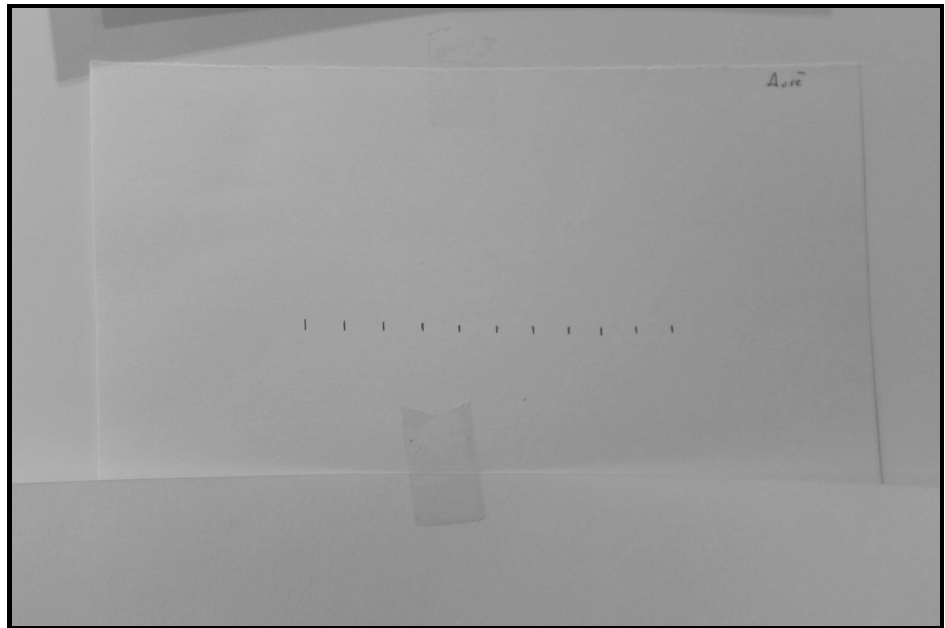
First morning — Warm up exercice: Take an object and propose a way to scale it. Then, exchange your ways of scaling with other people around.

Ludi

    - A tape rubber: Scaling it up
    - Constant logo: what is specific? It is a monospaced font. Can be laid out in any monospace font. It's only spaces and letters, the formal aspect can vary or whatever.
    - Collection of Crickx letters: digital version is a response to scaling. Madame Crickx's modifications of the shape is one too.

Pierre

    - Polar coordinates. Path modifications. Simplifying, getting to the essence of a shape.
    - Colors: in a digital system, colors are expressed by numbers. To scale a color, the red color. Using contrast to scale up the color.

Alex

- A pocket dictionary. How to make it half of its size? How to add more languages?

- A map of Unicode

Micro-dictionary always good to have around but is now obsolete with smartphones.

Decode the Unicode Map.
Unicode is made by an international consortium, a list of every single existing character in the world, then encoded in a new encoding format. Potentially an infinite list. But also a kind of catalogue/ repertoire. A good way to remember every Chinese ideogram when China will disappear in a far far future. Unicode version 6 now: some pictograms have been added like astrological signs, snowmen (a white *and* a black one), some American signage pictograms. It's a social and cultural process. An attempt to be exhaustive… but some pictograms/characters/whatever don't go to the Unicode because it has some political agendas. It's difficult to add some new glyphs because you need to justify its use, its meaning for the letters, not the description of the glyphs. Latin characters are at the begin of the list as it started with ASCII.

We could try to propose new caracters to the official unicode list (but it's a difficult process) (but it's exxxxiting):
http://www.unicode.org/pending/proposals.html

A conversion calculator: it is a scale, how can we change the scale?

TRY TO TOUCH THE LIMIT

Marie

Interested in miniature books. How one can put a lot of info in small books.
Fake measuring tools. Rubber ruler. Measuring cups: the reference point is the pot.
Common volume, but not same weight. Different properties.

Christoph

How to scale text as content?
Experiment in readability

Letter jumbling experiment. How to condense text or expand it.
Font design for small sizes:
http://www.256tm.com/fr/minuscule.htm
Isometric paper. Grid idea. Expand it in the space.
Pierre: Scale of the object or scaling the space.

Antoine

Norms. Create a new unit of measuring. A new sign for it.
Physical or conceptual? Related to existing objects.
You need to convince us to use this unit. Social construction
of the unit.
What is the difference between a dialect and a language? An
army!
How can we accept this unit without brute force?
Ludi: Language of the three different rooms define their
universe.

Christina

Scaling as a means of translation. What is lost in
translation.
Mechanical Turk. Asked 500 people to draw a straight line.
http://boingboing.net/2011/02/18/straight-line-traced.html
Magnifying glass.
Christoph: To copy a drawing, draw a grid above it. Easier to
reproduce. More reference points.

Anne

Scaling at different levels an object. Aurélie shows an
example of maps you can unfold at different levels.

Niek

Personal (egocentric) scales; scaling up and down ; the king
unit
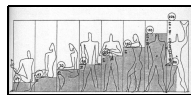
[http://www.centraliens.net/groupes-
internationaux/europe/luxembourg/img/corbusier_modulor.jpg]
Le Corbusier's modulor
s

Aurélie

Interested in limits.
An architect, Pierre Hebbelinck, that measure every year the
size of the families.

Measuring bodies:

http://geoffreyhistoire.pagesperso-

orange.fr/fractales/g%E9ographie.html

Damien

Measure big things.

"Even if you shrank down everything so that Jupiter was as
small as the full stop at the end of this sentence, and Pluto
was no bigger than a molecule, Pluto would still be over 10
meter away" — Bill Bryson

Example using football fields to measure crowds.

One billion dollars is hard to sense, need to convert to the
human size.

Example to measure Earth's life using arms = the human history
stars at the nail.

Pierre: A catalog of gestures that connect to the human body

Aurélie: Bernard Werber: changing scales, new worlds appear.

Christoph: The message is always "there is something bigger".
Maybe we are just huge.

Scaling can be the tranformation of perception. A polygon
scaled down become a point. Body limits. Reference points.

Church sculptures: they are anamorphic to compensate the fact
that you look at it form below.

Samuel

Relation between space and time. Picture you take with your
camera, a representation of time. Slit-scan.

Pierre: how does it fit with the scale subject?

Pure Data, an idea of an application.

Christoph: audio synthesis scaling and pitching.
Interpolation. Granular synthesis to do pitching. Making up
things. Creation of data.

What might be in between?

http://en.wikipedia.org/wiki/Seam_carving

Vincent

Social appoach of measuring. Norm to communicate.
Universality.

Perspectives, the way you perceive time or space.

No étalon. Étalon is the feeling. Well-feeling scales → Gross
national happiness.

To measure the subjectivity?

Attract by the abstraction — ex: fractals in geometry

Alex: to measure the pain from 0 to 10 when you stay in a
hospital

Christina: space and power; the space you take on the table is
a measure for power.
Alex: Isabelles Stengers' lab science.
Working on small systems and see how universal scaling
questions are in there.
In a collective the response to scaling can be diplomacy.
Looking at the parameters that make it don't scale.
eg. a typeface printed on rotative press:

http://chotchot.files.wordpress.com/2011/01/inktraps-m.gif?
w=500&h=313
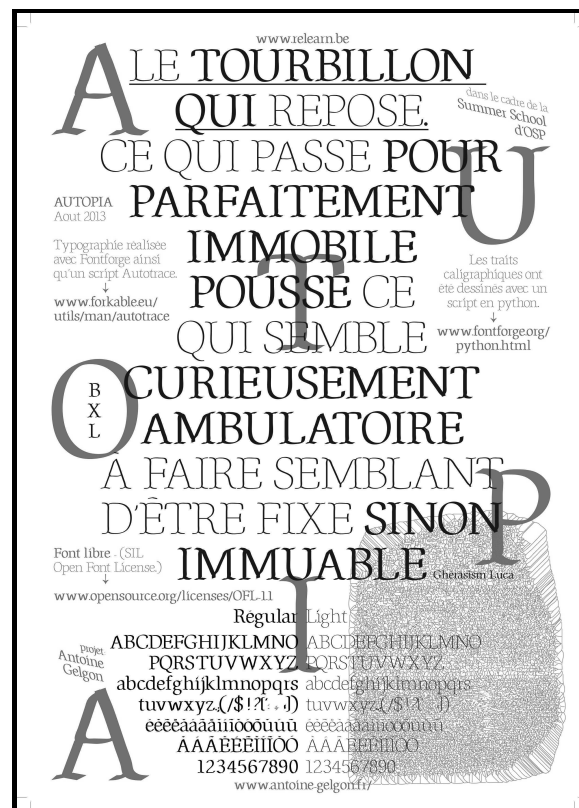
It is important to test those ideas, les mettre à l'épreuve.

Afternoon

Find a way to articulate with someone else process.
OSP

An object that is in a different universe in the same time
DAMIEN   S   DAMIEN
(scale converter).
S

EXERCISE: DRAW 10 CM

- Folding A4 to find 10cm
- as a joke: translating joke scales problems
- 10 * 1 cm by guess
- adding 10 times if the first centimenter is wrong you
scale the error
- difference between time and amount
- Import to set up the reference point. Is the ruler exact?
Mesuring the ruler using the drawings.

A centimeter, a liter of water. The reference point is the sea
level at time T.
A fiction you build around a physical experience.
Trying to be more scientific than the body of the king.
Inventing a norm.
Expand yourself in the world.
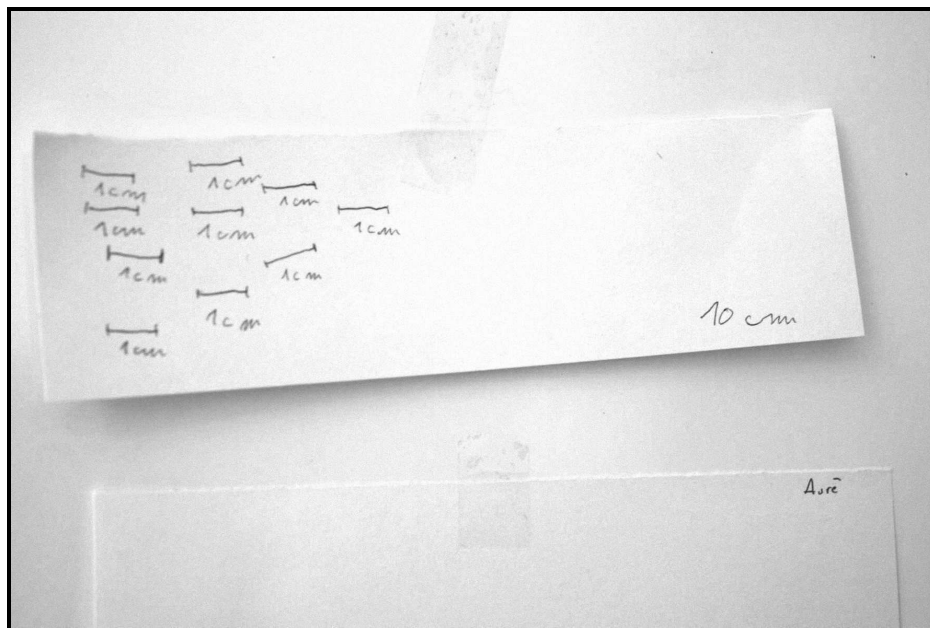
Anne

Taking on Christoph's idea.
4 parameters

- Experiment with grids (different granularities) on 4
different levels :
- the surface/layout
- lexical units (words, sentences)
- number of letters
- number of bytes

- Treat independently those different units (scale up/down)

^S ^{OSP}
- Change scale and see if it's still visible, readable when ^{ANNE}
^{SAMUEL}
the units are put back together ^S ^{SAMUEL} ^{ANNE}

- Text as a picture
^S ^{OSP}
- Text as "information"
^S ^{OSP} ^S ^{OSP} ^S
- Text as encoding
^{OSP}

Ludi

- body/perception

- unit as social

- information expanding/reducing

- Group fractals and maps and compressions expansion.
^{ANNE} ^S

Reference point: Pioneer plate

[http://gamedesignreviews.com/wp-content/uploads/2010/08/pioneer.jpg]
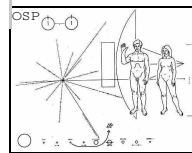
References

MINIATURE BOOKS

^{MARIE}

^S

"By the generally accepted definition, a miniature book is one
^{MARIE}
whose height and width do not exceed three inches, that is

7.5cm. Although often thought of as predominantly creations of

the 19th and 20th centuries, miniature books date back as far

as the introduction of moveable type.

The first printed miniature book on record is an *Officium Beatae*

Virginis Maria (5.2cm × 4.5cm) printed in 1475, a mere 20

years after Gutenberg printed his 42-line Bible. The National

Library of Scotland actively collects miniature books with a

Scottish connection.

These books became more popular in the last few decades of the

19th century because they were portable and easy to conceal.

One could carry a vast number of books in a small case for

when one travelled. Many are bound in fine Moroccan leather,

gilt and contain excellent examples of woodcuts, etchings, and

watermarks. More popular topics at that time were

dictionaries, language translators, religious stories and
readings, and, occasionally, tourist guides.
Subjects range from the Bible, encyclopedias, music, stories,
rhymes, famous speeches, and the miniaturization of well-known
books such as *The Compleat Angler*, *The Art of War*, and novels
about Sherlock Holmes. Many are now collectors' items, with
prices ranging from a few hundred to many thousands of US
dollars."

— http://www.nls.uk/collections/rare-
books/collections/miniature-books

Oh my! There is a Miniature Book Society : http://www.mbs.org/

Record of the smallest book, a Japanese book:

"L'infiniment petit, une esthétique

Défi artistique et technique, la tradition du livre miniature
existe depuis la nuit des temps. Elle se retrouve dans toutes
les cultures, et a donné naissance à de véritables chefs
d'œuvres. Ainsi, on connaît l'existence de rouleaux
babyloniens minuscules qui datent de 2150 avant notre ère. Un
des ouvrages les plus réputés est l'*Officium Beatae Virginis
Maria* publié à Naples, en 1486.
Essentiellement religieux, le livre miniature, au delà de sa
valeur esthétique, a une portée philosophique majeure à
l'époque de la Renaissance. Celle de représenter l'univers
sur un support invisible au plus grand nombre. D'après les
Pensées de Pascal (1669), l'homme est incapable de voir les
extrêmes, coincé entre l'infiniment grand et l'infiniment petit.
Thème abordé par Jonathan Swift dans *Les voyages de Gulliver*,
où l'homme mesure le monde à sa propre échelle, mais est amené
à créer des objets qui défient les limites biologiques de sa
perception. Le «minuscule» subjugue parce qu'il est
inatteignable, secret, exclusif. Très vite, aux alentours du
XVIe siècle, ces petits objets deviennent des possessions de
luxe, occupants les étagères des demeures royales."

— Marguerite Tiounine, "Le Japon bat le record du livre
miniature", http://www.lefigaro.fr/livres/2013/03/14/03005-

20130314ARTFIG00603-le-japon-bat-le-record-du-livre-miniature.php

Wikipedia research

STENOTYPE, STENOGRAPHERS

A **stenotype, stenotype machine** or **shorthand machine** is a specialized chorded keyboard or typewriter used by stenographers for shorthand use. In order to pass the United States Registered Professional Reporter test, a trained court reporter or closed captioner must write speeds of approximately 180, 200, and 225 words per minute (wpm) at very high accuracy in the categories of literary, jury charge, and testimony, respectively.[1] Some stenographers can reach 300 words per minute. The website of the California Official Court Reporters Association gives the official record for American English as 375 wpm.[2]

http://upload.wikimedia.org/wikipedia/commons/4/40/Stenkeys.gif

Shorthands that use simplified letterforms are sometimes termed **stenographic** shorthands, contrasting with alphabetic shorthands, below. Stenographic shorthands can be further differentiated by the target letter forms as geometric, script, and semi-script or elliptical.
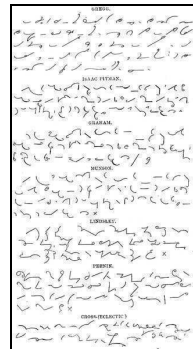
[http://upload.wikimedia.org/wikipedia/commons/thumb/e/ef/Eclectic_shorthand_by_cross.png/315px-Eclectic_shorthand_by_cross.png]

Shorthand systems can also be classified according to the way

that vowels are represented.

 – *Alphabetic* — Expression by "normal" vowel signs that are not fundamentally different from consonant signs (e.g., Gregg, Duployan).

 – *Mixed Alphabetic* — Expression of vowels and consonants by different kinds of strokes (e.g., Arends' system for German or Melin's Swedish Shorthand where vowels are expressed by upward or sideway strokes and consonants and consonant clusters by downward strokes).

 – *Abjad* — No expression of the individual vowels at all except for indications of an initial or final vowel (e.g., Taylor).

 – *Marked Abjad* — Expression of vowels by the use of detached signs (such as dots, ticks, and other marks) written around the consonant signs.

 – *Positional Abjad* — Expression of an initial vowel by the height of the word in relation to the line, no necessary expression of subsequent vowels (e.g., Pitman, which can optionally express other vowels by detached diacritics).

 – *Abugida* — Expression of a vowel by the shape of a stroke, with the consonant indicated by orientation (e.g., Boyd).

 – *Mixed Abugida* — Expression of the vowels by the width of the joining stroke that leads to the following consonant sign, the height of the following consonant sign in relation to the preceding one, and the line pressure of the following consonant sign (e.g., most German shorthand systems).

ABBREVIATION

An **abbreviation** (from Latin *brevis*, meaning *short*) is a shortened form of a word or phrase. Usually, but not always, it consists of a letter or group of letters taken from the word or phrase. For example, the word *abbreviation* can itself be represented by the abbreviation *abbr.*, *abbrv.* or *abbrev.* In strict analysis, abbreviations should not be confused with contractions or acronyms (including initialisms), with which they share some semantic and phonetic functions, though all three are connoted by the term "abbreviation" in loose parlance.[1] An abbreviation is a shortening by any method; a contraction is a reduction of size by the drawing together of the parts. A contraction of a word is made by omitting certain letters or syllables and bringing together the first and last letters or elements; an abbreviation may be made by omitting certain portions from the interior or by cutting off

a part. A contraction is an abbreviation, but an abbreviation is not necessarily a contraction. However, normally, acronyms are regarded as a subgroup of abbreviations (e.g. by the Council of Science Editors). Abbreviations can also be used to give a different context to the word itself, such as "PIN Number" (wherein if the abbreviation were removed the context would be invalid).

Measurement Shorthand — symbol or abbreviation

Writers often use shorthand to denote units of measure. Such shorthand can be an abbreviation, such as "in" for "inch" or can be a symbol such as "km" for "kilometre".

The shorthand "in" applies to English only — in Afrikaans for example, the shorthand "dm" is used for the equivalent Afrikaans word "duim".[11] Since both "in" and "dm" are contractions of the same word, but in different languages, they are abbreviations. A symbol on the other hand, defined as "Mark or character taken as the conventional sign of some object or idea or process"[12] applies the appropriate shorthand by *substitution* rather than by *contraction*. Since the shorthand for kilometre (*Quilômetro* in Portuguese or *χιλιόμετρο* in Greek) is "km" in both languages and the letter "k" does not appear in the expansion of either translation, "km" is a symbol as it is a substitution rather than a contraction.

In the International System of Units (SI) manual[13] the word "symbol" is used consistently to define the shorthand used to represent the various SI units of measure. The manual also defines the way in which units should be written, the principal rules being:

    — The conventions for upper and lower case letters must be observed — for example 1 MW (megawatts) is equal to 1,000,000,000 mW (milliwatts).

    — No periods should be inserted between letters — for example "m.s" (which is an approximation of "m·s", which correctly uses middle dot) is the symbol for "metres multiplied by seconds", but "ms" is the symbol for milliseconds.

    — No periods should follow the symbol unless the syntax of the sentence demands otherwise (for example a full stop at the end of a sentence).

    — The singular and plural versions of the symbol are identical — not all languages use the letter "s" to denote a

plural.

PIERRE

Groups

THE BODY UNITS GROUP

NIEK

   1. Irregular Regularity
S   NIEK   S NIEK
   2. Compared Sizes > Units
S   NIEK

   Pens and people

◻

[http://also.kottke.org/misc/images/ink-pen-graph.jpg]

NIEK

   3. Human Measurement or Value
                 S NIEK

http://pzwart3.wdka.hro.nl/wiki/Human_Computation:_Adding_Mach
ine

THE EXPANSION/COMPRESSION AND FRACTAL MAPPING GROUP

LUDIVINE


```
Committer : anne laforet — Wed,
28 Aug 2013 13:15:02 — X marks
the spot

×      ×

  ×    ×

   ×  ×

      ×

   × ×

  ×    ×

 ×      ×

(drawing x on the plotter)
```
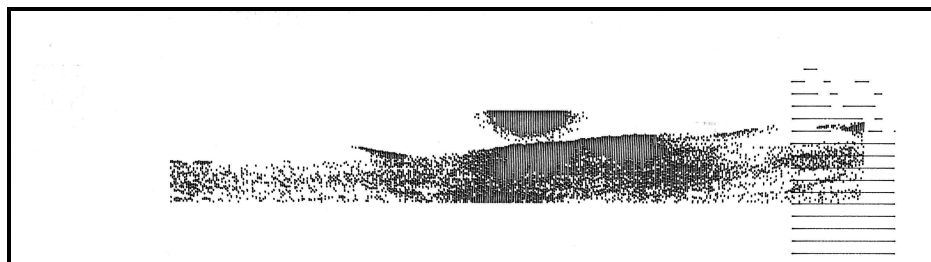

Novlang: to reduce the spectrum of expression.
S OSP   S
Fort fort plutôt que très fort.
OSP   S
Secret codes.
OSP
Paradox.
S OSP   S

Fractals: how a structure is repeated in itself. Connected to
the idea of seeing big ideas in small usual objects.

SAMUEL

PIERRE

Google Maps

MARIE
maps.google.fr/
Désolé, aucune *carte* de cette région n'est disponible à cette
échelle. Essayez d'effectuer un zoom arrière. Désolé, aucune
carte de cette région n'est disponible ...

PIERRE

→ Open Street Map

The idea is to work on maps as it is a field that encompasses
all the different aspects we are interested in:

    – fractals

    – compressions

    – scale

(Google capture)

PIERRE

We start with an exercise that is
about creating a map of the
neighbourhood of rue Gallait. The
exercise consists of creating a map
of the disctrict with a limited
amount of points. A hundred for example. How do you select
what you want to put in there? What is left?

PIERRE

To do so we decide to use Open
Street Map data as it offers to anyone the possibility to
reappropriate and contribute.
Marie decides to create an account instead of using the
Relearn account. It seems more convenient and it is a small
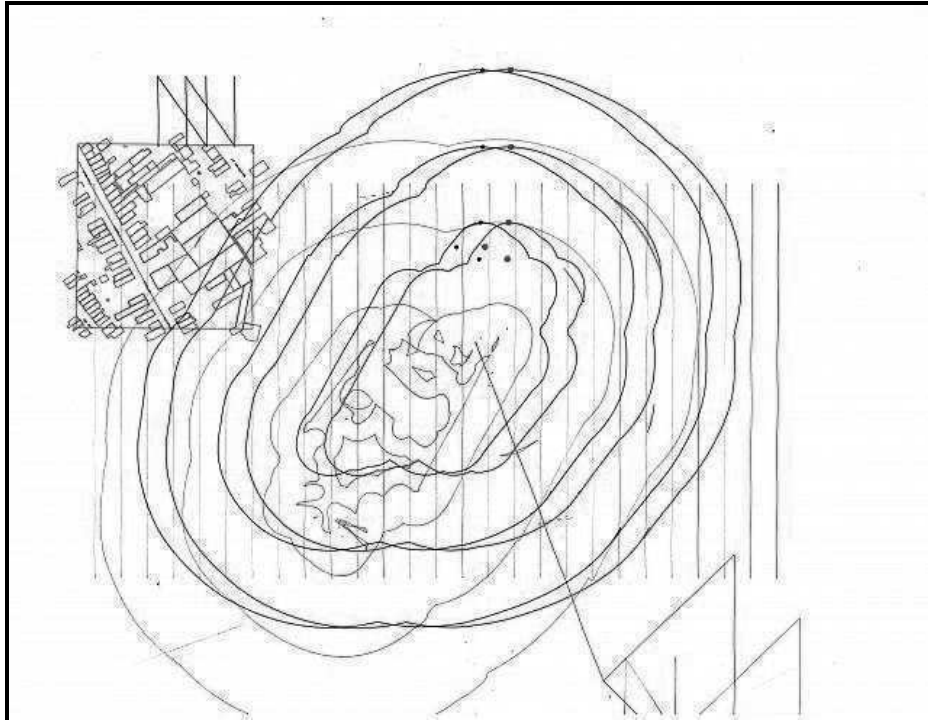
investment for future contributions.

France / Italy / The rest of the world
Three types of elements: points, lines, polygons

Exporting open street maps to SVG

PIERRE

Exporting open street maps to SVG
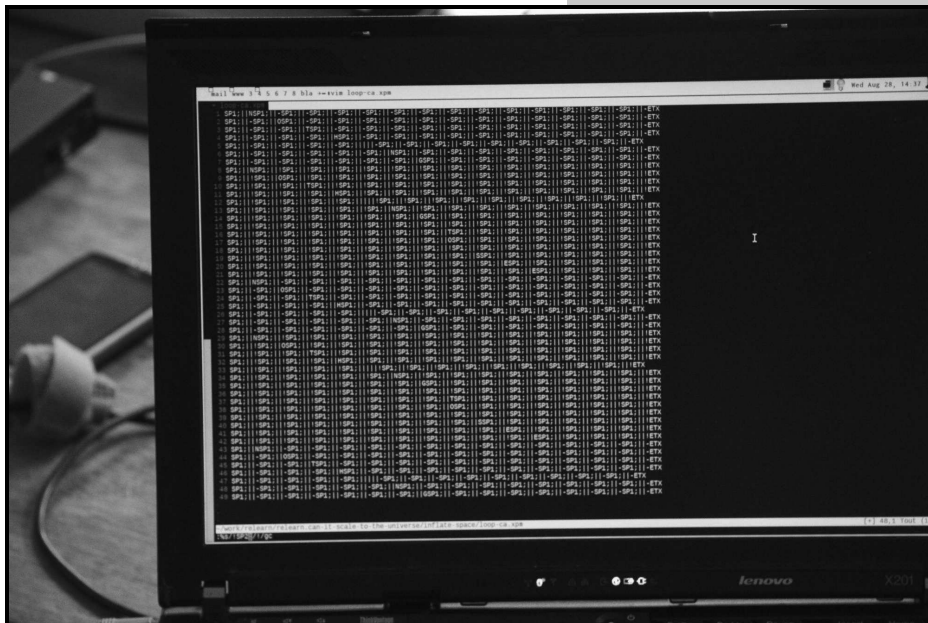
Human Scale

What happens if the size of a human is the size of difficult
DAMIEN
thing to imagine.

Prime numbers, infinity, world population…

Dimension vs time.
DAMIEN S DAMIEN S
Different value as a unit.
DAMIEN S
http://oneredpaperclip.blogspot.be/
DAMIEN
A flexible unit.
S DAMIEN S
Monades.
DAMIEN S

Other kind of maps: MeTaMap ?
MARIE S MARIE

S
"Bienvenue sur MeTaMap, ce site créé par l'association
MARIE S MARIE
Labomedia et le CRIJ (Centre Régional Information Jeunesse) de
la Région Centre, en collaboration avec la Maison Populaire de
Montreuil et le Laboratoire LMA de l'université Paris 8, vous
S MARIE
propose de placer sur la carte photos, vidéos, textes, sons et
flux, afin de livrer votre perception de votre territoire,
relater un moment vécu, partager des réflexions sur son
environnement."
S
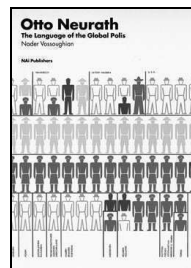
[http://www.stroom.nl/gfx/uploads/41316_neurath.jpg]

According to Gilbert Simondon, a needle is a way to identify a
DAMIEN DAMIEN DAMIEN
civilisation technologic state.

A human as a bit.

A human as a pixel = crowd viewing.
DAMIEN S

PIERRE

Antoine Gelgon — Wed, 28 Aug 2013 13:19:11 — Nous avons pris une image (into the public domain by Pearson Scott Foresman) d'une
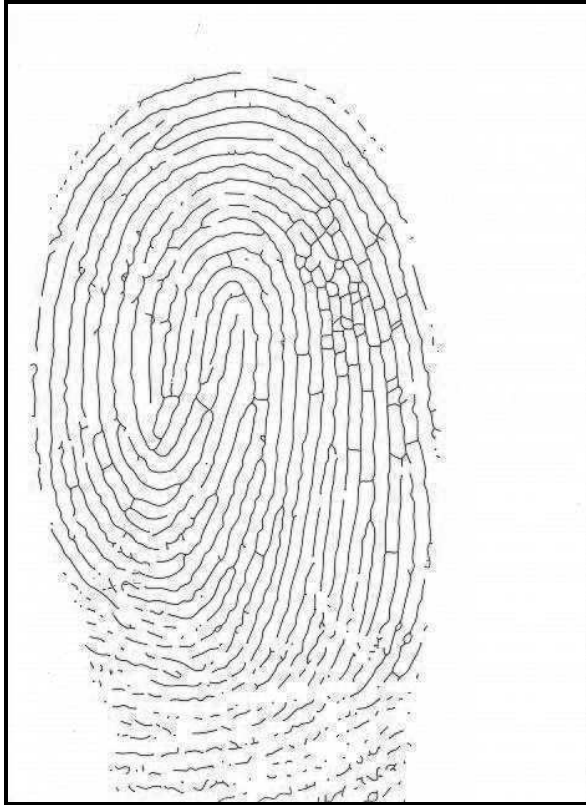
Center of the Universe

Samuel

S SAMUEL

Here is a stamp.

SAMUEL

Its aim is to mark the center of the universe.

You can use it wherever you want.

The font is OSP's Univers Else. :)

S SAMUEL
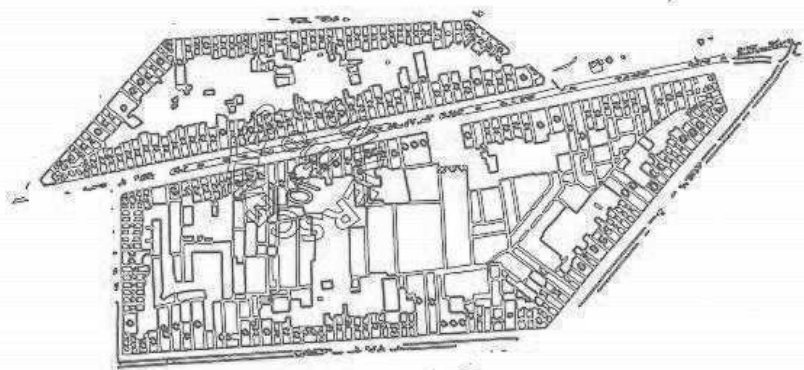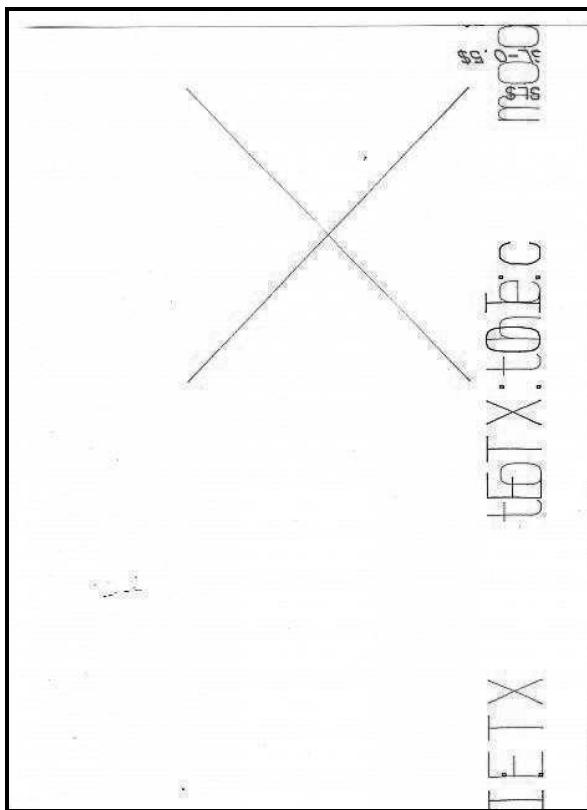
Tools

- Introduction to the terminal: http://relearn.be/r/cheat-
  sheet::git-and-the-command-line
- Introduction to Git: http://relearn.be/r/cheat-

sheet::git-and-the-command-line[CHRISTOPH][S][ERIC]

– Penplotter: http://relearn.be/r/cheat-sheet::using-the-plotter[CHRISTOPH][S][ERIC]

Images

Autopia-b-regular

ABCDEFGHIJKLMNOP
QRSTUVWXYXabcdef
ghijklmnopqrstuvwxy
z01234567890 é¨(),?!à@

La manie de s'asseoir sans moi

.C'est la manière de s'asseoir sans chaise.

Zut ! Je crois que le chien Sambuca préfère le whisky revigorant au doux porto

J'AI VU UN PUNK AFGHAN

Autopia-c-light

ABCDEFGHIJKLMNO
PQRSTUVWXYXabcd
efghijklmnopqrstuvw
xyz01234567890 é¨(),?!à@

La manie de s'asseoir sans moi

.C'est la manière de s'asseoir sans chaise.

Zut ! Je crois que le chien Sambuca préfère le whisky revigorant au doux porto

J'AI VU UN PUNK AFGHAN
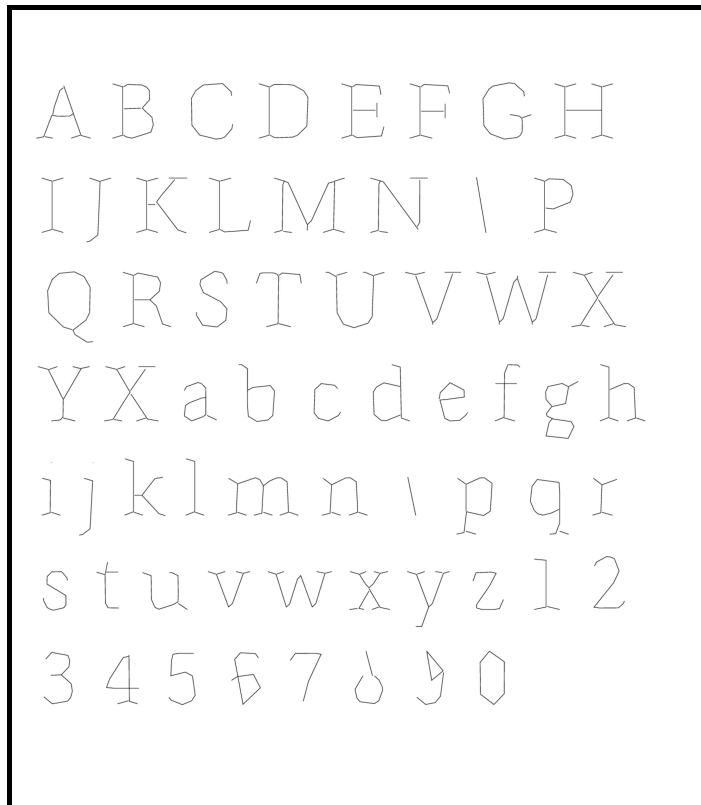
www.relearn.be

AUTOPIA

A U T O P I A

dans le cadre de la
Summer School
d'OSP

AUTOPIA
Aout 2013

Typographie réalisée
avec Fontforge ainsi
qu'un script Autotrace.
↓
www.forkable.eu/
utils/man/autotrace

Les traits
calligraphiques ont
ete dessinés avec un
script en python.
↓
www.fontforge.org/
python.html

Font libre - (SIL
Open Font License.)
↓
www.opensource.org/licenses/OFL-1.1

Projet
Antoine
Gelgon

www.antoine-gelgon.fr/
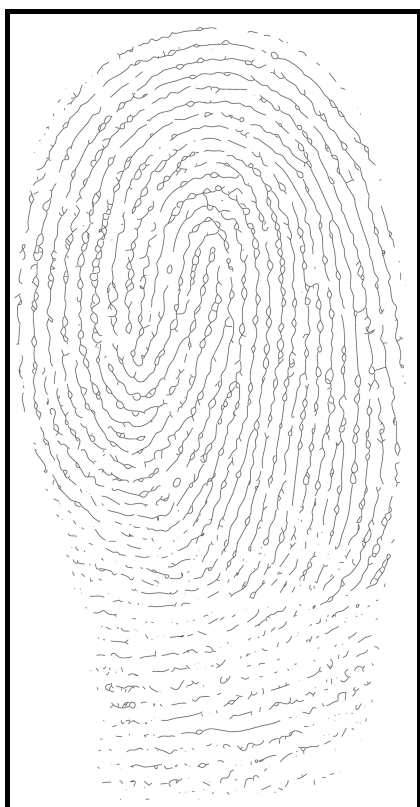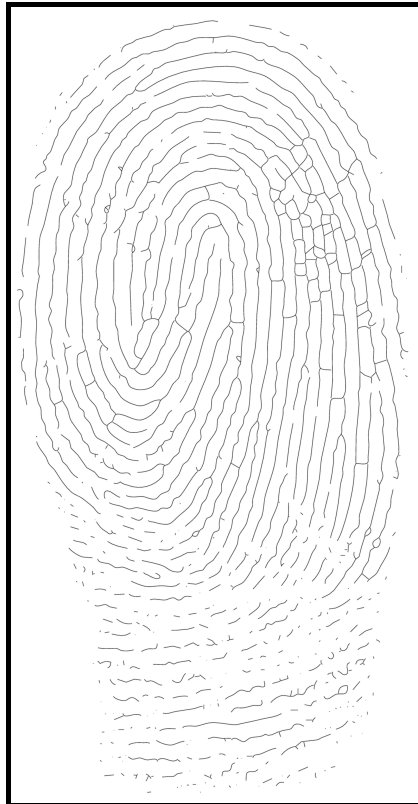
```bash
#!/bin/bash

SRCTXT=src.txt

for WORD in `cat $SRCTXT`
 do
        FIRSTCHAR=`echo $WORD | \
                  cut -c 1`

        LASTCHAR=`echo $WORD | \
                  cut -c 2- | \
                  rev | cut -c 1 | rev`

        INBETWEEN=`echo $WORD | cut -c 2-`

     # ------------------------------------------------------------ #
     # EXCEPTION FOR INTERPUNCTUATION
     # ------------------------------------------------------------ #

        if [ `echo $LASTCHAR | tr -d [a-z] | wc -c` -gt 1 ]
        then
            LASTCHAR=`echo $WORD | \
                      cut -c 2- | \
                      rev | cut -c 1-2 | rev`

            INBETWEEN=`echo $INBETWEEN | \
                       rev | cut -c 3- | rev`
        else
            INBETWEEN=`echo $INBETWEEN | rev | cut -c 2- | rev`
        fi
     # ------------------------------------------------------------ #

        IBLENGTH=`echo $INBETWEEN | wc -c`

        if [ $IBLENGTH -gt 6 ]; then

        SELECT=`expr $IBLENGTH \/ 2`

        else

        SELECT=$IBLENGTH

        fi

         INBETWEEN=`echo $INBETWEEN | \
                    sed 's/./%\n/g' | \
                    sed 'n;d;' | \
                    sed ':a;N;$!ba;s/\n//g'`

        WORD=${FIRSTCHAR}${INBETWEEN}${LASTCHAR}

        TEXT=${TEXT}" "${WORD}
done

echo $TEXT | \
fold -s -60 | \
tee ${0%.*}.txt

exit 0;
~
~
~
~
-- INSERT --                                    60,8            All
```

```
christoph@katthult:~/2013/130826--Relearn/relearn.can-it-scale-to-the-universe/scale-text$ ./jumbling.sh
On tnoirtaalsns, from big to samll, from alnaog to dgitial,
and vcie vresa. This wokssiroesn focesus on mioeatdin,
tnlrsitaoan and ciomcutaminon. Meeitng cupoetmr tolos and
famrtos iiplems to konw the eexntt, the wgihet and slcae of
thsee owitshree vatriul eeititns. At the tnatlrosain
bweeten aoalng gtrseue and daiigtl faomrt the notoin of
slcae bmeoces petinrent. Gniog form dgiatil to aanolg, we
are uesd to senieg a dscriete logic of bobls as prucedod by
the pnrit head of the ikjent prinetr. But 1890s tohglncooey
of potlting tlbaes swohs taht a pntreir can also be
cnomdaemd in a mcuh mroe gsuaetrl and cituunnoos stlye.
Form a slmal slcae to a lgrae slace and from large to
small, what tloos can we use for this traontlaisn? Waht is
lsot in the scnlaig? Can we msaruee the apoiamxtiporn, the
datcisne bteeewn iittscnnorus and grpcaihal ienrratpeoittn?
christoph@katthult:~/2013/130826--Relearn/relearn.can-it-scale-to-the-universe/scale-text$
```

gesturing paths →
introduction

Authors: JUANCHO CAPIC   ERIC SCHRIJVER   OSP   ÉLISE HALLAB   COLM O'NEILL   VINCENT MOISAN

SIMON EGLI   S V   LORAINE FURTER   SAMUEL RIVERS-MOORE   ANNE LAFORET   DAMIEN SAFIE

ALEXANDRE LERAY   LUDIVINE LOISEAU   FEMKE SNELTING

Main intro

Rediscovering fonts through their skeleton, the gesture of the body and their translation by digital tools.
The starting point for this worksession is the notion of skeleton, line, path and stroke. This approach of drawing interests us particularly because it returns without any doubt to the first ever trace of movement: the line left on the soft ground by the movement of a part of the body, and then of a tool. Are then immediately brought into play gesture, body, movement, distance, constraint, tool and then the trace and with it the possibility of reading.
As a technical construction, intellectual and cultural, software embodies specific conceptions of the objects they manipulate (here, stroke and shape). The PostScript programming language, commonly used in fonts, describe glyphs by their outline rather than by their skeleton, hence leading to a particular conception of the letter. The Metafont

language rather describes the skeleton of the letter, trying to return to the gesture of the hand and the thickness of the nib.

Narrative

Clone the project:
```
git clone
git@git.constantvzw.org:relearn.gesturing-paths.git
```

— An introduction to the terminal, the history of bash, its integration in the core of the system.

— We could start with various tools (Inkscape, remote Plotter) to demonstrate what we mean by strokes. Bringing to the foreground gestures, paths, strokes.

— Different short exercises implemented as modules, to be able to have a little catalog of them, then to begin to pipe/glue them.

A list of potential exercises :

— Draw a small character (in metafont) which is passed on and altered.

— Coordinates — not so standard cartesian coordinates.

— Influence the point-matrix → it will also show something about the way points/shapes are described in digital files, how to understand the shape which has to be drawn.

— Swap point-matrices and pencil selections.

— Mix point-matrices, point-definitions, widths, starting-points, end points.

— Consider Hershey fonts in Inkscape somehow (it would be a shame to skip over such a nice library).

— Superness: the parameter that influences how tight or how loose the characters points liaison is.

— Pens: shapes, sizes, slants. And combine.

— Letter DNA/Paths: selecting similar glyphs and metafonting them.

— Pens 2.0: variables in pen shapes and slants. Knuth calls it the Calligraphy effect.

— Modulation: a DIN-esque approach to designing a Metafont? Building blocks, to then be combined into letters?

— Plotter sport training

Pre-intro notes

Notes for the intro for Gijs, Pierre & Colm

Nice to be after "Can it Scale to the Universe?" because we could be an example of how to scale toghether.

Proposing small blocks, then modules, then piping these toghether, to build bigger blocks that would end up being characters, then again the building blocks for an alphabet.

Shapes and their awareness. The example of the letter A: three lines, bound together through their bones.

Then bringing this idea to look at a text, in a bigger typographic sense.

Decision to go on a Q&A model, lead by Gijs. Involving all and displaying the mindset for the workshop/worksession.

Presentation notes

– Metafont, programme written by Donald Knuth, a coding genius, to design typefaces.

– http://en.wikipedia.org/wiki/Donald_Knuth

– Metafont is not about drawing the skin (or the envelope) but about drawing the skeleton of the letters and then adding some global weight, serif, italic, etc. parameters.

– The skin can change in an easier way infinitely.

– The skeleton is like the gesture you would produce with a pen, once you have the skeleton, you can dress it as you want.

– Gijs has been exploring pen plotters for 2 years.

– Is it only about drawing letters?

– Metafont is another way to look at typography, cf. "Lessons learned from Metafont" in LGRU reader Considering your tools.

– "Awareness" is a word which comes often: objects which are aware of themselves → interrogability. Complete awareness of a text.

– DIN-based font has used this system without being aware of Metafont.

– Classical font uses basic shapes that has been put together (in addition or subtraction).

– How we can mimic the way that we write?

– Metafont is a way to start treating letters as programs. =-)

– The relationship between letters is very obscure (kerning/letterspacing).

– How each letter is aware of itself when it is next to another.

– Of course it can be about other types of objects. We can escape from typographic work. Drawing symbols, not letters.

– Making the "most beautiful" curve according to Donald Knuth in the summer of 1979.

– Combining shapes to draw patterns. Type is some kind of pattern.

– Searching for beautiful answers (reversing a direction of a curve forces the program to find the smoothest way to continue the "original" path)

– You won't/will learn Metafont in the workshop: not the inscribed goal of the workshop

– We want to experiment around Metafont to understand (a little bit) how it works

– AND IT'S GREAT!

Simon Egli : previous work with Metafont
    – http://metapolator.tumblr.com
    – http://metapolator.com/about
    – http://metaflop.com

Working as groups within the workshop, instead of individual works.
Sébastien's project: working on a model of cartographic drawings, a metafont without the Metafont program.

Raster images with Metafont!!! →
http://www.tug.org/TUGboat/tb08-2/tb18knut.pdf

[Executes two actions with two softwares one after the other, only if the first works; thr first one transforms the file into postscript (the extension is not in the name of the file but it is a poscript), the second one will open the latter]
    `mpost drawG.mp && evince drawG.1`
[Opens the file drawG.mp in a text editor in the terminal]
    `nano drawG.mp`
[It opens a text-editor in the terminal, you can edit]
[At the bottom of the file are a series of commands (ex: ^G Get Help)]
[To quit] ^X
[It asks if you would like to save?]
[Yes: save and quit] Y
[Where you want to save it, under which name]

To push the modified files back to the Git, see [[cheat-sheet::git]].

From MetaPost to Metafont

FYI the files reffered to are located in the "Gesture" folder at the base of the "relearn.gesturing-paths.git".

How do we integrate and pipe our glyphs into a font format to use in TeX or even Open Type Font?
We've been drawing our glyphs using MetaPost to enable EPS outputs to see our results.
To translate the .mp files into .mf files, the syntax is basically the

same.

The basic idea is that you package all of your glyphs inside a file named fontname.mf.

The specificities of a font (glyph size, brush options...) can be determined in this file, or they can be determined one by one inside each glyph file.

All the glyph specifics are specified inside their own .mf file, so the structure:

Draw glyphs (you could use metapost to check your glyphs) and save as a.mf b.mf A.mf B.mf.

Specify sizes inside fontname.mf and include all of your glyphs using "input"

```
input a
input b
input A
input B
```

This now can be used inside TeX and all of it's brothers and sisters.

Also, note that the mf2pt1 package can be used to convert Metafont files to Postscript Type1 fonts.

You'll need to meet the requirements and install the package located here: http://www.ctan.org/tex-archive/support/mf2pt1

The mf2pt1.pl script will need to be modified as follows:

In the section "# Create a FontForge script file".

Replace:
```
Generate($1);
```
With:
```
Generate($1);
Generate($1:r + ".otf");
Generate($1:r + ".ttf");
```

Then running this command will output your font file otf/ttf:
```
perl mf2pt1.pl gesture.mf
```

Sometimes when you're overwritting the same .mf file and export it as a font over and over, it doesn't seems to change, so it's better to delete the .tfm file after you create a new version.

It can be done by:
```
rm file.tfm
```
Or directly in the same command line while you're creating the font files:
```
rm file.tfm && perl mf2pt.pl metafontfile.mf
```

To generate the .eps files of the font that you're creating in

Metafont file:

```
mpost "&mfplain \mode=localfont; mag=100.375; input
file.mf"
```

So much to say

A first time in Python. Thank you Eleanor for your patience.

With bits and pieces of other codes, this script manages to get the amount of characters from web pages and translate it to a visual graphic. For instance from the three main workshops of this week:

- Off Grid (2 pages)
- Gesturing Path (1 page)
- Can it Scale to the Universe (2 pages)

Once the figures are added for each workshop they are scaled down to allow these figures to become coordinates.
These coordinates, spread horizontally one next to the other, are transformed by MetaPost (mpost) and generates an image.
The next step that I didn't work out was to change automatically the name file, using the date, so that this script could be run every day, or every hour and generate a new image.

The Python script and first genarated images are in the Git repository of Gesturing Paths.

;

*Multi-drawing/Git merging

merging

Authors: ERIC SCHRIJVER   S V   LORAINE FURTER   ANNE LAFORET   FEMKE SNELTING

Social experiments with Git

Git http//git-scm.com/ is a software that makes it possible to keep track of different versions of files and to exchange these. Even if such a tool sounds utilitarian, its highly distributed nature has profoundly changed the way software developers work together. Git is developed by Linus Torvalds, the developer of the Linux kernel, who is a controversial figure. The social implications of this tool have been a subject for discussion during Relearn and afterwards.

Femke Snelting:

Two weeks have passed since Relearn ended. In an attempt to prepare this page for publication, I finally added this rather long note:

In the session documented on these pages, we set out to have a closer look at the way Git (a tool for distributed version control and source code management) detects the kinds of conflicts that arise when many people work on the same files, and moreover how it assists in resolving them. We had only scratched its surface two days earlier when experimenting with MetaPost and Git through a digital cadavre exquis. PierreM suggested that it could be interesting to start from Diff and Patch, two much older tools that make up Git's merging mechanism. And so we did.

While these pages were being prepared for publication, Eric brought our bold statement that "Git comes from a non-

collaborative mindset" up for discussion on the Relearn mailinglist: "It is for me quite clearly a tool for collaboration" (Eric), "Not all collaboration is horizontal" (Eleanor), "How to work alone but in a group?" (Vincent). Of course all of that is true. As you can hopefully deduct from the notes that Anne took during the session (afterwards completed by Loraine and Eric), we felt that Git first of all started out as a management tool for and by a specific person, rather than as a platform for shared development. With "non-collaborative mindset" we meant that Git has not been developed with the idea of "social coding" in mind, even when "a few years later, it's being used in mainly collaborative situations".

Trying to understand the initial "mindset" of Git is just one way to think through how it functions in collaborations. Speaking about collaboration but avoiding the opposition of "individualist" versus "collaborative" (as suggested by Eleanor on the mailinglist), might be another. To me it seems necessary to ask questions about Git precisely because of the enthusiasm this tool generates and the central role it starts to play in many workflows. The way it has "distribution" and "forkability" built in has consequences for the types of collaboration that it supports and I keep wondering about the ethics of sharing and caring related to it.

Missing from these notes are stories that PierreM told us about using Diff and Patch in code development for Scribus. "One of the Scribus maintainers would never look at any code. He spent all day reviewing Diff files." Anne's experiences with preserving NetArt (keeping a log of all changes made) made us think through the value of "differences that matter", and also if it meant that things that do not change will automatically fade into the background. This connected to an experiment with decision-making processes in the context of Eleanor's Consentsus project where all but extreme opinions would be ignored. The man pages for Patch (just type: "man patch" into your terminal) are interesting in that respect. They clearly reflect the idea that conflict and difference are simply to be expected in Free Software development; they "just" need to be dealt with as part of daily work. Finally we started experimenting with merging files through Diff and Patch, and first our notes and then our minds drifted off.

+++

Eric Schrijver:
ERIC

Dear Femke,

Writing on the Etherpad I wonder how far can we go in editing one another. I would like to remove the last line of the final paragraph? I find it is slightly sentimental and the idea of of 'our notes and our minds drifting off' takes away from the interesting oppositions of ideas.

Your updated description of Git as a 'management tool for and by a specific person' is correct in the sense that it is was developed as a management tool for specific project, the Linux kernel. Yet I still feel it is not complete, because your description still seems to imply that this project was not a collaboration. Yet the development Linux kernel is a prime example of collaboration in the world of free and open source software.

Of course you are right to state that Git as a tool is impregnated with the specific model of exchange its creator envisions. It is an individualistic vision: the way one starts working on a project, is by getting your own version of the code. You work on whatever you need, you make the changes on your end, and then you propose the original maintainer to merge these changes back in. One part of the social contract of Free and Open Source software becomes very apparent: if for whatever reason the original maintainer does not want your changes, it is easier than ever to start your own version, your own 'fork'.

I imagine something is lost in this approach. As contributing has become more anonymous, there is the notion of 'drive-by commits'. Before, I imagine the role of negotiation and seeking for consensus was more important for FLOSS projects: before getting the right to commit to a centralised source repository, one would have needed to spend time on the project mailing list, arguing for ones position, maybe even going to a meet up. Even if it becomes easier to contribute to projects, I imagine it to become harder to create a real social tissue around such projects.

For me, I am happy that it has become easier to contribute to projects. I think there is still the possibility to get socially involved if one wants. And there is another aspect to Git, that I find highly interesting. The individualistic nature of distributed versioning seems to map very well to the way the various actors work together in the field of culture—a field that only exist because something is shared, a field that is rife with exchange, and yet a field that propagates itself in the form of individual expressions.

I wrote an article about this called 'I like tight pants and no-one starts from scratch: type design and logic of the fork'. http://i.liketightpants.net/and/no-one-starts-from-scratch-type-design-and-the-logic-of-the-fork Two seminal typefaces of post-war graphic design are described by their own creators as improvements upon existing fonts. The great thing with culture is, that we can actually keep all the forks around, and be happy for the diversity—I am not sure with software it works like this.

++

Following the Multi-drawing/Git merging on Wednesday within the Gesturing Paths worksession, inquiring into Git (history, structure, use…).

Git was made to deal with a really specific situation.

Linus Torvalds doesn't like to work with other people. He didn't like existing versioning systems: he used BitKeeper before creating Git, a distributed revision control system which was proprietary. When the access to BitKeeper stopped being free, he worked on his own program in 2005 and chose on purpose the derogatory term *git* which means an unpleasant or contemptible person (also, the *man* page of Git called it "the stupid content tracker"). It's not a collaborative tool, it was conceived to make his own source tree clean, and accept (or not) patches from people by email to him. Not many people have access to the Linux main server. Instead, you are supposed to work on your own copy of the repository, and when you want to contribute, let Git generate an email which can be sent to the maintainer (Linus). He then decides whether it is accepted or not.

Git comes from a non-collaborative mindset *[see notes above]*, but a few years later, it's also being used in mainly collaborative situations, like this school and OSP. Yet Git's peculiar model of collaboration as championed by Torvalds, a sort of collaboration for individualists, remains the most popular way of using it. Today the manual of Git is on the GitHub platform, among many other free and open source projects. GitHub is the most popular site for the hosting of source code. The collaboration model of GitHub is individual first: to contribute to a project, you "fork" that version of the project.

Git's way of preventing —or avoiding— conflict happens through the model of branches. You don't work on the same file: you work on your own version of history. If you try to push your version of history to someone else's Git server, it won't work if the histories have diverged. It is up to you then to make the two histories work together again, by "merging" them. Git has advanced algorithms that try to do that for you, including the Octopus merge. If Git can not merge automatically, one has to intervene one-self and resolved the problem outside of Git. Wednesday's experiment was interesting in that aspect (see Gesturing Paths notes on Multi-drawing and Git).

What tools have the possibilities of contact (i.e. conflict)? Working through contact: how can you play with the tool? There are ways to solve automatically the conflict if a file has blank spaces for someone, the contact will mean that the software will automerge. Some of the ways to merge that were experienced during the multidrawing Metafont experiment: recursive merging, abortion… Colm suggested to use "include" in Metafont to work collaboratively.

Subversion manual (another revision control system software): the software is not supposed to resolve conflict. Subversion is centralized: the project is seen as important. Issues with collaboration comes from wanting to be guardian of a project. Git is decentralized in theory. Potentially, every computer could become the server. In practice, the most prominent branches would pull off everything.

Git: "commit anxiety" in Linus' words.
Different options (3? 6?) for conflict in Subversion.

All those programs delegate the merging to other softwares:
diff + patch (use diff to apply the differences to the patch).
You can read the intermediate object.

What counts as a difference?

XLM file in the diff?

Potential interesting situation: commenting on a book using a
git repository.

Everything that is not binary cannot be *diffed:* pdf, raster
images… cannot be put in diff form.

Git as a preservation tool (keeping track of all the
modifications of the code of a digital artwork, allowing for
reversibility…) It is true that the logic of commits fits quite
well with the current state of art restauration (making
documented, reversible, interventions). I have personally
tried this in creating a contemporary version of a 1990s icon
collection.

Git used as a convenience.

The diff file is generated on the user's machine, not the
server where there's the Git repository. If there's a
different diff argument for instance, the patch would not
apply.

    diff -u v1.txt v2.txt > test.diff

Assumptions with diff: the line is the basic unit, the
difference is between the latest file and the one just before
(the latest supposedly being better).

Possible but very complex to implement different diff programs
(by changing the arguments and the default settings).

    patch -p0 --dry-run < test.diff

You commit the diff.

The diff and patch programs were not made at the same moment
(diff in 1974, patch in 1985). Interesting also to see the
differences in the style of the two *man* pages.

- http://en.wikipedia.org/wiki/Diff
- http://linux.die.net/man/1/diff
- http://en.wikipedia.org/wiki/Patch_%28Unix%29

– http://linux.die.net/man/1/patch

diff = delta → http://en.wikipedia.org/wiki/Delta_encoding
FEMKE   ANNE ANNE

Beginning an experiment (not finished): all participants modify
a common text (part of the man patch file) and we try to push
it, but it's not possible for all of us.
                        S ANNE

gesturing paths → notes

Authors: JUANCHO CAPIC   PIERRE HUYGHEBAERT   ERIC SCHRIJVER   COLM O'NEILL

VINCENT MOISAN   S V   LORAINE FURTER   LUDIVINE LOISEAU   FEMKE SNELTING

Tuesday plan

Proper introduction to Git

Work environment, workflow, basic syntax introduction

First Metafont shape!

Quick point on the proceedings, mini workgroups, direct documentation

Quick look at the various modules

Installation

Metapolator

This is a lot of stuff to install!

On Ubuntu, this is how we managed to do it…

```
    sudo apt-get install texlive texlive-metapost texlive-
metafont
    sudo apt-get install mysql-client mysql-server
libmysqlclient-dev
```

```
sudo apt-get install python-virtualenv

sudo apt-get install t1utils

sudo apt-get install build-essential
```
And a Fontforge built from source…

Python bindings

```
mkdir ~/venvs

cd ~/venvs

virtualenv metapolator

source ~/venvs/metapolator/bin/activate

pip install distribute --upgrade

pip install MySQL-python

pip install web.py
```

Compile mf2pt1

```
mkdir -p ~/src/mf2pt1

cd ~/src/mf2pt1

curl -O
```
http://archive.cs.uu.nl/mirror/CTAN/support/mf2pt1.zip
```
unzip mf2pt1.zip

mpost -progname=mpost -ini mf2pt1

cp mf2pt1.mem ~/relearn/metapolator/

# or wherever you put metapolator
```

Compile sfnt2woff

```
mkdir -p ~/src/sfnt2woff

cd ~/src/sfnt2woff

curl -O http://people.mozilla.com/~jkew/woff/woff-code-
```
latest.zip
```
unzip woff-code-latest.zip

make
```

Install sfnt2woff

```
mkdir -p ~/bin/

cd ~/bin/

ln -s ~/src/sfnt2woff/sfnt2woff

source ~/.profile
```

Compile ttf2eot

```
cd ~/src

git clone https://github.com/jgmdev/ttf2eot.git

cd ttf2eot/

make
```

Install ttf2eot

```
cd ~/bin

ln -s ~/src/ttf2eot/ttf2eot

source ~/.profile
```
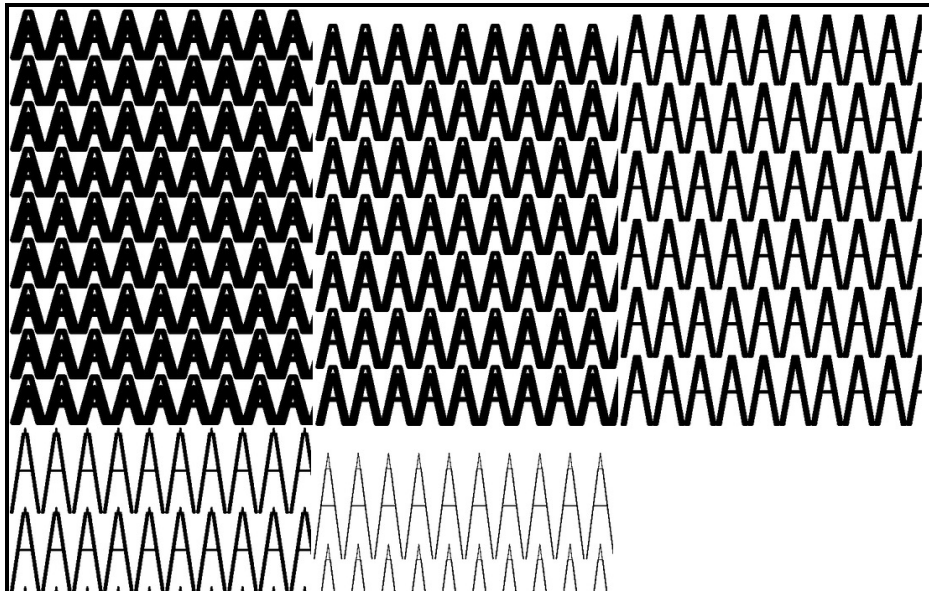
Basic syntax

To start off, let's have a look at the basic syntax for a Metafont drawing.

Along with this text file you will find a folder in the relearn.gesturing-paths.git containing a file with an .mp extension.

Open it up with a text editor and have a look around.

We're going to look at how to output a visual result to the .mp file.

This extension might look strange but it's actually just describing a MetaPost file.

MetaPost is what we're going to be using to translate the syntax text you're looking at in the .mp.

Open a terminal shell and type:

    mpost --help

You're now looking at all the options that MetaPost allows. Move to the directory where your file is saved, now tell MetaPost what you've been working on and type:
mpost whateveryoucalledyourfile.mp

The program will return a message log to confirm that it has performed the translation action.

Now check the folder where your .mp file resides.

Notes, links

- Some simpler MetaPost examples: http://tex.loria.fr/prod-graph/zoonekynd/metapost/metapost.html

- Metapost manual: http://users.encs.concordia.ca/~grogono/Writings/mpref.pdf

- Tutorials:

- http://wiki.contextgarden.net/Color_in_MetaPost#The_basics

- http://staff.science.uva.nl/~heck/Courses/mptut.pdf

- http://www.ursoswald.ch/metapost/tutorial.html

- Hector Spray Project: http://hektor.ch/Videos/Dexter-Sinister.mov/

Cheatsheet

;
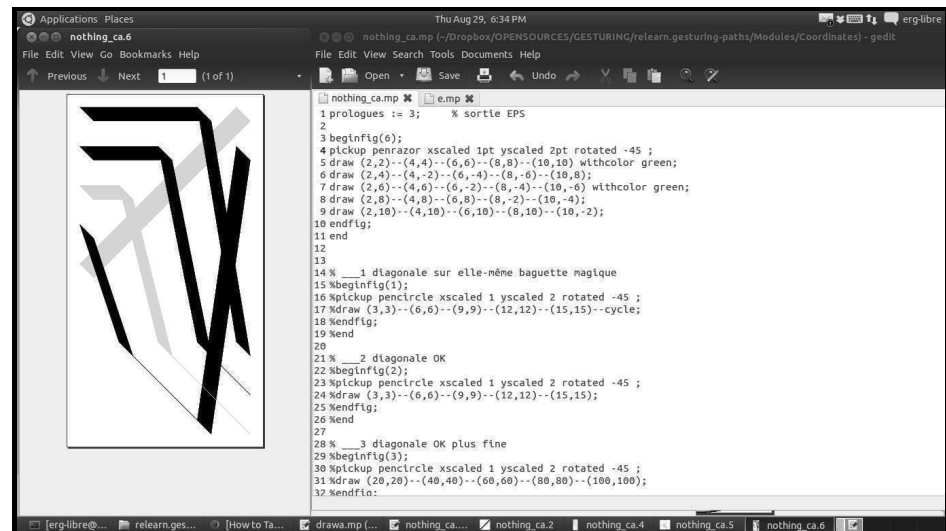
METAPOST

- Go in the *relearn* folder (for the terminal questions see: http://relearn.be/w/relearn-cheatsheet)

- cd relearn

- Clone (copy) the folder *relearn.gesturing-paths* and its Git history from OSP website

- git clone git@git.constantvzw.org:/relearn.gesturing-

paths.git

    – Run the program *mpost* on the file

    – mpost nameoffileinthefolder

    – It generates an EPS file: *draw.1*

An example: file *draw.1*

    beginfig(1)

    draw (5,5) -- (0,30) --- (15,15) .. (30,30) -- (25,5) ---
cycle;

    endfig;

    end

In the file *draw.1*:

    -- → means a straight line between the coordinates

    .. → means a curved line between the coordinates

    --- → means a curved line with a "round" angle

    ... → aligns horizontally the two points (used for
instance to make the bottom of a letter |_| on the baseline)

    cycle → links the last coordinate with the first one

    --- cycle; → means a curved line between the end and the
beginning

PIERRE

TOOLS

MetaPost was created by
mathematicians —Donald Knuth is
also the creator of TeX— to do
graphics of illustrations (this is
why you have a function fill or
color, that are not really usable
in the case or a stroke font).

    – *fill* instead of *draw* will fill the figure.

    – *withcolor* will change the color.

PEN SETTINGS (THE BRUSH PARAMETERS)

If nothing is specified, it sets a "normal" pen (circular nib).
Calligraphic pen:

    – *pen circle* (round shape)

    – *pen square* (square shape)

    – *pen razor* (only a line without width)

Pen attributes:

- *xscaled* (scales horizontally)

- *yscaled* (scales vertically)

- *rotated* (rotates the pen)

Before starting to draw:

    pickup pen circle scaled 0.8pt %(in MetaPost it will be

postscript points)

Then:

    beginfig(1)

    draw (5,5) -- (0,30) --- (15,15) .. (30,30) -- (25,5) ---

cycle;

    endfig;

    end

In the example above, we scaled homothetically the pen, now we

want to stretch it differently in x and y, and we rotate it:

    pickup pen circle

    xscaled 0.8pt

    yscaled 0.2pt

    rotated 45

    beginfig(1)

    draw (5,5) -- (0,30) --- (15,15) .. (30,30) -- (25,5) ---

cycle;

    endfig;

    end

USING VECTOR POINTS

You can influence the way a curve

goes from a point to another by

indicating the direction the path

has to take when it leaves it but also how it should approach

the next one :

Here's an example :

draw (03,03) {up}..{up} (10,17);

The path will move straight up from (03,03) and arrive from

below to (10,17).

;
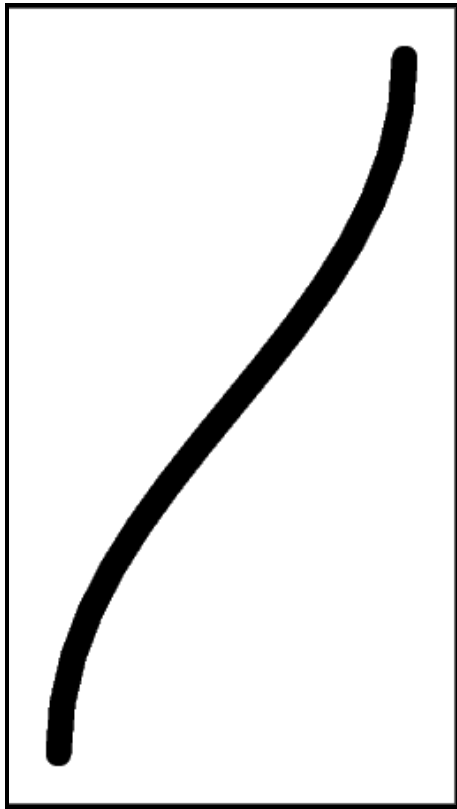
The path will leave the starting point as indicated but will
join the end point as the opposite way you indicate. The path
will actually follow the direction you assign to the end
point: to keep on the up direction, the path has to come from
below. And to keep on the "right" direction, the path has to
come from the left. You can use "left", "right", "up" and
"down" attributes to define the direction.

With degrees:
    draw (02,13) {dir40}.. {dir20} (10,47);
Other examples:
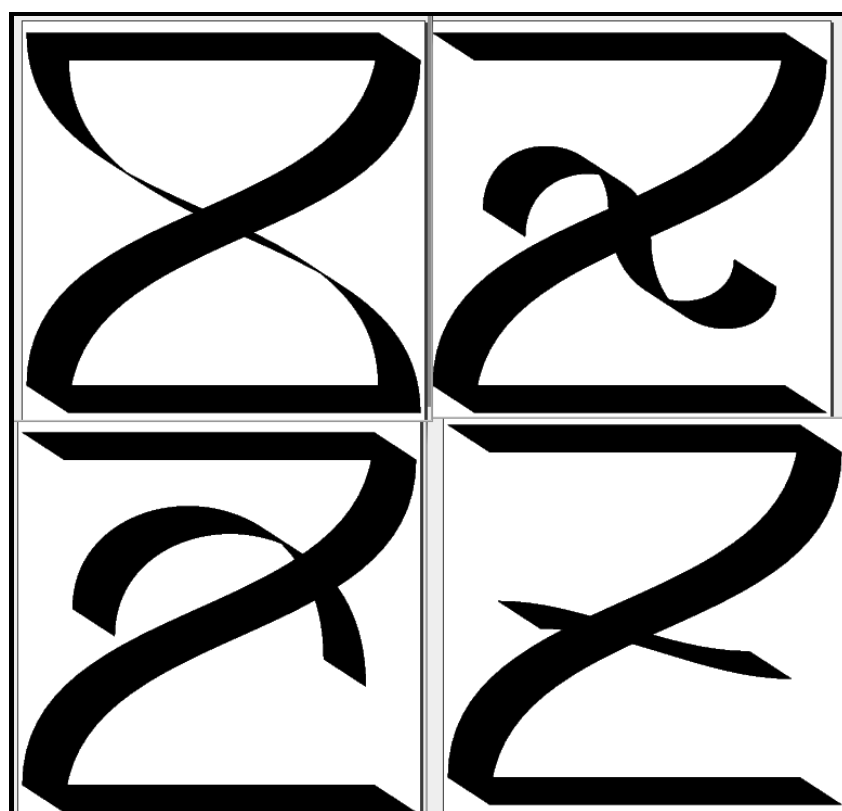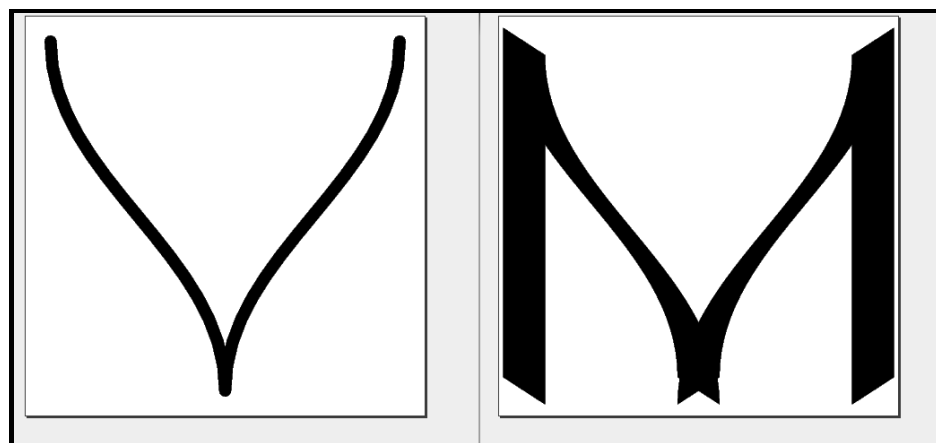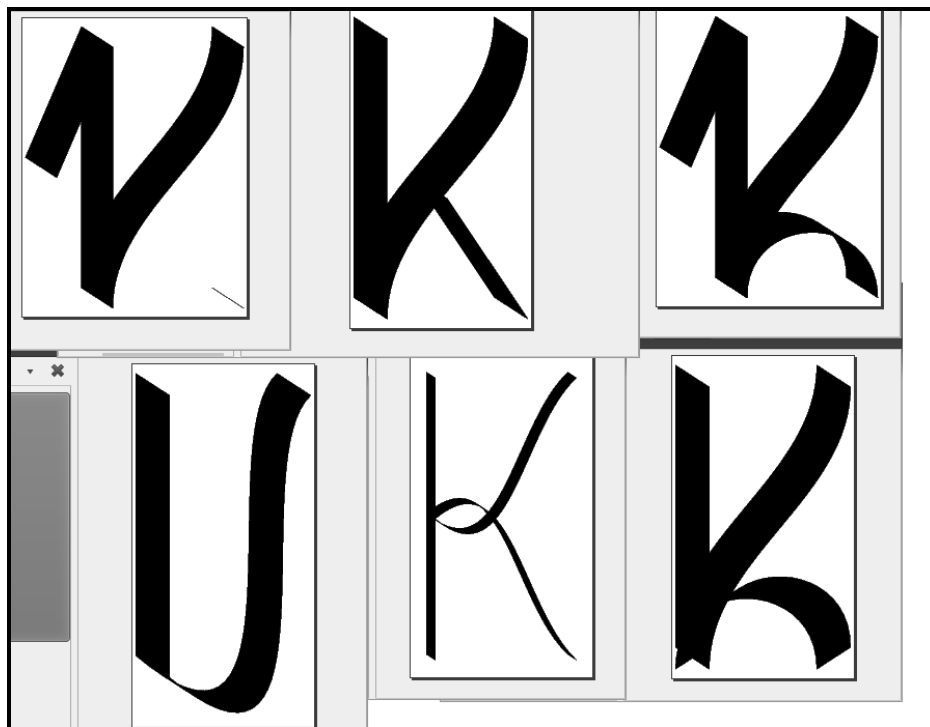
PIERRE

Back to Git

To modify a file from the Git (take it and modify it)

From anywhere in the repository, see if there were any changes yet:

    git pull

Sometimes you can't *pull* on Git because first you need to clean all the commits that you "should do" on the files that you already made in your computer. But normally you don't want to push those files on the Git repository so all you need yo do is: *git stash* and it will store your commits in a box, so now you should be able to pull correctly; if you want to get your changes back again with *git stash apply*.

On the online git repository, you can see the changes made: *drawG.mp*.
And click on log.

Meta-Hershey

Hershey fonts are stroke fonts drawn for engraving. Meta-
Hershey variants are generated here: the paths of the SVG
Hershey files were translated into Metafont.

http://en.wikipedia.org/wiki/Hershey_font
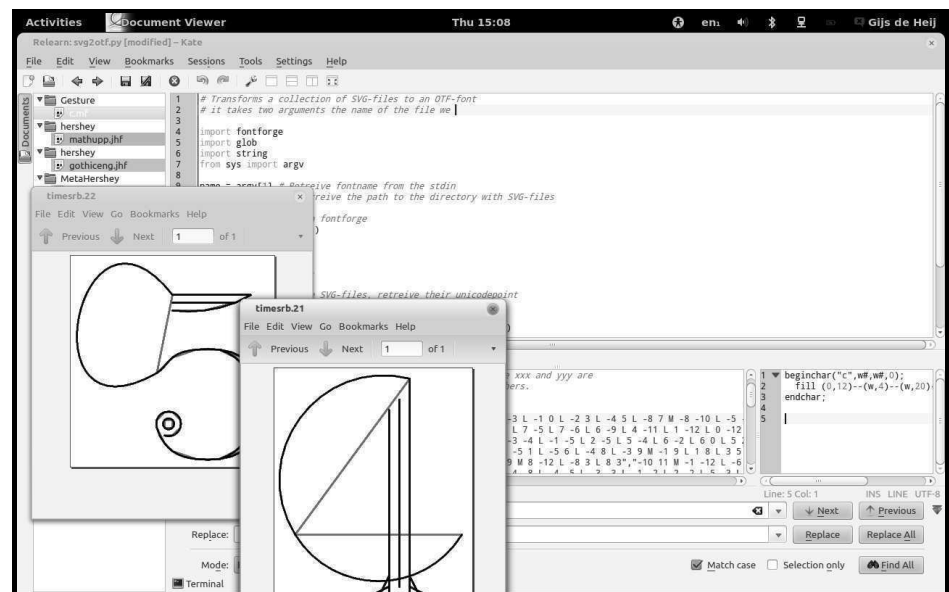
Letterwriter

A happy accident, a book found in Okno where Thomas was
staying during the summer school:
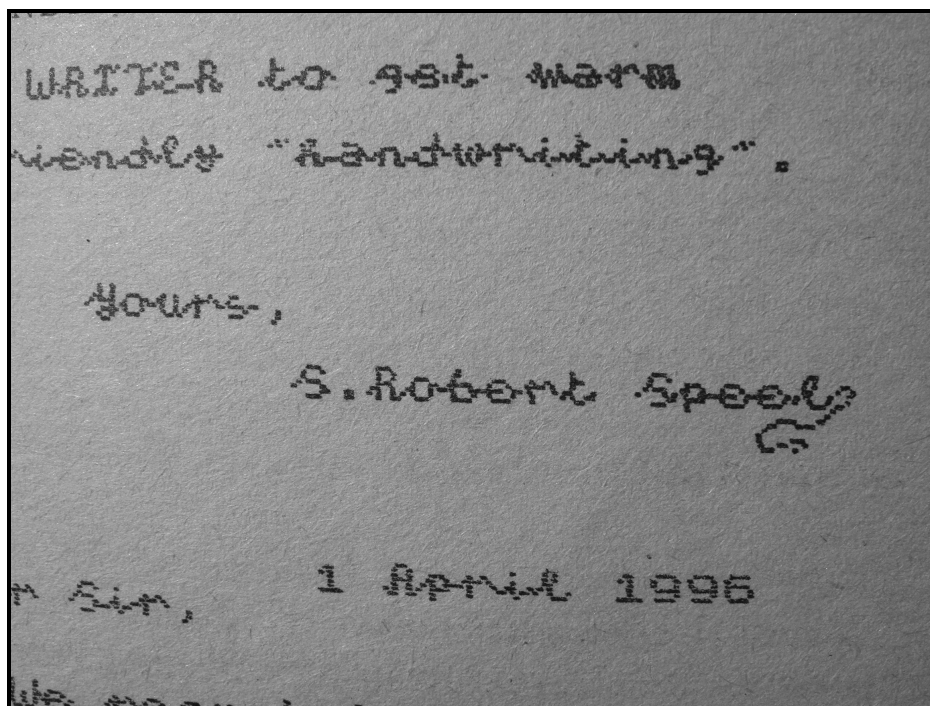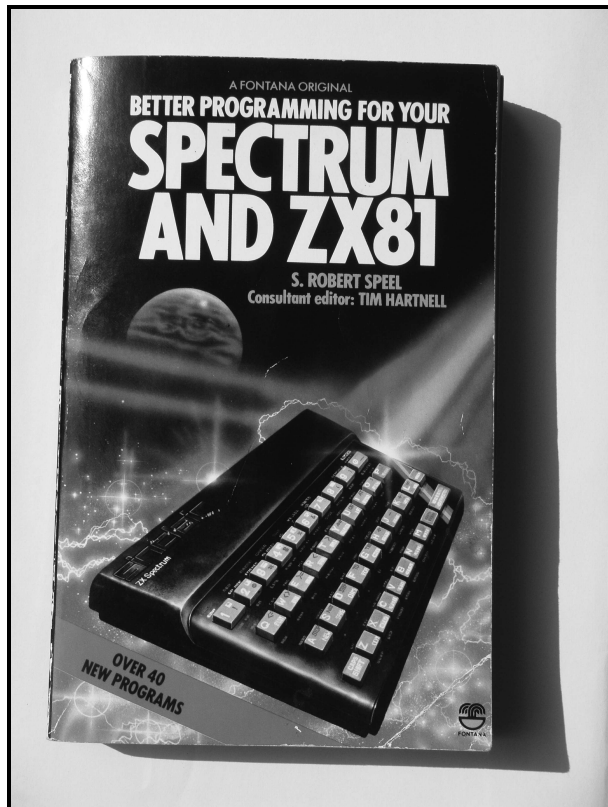
Letterwriter was designed by S. Robert Speel in 1982. It is a
little BASIC program for the Spectrum ZX81 to emulate
handwritten text. The program reads in a DATA file to generate
the fonts. This projects takes the DATA file as a starting
point to port the Letterwriter font to Metafont. The project
consists essentially of two main files: one containing the

bitmaps in decimal encoding and the other one containing the
conversion script.
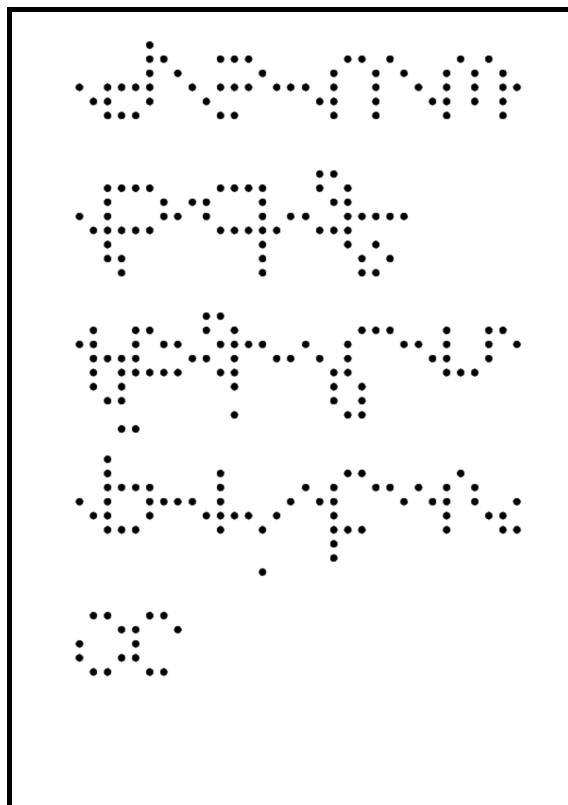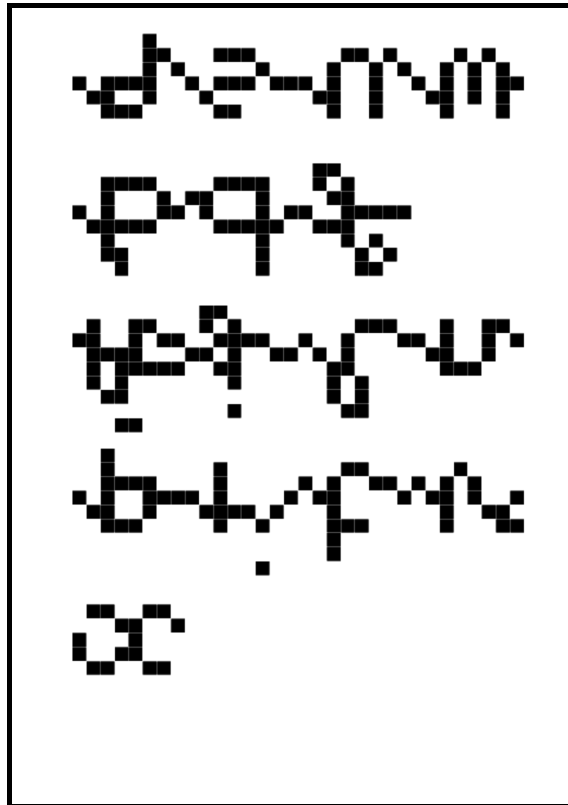
off grid →
introduction

Authors: CLAIRE WILLIAMS   ERIC SCHRIJVER   OSP   SARAH MAGNAN   PETER REID   COLM O'NEILL   S V

LUDIVINE LOISEAU

Computing first started with textile patterns with the Jacquard looms using punched cards to automatically form a pattern. In this context, patterns are repetitions, repetitions could be considered as discrete elements (elements we can combine, see http//en.wikipedia.org/wiki/Discretization); discrete elements are the basis of computing.

During this session we propose to explore patterns through digital manipulation, alter the repetitions through algorithms, other repetitions, or analogically, to transpose a pattern through different grids (screen, loom, knitting grid, print...).

Punched cards in Jacquard looms:

[http://i47.servimg.com/u/f47/11/37/69/24/img_7813.jpg]

□

[./https://web.duke.edu/isis/gessler/topics/jacquard-head-cards-right.jpg]

GRID FITTING:

[http://cec.sonus.ca/econtact/9_2/images/Durer_Underweysung_der_Messung.jpg]

𝒯racks

OVERLAYS
In the same manner as the frame can operate and play with thicknesses —for example in the production of a carpet— how this thickness may find an equivalent on paper and screen?

AFRICAN WAX
Print a layer of wax, then tint the fabric: the ink will stick only where there is no wax (draw in reverse like in lithography, engraving).
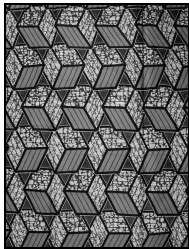
[http://www.africanpremier.com/media/import/sw201713_a.jpg]

[http://northernlace.files.wordpress.com/2010/11/vintage-african-wax-print.jpg]

Atumpan, "The Thing" (Official Video) → African wax in the digital world
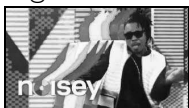
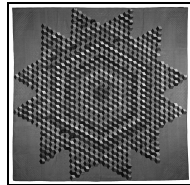[http://i1.ytimg.com/vi/m97rABtDX80/mqdefault.jpg]

http://www.youtube.com/watch?v=m97rABtDX80

Metahaven, Holland Festival posters

QUILT

Over the last hundred and fifty years quilters have built up a large
repertoire of patterns based on the repetition of a certain motif
constructed from geometric shapes. These provide a basic design
structure within which the seamstress can improvise. See
http://www.wornthrough.com/2013/05/14/parisian-insights-qulit-
art-lart-du-patchwork/ .

MOIRÉS

COSIC

http://osp.constantvzw.org/api/osp.work.cosic.rescue/8300e26a3525
53d356260c2aab9d2c5700d4d372/blob-data/logo.gif

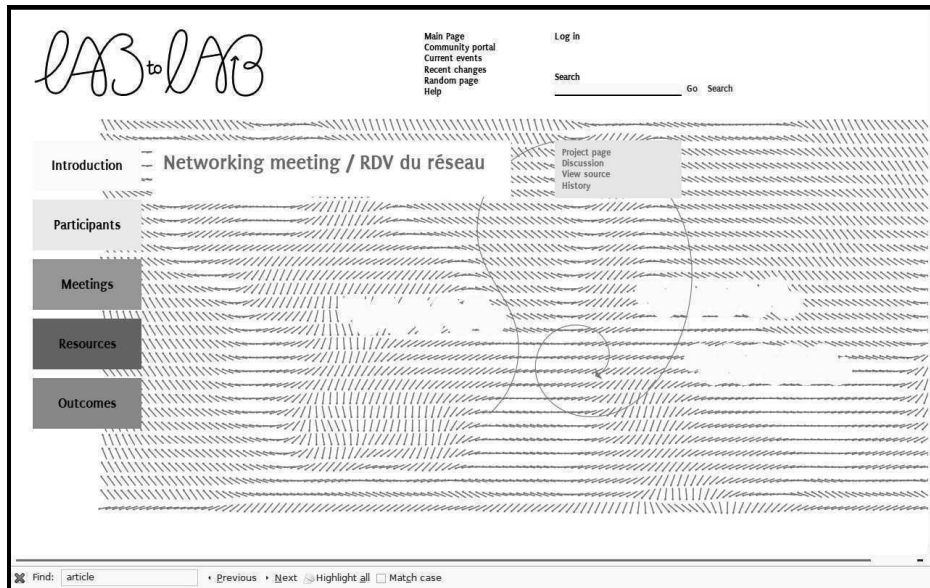Metamatic Research Initiative
Website by Luna Maurer, 2011
http://www.metamaticresearch.info/

Rasterizing (trames)

Literal Draw
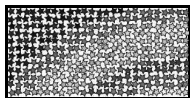http://www.labtolab.org/~labtolab/wiki/index.php/Outcomes

Inkscape clone tiles
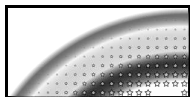
[http://tavmjong.free.fr/INKSCAPE/MANUAL/images/TILES/Tile_Trace5.png]

[http://tavmjong.free.fr/INKSCAPE/MANUAL/images/TILES/Tile_Trace8.png]

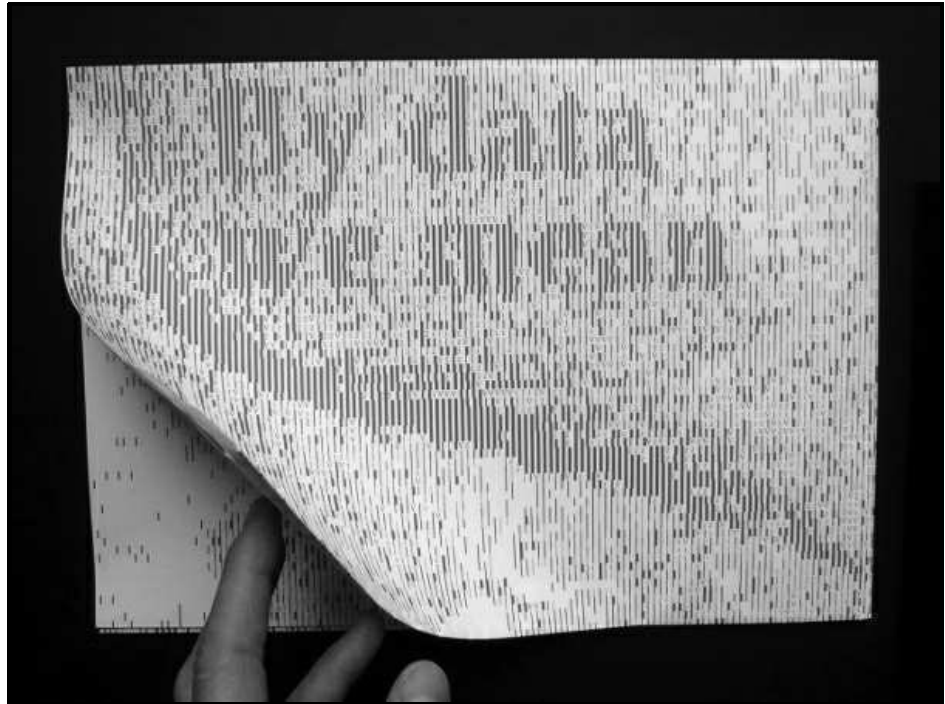ASCII art
Lena in ASCII.

http://my.csdn.net/uploads/201203/29/1333010892_6676.GIF

Verbindingen/Jonctions 12
ASCII art with rectangular pixels, posters by OSP

XPM image format, a text-based format for images.
http://en.wikipedia.org/wiki/X__PixMap

[http://upload.wikimedia.org/wikipedia/commons/b/b3/Screenshot-xterm-linux.xpm-GVIM.png]
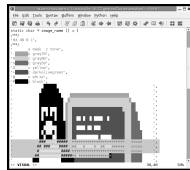
Le Rouge et le noir, by Sarah Magnan
Pattern of a text through lexical fields of red and black.
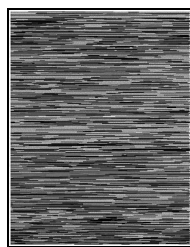
[http://www.multimedialab.be/blog/wp-content/uploads/2012/09/sarah_magnan_01.jpg]

Hinting
How to fit typographic curves into the pixel grid.

[http://www.linuxlibertine.org/typo3temp/pics/a3fed6ef47.png]
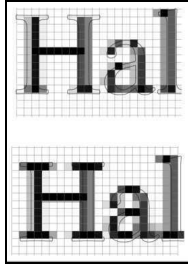
The Human Printer
Images are reproduced dot per dot, colour per colour by the hand
of a human.

[http://www.thehumanprinter.org/wp-content/uploads/2013/04/Scan-1.jpg]
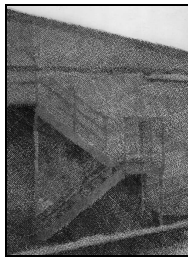
Anne Bertinchamps
Images are reproduced dot per dot, colour per colour by the hand
of a human.

[http://annebertinchamps.com/wp-content/uploads/2012/04/1scan-14-02-004-
330x511.jpg]
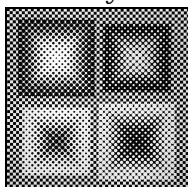
Vasarely

[http://galeriemessine.com/cspdocs/artwork/images/victorVasarely_IKER.jpg]

 Diane Steverlynck
http://www.dianesteverlynck.be/verzameldwerk06.gif

Karel Martens

http://www.obsessivelyobserved.com/2011/01/karl-martens-for-chaumont-festival/

http://ffffound.com/image/84a6b61c9b4835e3c86232f67a9bd149fa4e169f

http://p-exclamation.org/post/34237318570/karel-martens-selected-letterpress-works
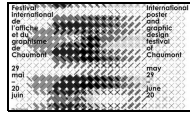
[http://www.obsessivelyobserved.com/wp-content/uploads/2011/01/karmartens_20101.jpg]

Emigre

Patterns made out of letters.

http://gdpsu.typepad.com/.a/6a00e55001740b883401156fbba1c2970b-800wi
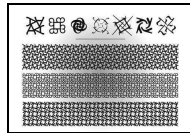
[http://media.tumblr.com/tumblr_l9e74zlvjG1qz5nhs.png]

http://www.emigre.com/ImagesFont/Hypnopaedia_004.gif

Yuichi Yokoyama
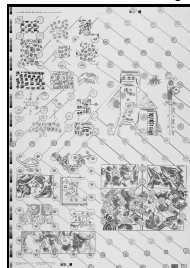
[http://www.azito-art.com/img/users/yokoyama_BBFL_91_L.jpg]

Slippage

Luna Maurer, Argyle pullover

[http://poly-luna.com/image/Argyle_Pullover/Argyle_pullover.jpg_tn/fp.jpg]

Daniel Temkin: Glitchometry Stripes
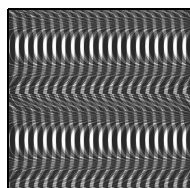
[http://asset2.itsnicethat.com/system/files/062013/51cc15845c3e3c0aa50003ee/img_c

ol_main/5.jpg?1372329863]

http://www.itsnicethat.com/articles/daniel-temkin-2

Dérapage contrôlé, Chevalier Masson

[http://www.chevaliermasson.be/sites/default/files/styles/large-project-pict/adaptive-image/public/work/cottage%2C%2006.jpg]

Richard Hutten

[http://mocoloco.com/upload/2009/05/salone_hutton.jpg]

Fuzzy Rug by Pierre Marchand for Diane Steverlynck
A software to preview a pattern when changing its parameters.

□

The same pattern produced different visual outputs due to the inconsistency of the wool.

□

0xdb/Mimetrics
http://0xdb.org/0103030/timeline/00:01:12.800
http://0xdb.org/0xA20C42B4846F589B/clips/position

[http://trapgat.files.wordpress.com/2009/11/september-2009-0631.jpg]

References

Mathematickal Arts
Workshop at foam exploring the relations between textile and mathematics.
http://lib.fo.am/mathematickal_arts_2011
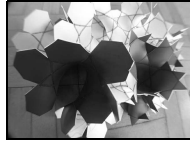
[http://farm6.staticflickr.com/5148/5690157402_107f67de7f_z.jpg]

Re/touches

Workshop at foam about fixing used fabric; analysing the "source code" of a fabric, a pattern by looking at its reverse side; how this source code is sometimes obfuscated to hide the recipe.
http://delta.fo.am/re-touches

[http://farm6.staticflickr.com/5216/5385347326_5fe24f7de3_z.jpg]

Labcraft

Digital adventures in contemporary craft.
http://labcraft.org.uk/
http://a-place-called-space.blogspot.be/2011/10/lab-craft.html

[http://4.bp.blogspot.com/-O7rrYDWklqk/TqPbzyRgY4I/AAAAAAAAC-s/hWyJtDyOMbc/s640/P1060342.JPG]
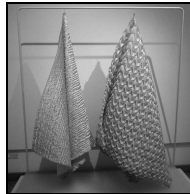
Knitic

Open hardware knitting machine.
http://www.knitic.com/

[http://farm3.staticflickr.com/2850/8956697163_cd7303a22e.jpg]

𝒯𝑜𝑜𝓁𝓈

Here is a non exhaustive list of tools that we could use:
– Cosic moiré generator
– Inkscape tiled clones
– Fuzzy Rug: makes patterns from a first pixel line of a picture
– ASCII art: http://en.wikipedia.org/wiki/ASCII_art

– XPM image format: a text-based format for images

– Open a picture with an text edit

– Knitting machine (hacked or not)

– Spirographs

– Cellular automata:
http://sjsu.rudyrucker.com/nksapplets.htm

– Game of life: http://www.bitstorm.org/gameoflife/

– Cross stitching software: http://lyogau.over-blog.com/pages/Logiciel_point_de_croix_KGchart-575854.html

– Penrose tiling applet:
http://www.cgl.uwaterloo.ca/~csk/software/penrose/

off grid → notes.html

Authors: CLAIRE WILLIAMS   ERIC SCHRIJVER   WENDY   OSP   SARAH MAGNAN   MAGDA TYZLIK-CARVER

CHRISTOPH HAAG   DIANE STEVERLYNCK   PETER REID   S V   ANNE LAFORET

Loop to create a pattern of text

C reate a text file " Name of the file.sh "

```
for index in {1..20}

do

   echo "AVAVAV\\AVAVA::VAV..VAVA::VAVAV//AVAV"

   echo "VAVAV//AVAVA::VAVAV..VAVA::VAV\\AVAVA"

   echo "VAVAVA\\VAVAV::AVAV..AVA::VAVAV//AVAV"

   echo "AVAVA//VAVAV::AVAV..AVAVA::VAV\\AVAVA"
   _
done
```

O pen your terminal and run the following command (you have to be in the right directory) .

```
bash name_of_your_file.sh
```

T hen you ' ll see your pattern that you will be able to copy and paste to an . xpm file .

Brainstorm of things we want to experiment

Claire shows examples of what she knitted with her hacked knitting machine: cellular automatas, text which glitched randomly, changing the resolution of an image, a . wav sound put into an image viewer to the knitting machine .

Wendy shows an experiment together with Claire with the hacked knitting machine: 1 left hand and 5 right hands, you leave the left hand in place, and you can change the position of your right hand and interact with the computer . H ands are all different but they were supposed to be the same, what happened?

Magda: reference to a crochet piece of fractals .

The Lorenz manifold , " equations that describe the nature of chaotic systems " possible to crochet it:

Committer : magda — Wed, 28 Aug 2013 09:41:36 — i changed "-" into "." as it was confusing something and not readig the file properly, i will change also the sh file and will put it in a moment

http://www.math.auckland.ac.nz/~hinke/crochet/

http://www.math.auckland.ac.nz/~hinke/crochet/http://www.math.auckland.ac.nz/~hinke/crochet/

Open source embroidery collaborative project : Ele Carpenter

HTML patchwork : http://www.math.auckland.ac.nz/~hinke/crochet/ http://www.open-source-embroidery.org.uk/wiki/http://www.math.auckland.ac.nz/~hinke/crochet/

[http://www.math.auckland.ac.nz/~hinke/crochet/ http://www.open-source-embroidery.org.uk/wiki/lib/exe/fetch.php?

w=&h=&cache=cache&media=htmlp:fullpatchwork.jpghttp://www.math.auckland.ac.nz/~hinke/crochet/]

How to stretch the strict constraints of a patchwork ? E ach person fill s the grid the way one want s C ollectiv e work?

Peter: I nterested in patterns of words (meaning of words) G enerating words, conjunctions W hen knitting in groups when he was 11, discussions coming out of the situation C omments, other records of our collective process . H ow can these be woven into the tapestry we create ? P ersonally I like this book, think it ' s useful : http://www.openendedgroup.com/images/CreativeCollaboration_OpenEndedGroup.pdf A meter as unit of poetic measurement also as a coded grid of a weaving or knitted pattern, providing perhaps the structure withi n which we learn, collaborate, produce. e . g . https://en.wikipedia.org/wiki/Dactylic_hexameter . Could this be used somehow as the basis of a generative algorithm by which we combine our individual outputs. Then, stretch this off the grid .

Caroline : I nterested in cellular automata . S arah: hard to use with java . for most of the people you have to install a new java-version . P rocessing programme → cf . knittings of claire

Alex ' s old experiments with recycling digital images: http://datateb.stdin.fr/

Magda: P roject which translates each color of an image into a sound : http://www.ghostmachine.thecommonpractice.org/film.html

M ix/add/cross/combine every pattern we already made . P atchword grid? S tay in grid or go off grid directly . C onnections between patterns . S tart with existing pattern in V ariable house (floors) . P ortug u ese houses with tiles falling off and replaced by different type of tiles. One side of the " motif " is connected and the other ones not . P ieces are not filled = hole . G oing from textile to digital to textile again. translation . T ry XPM with the patterns of the morning .

Hexadecimal c olor codes for XPM: 16 digits instead of 10: 0 1 2 3 4 5 6 7 8 9 A B C D E F RGB colors= 3 groups of 2 letters or numbers ex . # FF FF FF = white

ℬ asic code for XPM

```
/* XPM */

static char * name_of_file[] = {
```

```
—

/* Here you determine the number of lines (640), the
number of columns (400), the number of colors (2), and
the definition ("1" means 1 character = 1 pixel) */

—

"640 400 2 1",

"     c #FFFFFF",          space is white

".    c #009CFF",         . is a kind of blue

/* Your characters here */

" ... ",

"};
```

A n example . xpm file opened with a viewer (Okular, Gimp, Gthumb,
etc. Note that Okular is more permissive than the others with errors.):

W ednesday

G ather all the pattern s. B ring the pattern out of the grid . F ind other
ways to create this pattern ... more easily . L ayering and developing
language that we share so we are able to talk about what we are doing .
We try new XPM files to try to handle it. Some problems appear:
transpar e ncy, random colo u rs, different view dependi ng on the
computer we look with . Translating patterns or fixing XPM problems?
What shall we do, the next couple of days? Two paths enfold.
- (minus sign) seems to be problematic Magda r e placed it and the
pattern is now readable
T rying to merge our pat t erns together as layers . PierreM introduce s

: Potrace Library API → P eter Selinger ,
http://potrace.sourceforge.net/ O pen XPM files with I n k scape to
vectorise them: P ath /T race bitmap W endy made a quiet " tribal "
pattern which make s me think about mola "s in P anama .
Imagemagick: used to make animations , see
http://archive09.linux.com/articles/46124

http://archive09.linux.com/articles/46124http://archive09.linux.com/articles/46124

Glitch Psychedelica , http://archive09.linux.com/articles/46124
http://www.hellocatfood.com/http://archive09.linux.com/articles/46124
, MriauW!

Exploring the XPM files and ways to vectorise them with I nkscape
and Po trace.
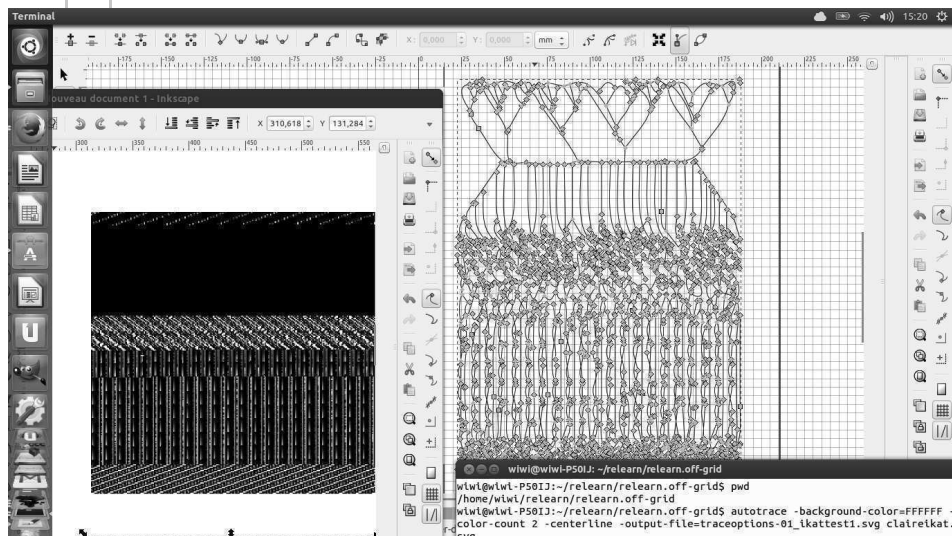
We then decided to draw with a plotter the different formats and
results our initial ASCII pattern went through.

T r anslations of formats that transform the original grid, overlays to
see its maze to finally get through! Inkscape is really the best
programme where you can visualise your XPM file (imagemagick is
more picky!)

The idea of a patchwork of the groups work comes back.

Managed to put all of the diff e rent
XPM patterns and create a patchwork
where we can slightly see the different r

Committer : DianeSteverlynck –
Wed, 28 Aug 2013 14:38:24 –
adding shade, 2 color grid-
trying to see how inskape
translate it to vector

h ythms of pixels showing the different patterns. Although it should
show everybod y' s pattern it has a very diff e rent result to what
expected! Here ' s the pdf! http://git.constantvzw.org/?p=relearn.off-
grid.git;a=blob;f=mixpattern2.pdf;h=0f070701c80fc7494c2aca390b03b328
d055bcc4;hb=HEAD

And here is the original XPM file : http://git.constantvzw.org/?
p=relearn.off-
grid.git;a=blob;f=mixtexte.pdf;h=2e5adb8f70ae0635026c1a68fc2e875662d
0bc22;hb=HEAD http://git.constantvzw.org/?p=relearn.off-
grid.git;a=blob;f=mixtexte.pdf;h=2e5adb8f70ae0635026c1a68fc2e875662d
0bc22;hb=HEADhttp://git.constantvzw.org/?p=relearn.off-
grid.git;a=blob;f=mixtexte.pdf;h=2e5adb8f70ae0635026c1a68fc2e875662d
0bc22;hb=HEAD

We plotted with Robocut, the Silhouette Cameo vinylcutter equipped with a 3 D printed head and a bic pen. We will go through the images of our plotter adventures. → We plotted our bash script: → Plot of the outcome of the bash script:
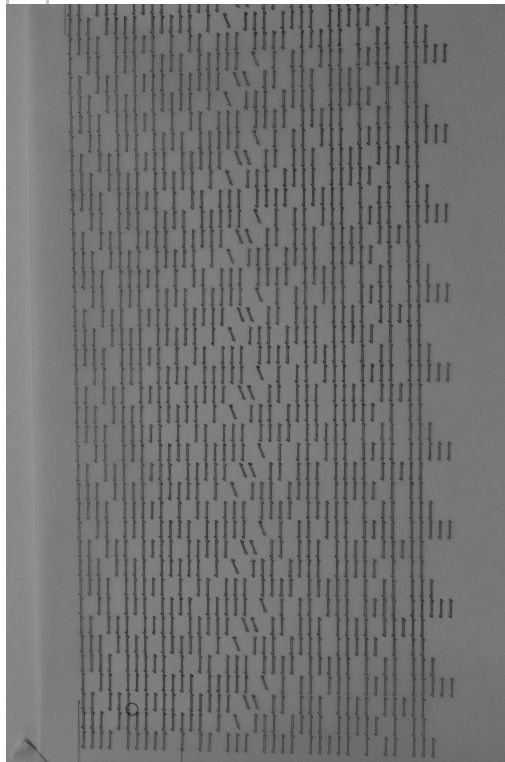
This is not a plot, but a colour print of this file, transformed into .xpm :
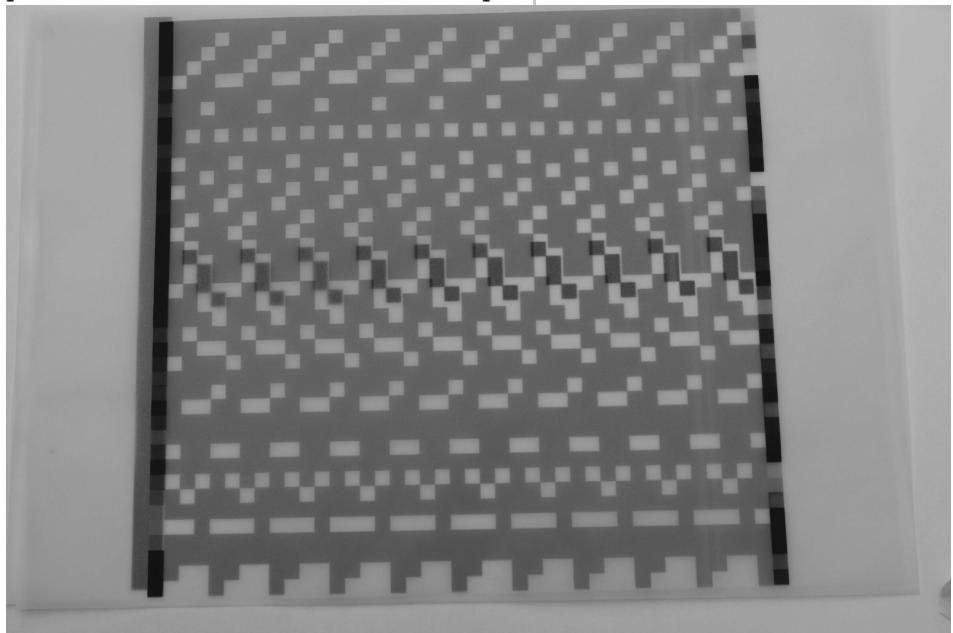
The .xpm was vector is ed with autotrace, via the commandline :

```
autotrace -centerline -output-file=all_layers_wvw.svg
loop_wvw2.png
```
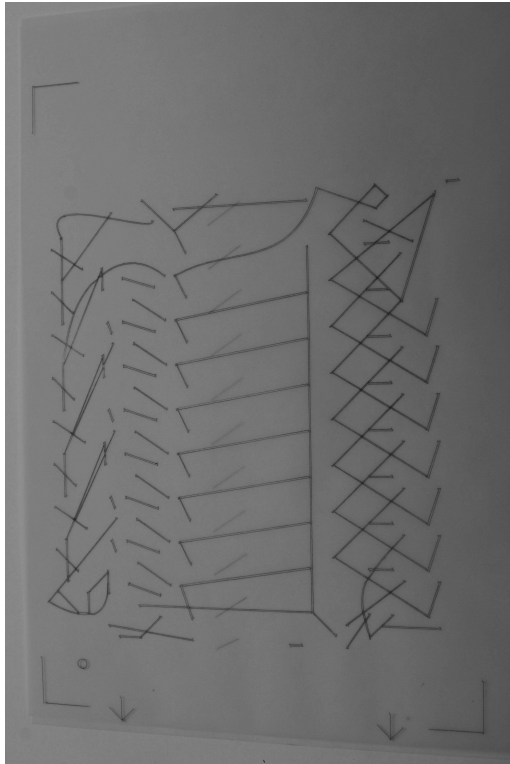
All previous images had the same file to start with. This is a mix of the bash script of Lidia and a heavily shifted three colour plot of the vectori s ed version of her .xpm .

WENDY

WENDY

S WENDY

S

□

A mix of Claire ' s .xpm code and a vectorized version of this image. At the end, Claire put all the code we generated into .xpm , she added them and it produces this complex pattern. We printed in in colour. You see some pictures of the image and the code :

WENDY S WENDY WENDY

□

WENDY
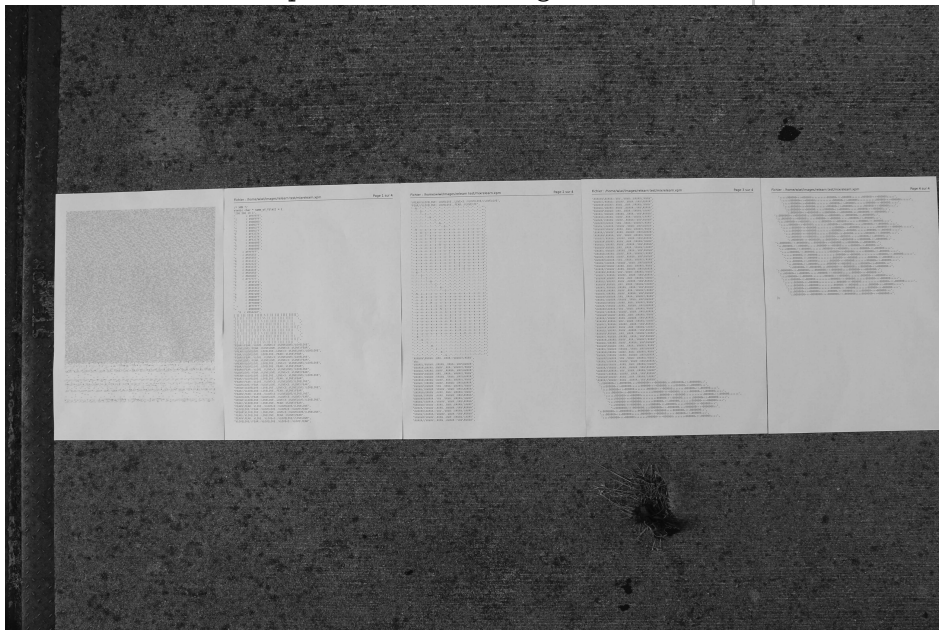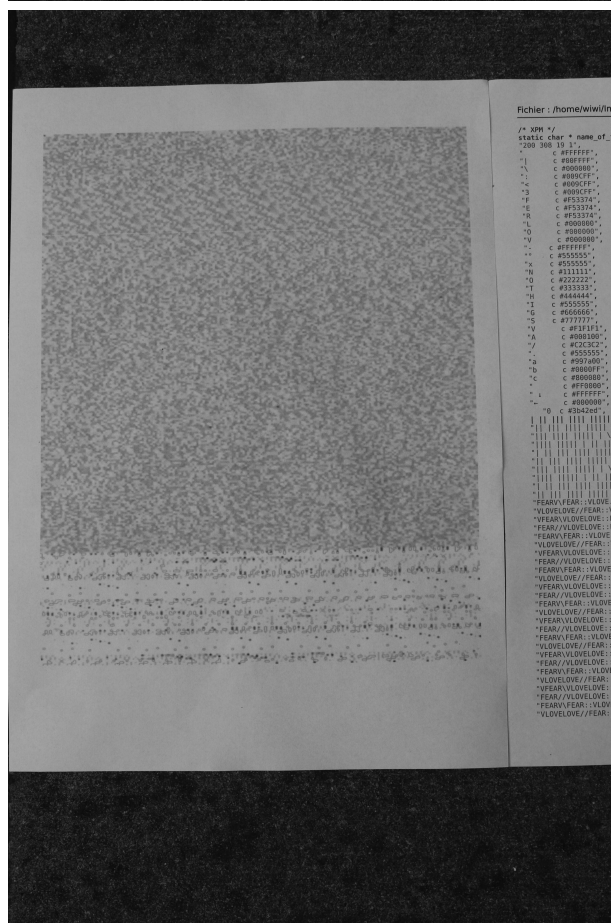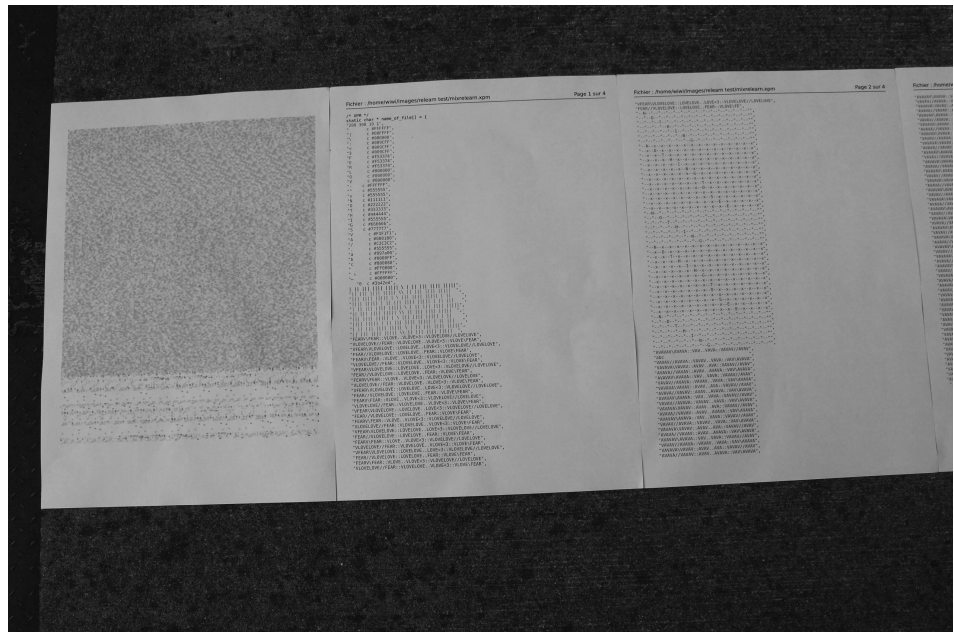
To finish , here are a few examples of the whole work process:
http://git.constantvzw.org/?p=relearn.off-grid.git;a=tree;f=layers/iceberg

Images
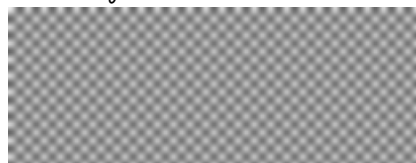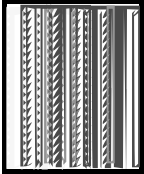
off grid → xtreme pattern methods

Authors: DIANE STEVERLYNCK   S V   ANNE LAFORET   LUDIVINE LOISEAU

XPM ⊃ Xtreme Pattern Methods

This worksession is a hybrid between Off Grid and Can it Scale to the Universe.

Searching to generate additional functions to XPM files.
Add "material" to a pattern?
Remap a pattern.

Proposal to gather a team to build collaboratively a set of small programs, a kit to play between text, patterns and scale.

Some possible pieces of the programme:
    − Text slicer (slicer1.py): to be able to produce a picture from a text through the xpm format. The text slicer cuts a text in slices of lines having the same amount of characters > Then adding header, footer and some quotation marks around the text slices, it ends up with an XPM format picturing your source text.
    − Colour palette generator: to associate colour to characters (in a non random way)
    − Splitter: to convert an XPM picture into coordinates. Can we go from pixels to plottable points?
    − XPM to PNG converter: so that everybody can read your pictured story into a standard viewer
    − Inflator: can inflate a picture duplicating its pixels
    − Colour digester?
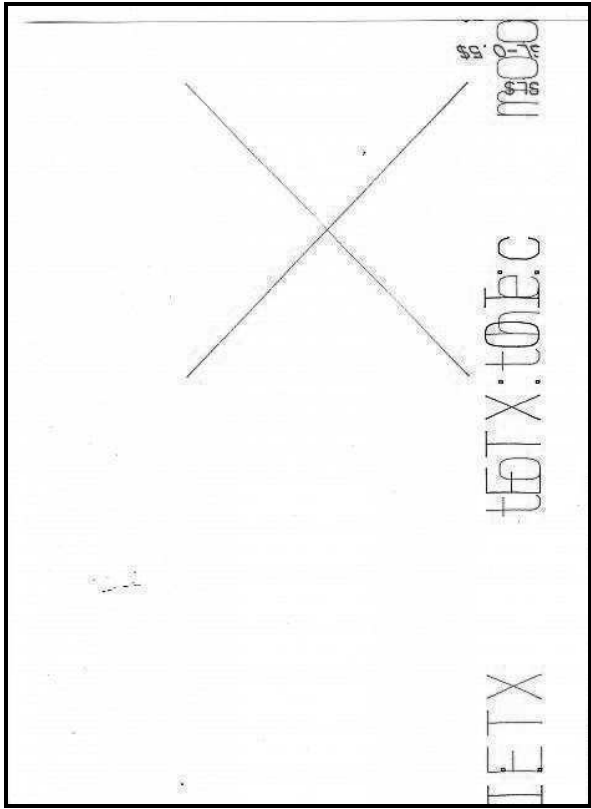
I Pedagogy

references

Authors: PIERRE HUYGHEBAERT   OSP   CHRISTOPH HAAG   COLM O'NEILL   S V   LORAINE FURTER   ANTOINE GELGON

"Don't for heaven's sake be afraid of talking nonsense!
But you must pay attention to your nonsense."
Ludwig Wittgenstein, quoted in "Teaching to Learn", Joseph Kosuth, 1991,
http://www.udel.edu/art/rmarquez/678/kosuth_teachingtolearn.pdf

Pedagogic research

Parallel School of Art
Parallel School of Art is a virtual and international school where people who want to self-educate themselves can share what they are doing and thinking, as well as their interests and projects. → http://parallel-school.org/ → http://web.archive.org/web/20100327162906/http://www.parallel-school.com/

The Public School
The Public School is a school with no curriculum. It is not accredited, it does not give out degrees, and it has no affiliation with the public school system. It is a framework that supports autodidactic activities, operating under the assumption that everything is in everything. → http://thepublicschool.org/

Hidden Curriculum
"Hidden Curriculum" looks at the unrecognized and unintended knowledge, values and beliefs that are part of the learning process in schools. It focuses on actions that go beyond existing norms and shows creative and productive ways of navigating through everyday life in school… → http://www.cascoprojects.org/?entryid=125

Invisible University
See also: L.A.W.u.N* Project #19, David Greene & Samantha Hardingham, Bedford Press, 2008
*Locally Available World unseen Network

"Architect, educator and founder member of Archigram, David Greene has been hugely influential for generations of architects and designers through his iconic projects from the 1960s, such as Living Pod and LogPlug, and his ongoing inquisitive, oppositional approach to teaching. The exhibition is representative of Greene's 'exploratory laboratory' teaching studios and is conceived as part of an evolving workshop…"
http://invisibleuniversity.org/

Potteries Thinkbelt School:
"In 1964, [Cedric] Price critiqued the traditional university system in his Potteries Think Belt project. Radically rethinking the basic concept of a university, his proposal provided a mobile learning resource for 20,000 students utilising the infrastructure of a declining industrial zone. Largely in response to the rash of university campuses being built during the 1960s, Price's proposal transformed the derelict Staffordshire potteries into a realm of higher education, mainly on railway tracks, creating a widespread community of learning while also promoting economic growth. His proposal 'took advantage of local unemployment, a stagnant local housing programme, a redundant rail network, vast areas of unused, unstable land, consisting mainly of old coal-working and clay pits, and a national need for scientists and engineers'. It offered a solution to the need for educational facilities whilst also offering to do something about the economic and social collapse of the Potteries. 'Further education and re-education must be viewed as a major industrial undertaking and not as a service run by gentlemen for the few,' opined Price."
— From http://designmuseum.org/design/cedric-price
In 1971, he also founded Polyark – Architectural Schools Network.
See also Paul Elliman, "A school is a building with a school in it", in Casco Issues XII: Generous Structures, September 2011.

London Anti-University, 1968-69, 49 Rivington Street, East-London
"Shortlived and intense experiment into self-organised education and communal living."
(see Jakob Jakobsen, The Antiuniversity of London — an Introdution to Deinstitutionalisation: http://antihistory.org/deinsti)

Scratch Orchestra
"The Scratch Orchestra grew out of a series of public classes in experimental music that Cornelius Cardew and other composers had been running in London in the late 1960s. These began at the Anti-University on Rivington Street continuing at Morley College, a workers education centre set up in the 19th century."
Simon Yuill, "All Problems of Notation will be Solved by the Masses, 23 May 2008,

An almost infinite database

"the Teachable File (tTF) is a working catalog of alternative art schools and a reference on education-as-art. The file delivers and demonstrates its subject by acting as both a resource for teaching and a student of its users. It forms and reforms itself through communicative action and engaged research.It is what it is; it will be what it will be." → http://teachablefile.org/

Lewis Carroll, Alice's Adventures in Wonderland, 1865, chapter 9

They had not gone far before they saw the Mock Turtle in the distance, sitting sad and lonely on a little ledge of rock, and, as they came nearer, Alice could hear him sighing as if his heart would break.

She pitied him deeply. "What is his sorrow?" she asked the Gryphon. And the Gryphon answered, very nearly in the same words as before, "It's all his fancy, that: he hasn't got no sorrow, you know. Come on!"

So they went up to the Mock Turtle, who looked at them with large eyes full of tears, but said nothing.

"This here young lady," said the Gryphon, "she wants for to know your history, she do."

"I'll tell it her," said the Mock Turtle in a deep, hollow tone. "Sit down, both of you, and don't speak a word till I've finished."

So they sat down, and nobody spoke for some minutes. Alice thought to herself "I don't see how he can ever finish, if he doesn't begin." But she waited patiently.

"Once," said the Mock Turtle at last, with a deep sigh, "I was a real Turtle."

These words were followed by a very long silence, broken only by an occasional exclamation of "Hjckrrh!" from the Gryphon, and the constant heavy sobbing of the Mock Turtle. Alice was very nearly getting up and saying, "Thank you, Sir, for your interesting story," but she could not help thinking there must be more to come, so she sat still and said nothing.

"When we were little," the Mock Turtle went on at last, more calmly, though still sobbing a little now and then, "we went to school in the sea. The master was an old Turtle—we used to call him Tortoise—"

"Why did you call him Tortoise, if he wasn't one?" Alice asked.

"We called him Tortoise because he taught us," said the Mock Turtle angrily. "Really you are very dull!"

"You ought to be ashamed of yourself for asking such a simple question," added the Gryphon; and then they both sat silent and looked at poor Alice, who felt ready to sink into the earth. At last the Gryphon said to the Mock Turtle, "Drive on, old fellow! Don't be all day about it!" and he went on in these words:

"Yes, we went to school in the sea, though you mayn't believe it
—"

"I never said I didn't!" interrupted Alice.

"You did," said the Mock Turtle.

"Hold your tongue!" added the Gryphon, before Alice could speak
again. The Mock Turtle went on:

"We had the best of educations—in fact, we went to school every
day—"

"I've been to a day-school, too," said Alice. "You needn't be so
proud as all that."

"With extras?" asked the Mock Turtle, a little anxiously.

"Yes," said Alice; "we learned French and music."

"And washing?" said the Mock Turtle.

"Certainly not!" said Alice indignantly.

"Ah! Then yours wasn't a really good school," said the Mock
Turtle in a tone of great relief. "Now, at ours, they had, at the end
of the bill, 'French, music, and washing—extra.'"

"You couldn't have wanted it much," said Alice; "living at the
bottom of the sea."

"I couldn't afford to learn it," said the Mock Turtle with a sigh. "I
only took the regular course."

"What was that?" inquired Alice.

"Reeling and Writhing, of course, to begin with," the Mock Turtle
replied; "and then the different branches of Arithmetic—Ambition,
Distraction, Uglification, and Derision."

"I never heard of 'Uglification,'" Alice ventured to say. "What is
it?"

The Gryphon lifted up both its paws in surprise. "Never heard of
uglifying!" it exclaimed. "You know what to beautify is, I
suppose?"

"Yes," said Alice doubtfully: "it means—to—make—anything—
prettier."

"Well, then," the Gryphon went on, "if you don't know what to
uglify is, you are a simpleton."

Alice did not feel encouraged to ask any more questions about it:
so she turned to the Mock Turtle, and said, "What else had you to
learn?"

"Well, there was Mystery," the Mock Turtle replied, counting off
the subjects on his flappers—"Mystery, ancient and modern, with
Seaography: then Drawling—the Drawling-master was an old
conger-eel, that used to come once a week: he taught us Drawling,
Stretching, and Fainting in Coils."

"What was that like?" said Alice.

"Well, I can't show it you, myself," the Mock Turtle said: "I'm too
stiff. And the Gryphon never learned it."

"Hadn't time," said the Gryphon: "I went to the Classical master,
though. He was an old crab, he was."

"I never went to him," the Mock Turtle said with a sigh. "He

taught Laughing and Grief, they used to say."

"So he did, so he did," said the Gryphon, sighing in his turn; and both creatures hid their faces in their paws.

"And how many hours a day did you do lessons?" said Alice, in a hurry to change the subject.

"Ten hours the first day," said the Mock Turtle: "nine the next, and so on."

"What a curious plan!" exclaimed Alice.

"That's the reason they're called lessons," the Gryphon remarked: "because they lessen from day to day."

This was quite a new idea to Alice, and she thought it over a little before she made her next remark. "Then the eleventh day must have been a holiday?"

"Of course it was," said the Mock Turtle.

"And how did you manage on the twelfth?" Alice went on eagerly.

"That's enough about lessons," the Gryphon interrupted in a very decided tone. "Tell her something about the games now."

Learning situations

— Thierry de Duve, Faire école, 1992

Thierry de Duve is one of the Erg founders (1972–76)

Practical and theoretical analysis of its beginning.

Theoretical: Foucault trihedron — history, art and esthetics as taboo words.

Practical: one premisse: you can make art with anything

Studios around 4 axes: structure, gesture, image, colour

But here de Duve mentions what was for him a mistake "the image cannot be an axis just like the structure and the color, perhaps the gesture"

Active debates around the social utility of the artist.

"The margin is perhaps actually the center."

— Scouts?

— "Éducation permanente", political concept

— Pierre's daughters school: active learning

— They study all subjects through one filter/theme

— For example: study mathematics, litterature, physics through the Middle Ages or through the arts

— Montessori

— Brian Eno's Oblique Strategies

— A deck of card with strategies: http://ming.tv/flemming2.php/___show__article/__a000010-001643.htm

— A contributive initiative has been set up, called "acute strategies", but it doesn't work anymore.

— Joseph Jacotot

– Jean Piaget
– Seymour Papert, creator of LOGO
– Alan Kay
– John Dewey, learning by doing:
https://fr.wikipedia.org/wiki/John_Dewey#.C3.89ducation_et_d.C3.A9mocratie_chez_Dewey
– Bauhaus
http://www.arkitekturbo.arq.br/vorkurs_eng.gif
http://ospublish.constantvzw.org/blog/education/bauhaus-meets-floss
http://en.flossmanuals.net/digital-foundations/

Various references

– From Fernand Baudin Students Publication, August 2013 (Bibliography, pp. 172-173)
– Thierry de Duve, Faire école (ou la Refaire?), Les Presses du Réel, 2008
– Dexter Sinister, "(We Would Like to Share) Some Thoughts on a Possible School Badge",
www.dextersinister.org/MEDIA/PDF/WeWouldLikeToShare.pdf
– "Notes for an Art School", Mai Abu ElDahab (ed.), Manifesta 6 School Books, 2006
– Jacques Rancière, Le Maître ignorant: Cinq Leçons sur l'émancipation intellectuelle, Fayard,1987
– Michael Kroeger, Paul Rand: Conversations with Students, Princeton Architectural Press, 2008
– "Everything is in everything — the Serving Library ou la méthodologie du fragment", Camille Pageard, in L'Art Même, n°54, pp.12-13.

– Casco Issues XII: Generous Structures, September 2011
The twelfth edition of Casco Issues, Generous Structures, is a playful enquiry into "playfulness" as a value in critical cultural practice. It positions alternative notions of playing against the grain of neoliberal ideologies of "lifelong learning" and "work as play". A selection of essays:
– Paul Elliman, "A school is a building with a school in it" (on Cedric Price's mobile school Potteries Thinkbelt, Martha Rosler's Library, Black Mountain School, Bauhaus…); also here
http://metropolism.com/magazine/2006-no4/een-school-is-een-gebouw-met-een/english
– Anne Querrien, "Mutual Schools" (play, Bourdieu, mutual learning…)
– David Reinfurt, "Everything is in Everything" (Montessori, Hume, James…)

– Thierry de Duve, "When form has become attitude – and beyond"(1994), Theory in contemporary art since 1945, Malden, MA: Blackwell, 2005, pp. 19-31

– The Whole Earth Catalogue, section "Learning"
"An item is listed in the CATALOG if it is deemed:
    Useful as a tool
    Relevant to independent education
    High quality or low cost
    Not already common knowledge
    Easily available by mail

– Berthold Brecht: Lehrstücke
The Lehrstücke (plural form; singular: Lehrstück) are a radical and experimental form of modernist theatre developed by Bertolt Brecht and his collaborators from the 1920s to the late 1930s. The Lehrstücke stem from Brecht's Epic Theatre techniques but as a core principle explore the possibilities of learning through acting, playing roles, adopting postures and attitudes, etc. and hence no longer divide between actors and audience. Brecht himself translated the term as learning-play,[1] emphasizing the aspect of learning through participation, whereas the German term could also be understood as teaching-play. →
http://en.wikipedia.org/wiki/Lehrst%C3%BCcke

– Michel Foucault, Knowledge/Power, Harvester Press, London, 1981.
– Robert Filliou, Teaching and Learning as Performance Arts, Verlag König, Köln — New York, 1970

– Dexter Sinister, Pamphlets:
– "Towards a Critical Faculty", Stuart Bailey, Parsons School of Design, The New School, New York, Winter 2006/7, http://www.dextersinister.org/MEDIA/PDF/criticalfaculty.pdf
– "(Only an Attitude of Orientation)", Stuart Bailey, Office for Contemporary Art Norway, Oslo, Winter 2009/10, http://www.dextersinister.org/MEDIA/PDF/OaAoO.pdf
– "From the Toolbox of a Serving Library", Stuart Bailey, The Banff Centre; The Serving Library, Summer 2011, http://www.dextersinister.org/MEDIA/PDF/FromtheToolboxofaServingLibrary.pdf

learning situations

Authors: PIERRE HUYGHEBAERT   ERIC SCHRIJVER   OSP   PETER REID   COLM O'NEILL   S V

ANNE LAFORET   LUDIVINE LOISEAU   FEMKE SNELTING

Live notes : http://osp.titanpad.com/241

(Un)defining Relearn

Relearn as a prototype for rethinking design education. What are specific questions, topics central to Relearn?

From relearn.be about page:

"This hard- and software represent a technological and cultural heritage that is seldomly questioned"
"A potential that goes unexploited; a more intimate and experimental relation to its toolbox."
"The culture of free and open source software challenges traditional education paradigms because knowledge is exchanged outside institutional borders, and participants move between roles."

Who's there?
- Ludivine Loiseau (Erg, OSP)
- Damien Safie (Erg, Kidnap Your Designer)
- Alex Leray (La Cambre, OSP)
- Caroline Dath (Erg, Kidnap Your Designer)
- Pierre Huyghebaert (La Cambre, Speculoos, OSP)
- Christoph Haag (LAFKON)
- Magda Tyzlik-Carver (University College Falmouth, Aarhus University)
- Diane Steverlynck (KASK)
- Femke Snelting (Piet Zwart Media Design, Erg, Constant)
- Anne Laforet (ÉSAD Strasbourg)
- Cyril Makhoul
- …

Round table

REDEFINE WHAT WE TALK ABOUT WHEN WE SAY "EDUCATION".

3 main points :

1. Cultural heritage of soft- and hardware is rich but unexplored.

2. Relation to the tools is rich and…

Diane: Use opensource things as a concept is challenging.

The concept of F/LOSS is not accessible enough.

Try to introduce the Open Source concept around design

education.

You stick to what you learn during your study.
It's linked to money questions, making a living, efficiency, etc.
Empowering, not tooling.
To be clear from the beginning.
Learn to learn tools.
Ex. The school (Piet Zwart Institute) is linked to the student, they learn how to learn tools.
A question of critical mass.
Ok, but free software is not the only way to do this.
Some students come here to learn how they can learn this kind of school to students… (on a professional way).
The founding of the school.
The term "profession" is embedded in the course's name.
You have to make sure to not scare the students (and the teachers).
Taking them away from their comfortable environment.
If you take them away youre breaking the deal.
Should those questions already be taken into account earlier in the curriculum? Primary school, etc.?

Anne: There is a split between design and art sections at her school.
Ludi: It's more to give them a different relation with their computers.

How to switch this relationship between those who teach/ those who learn.

Magda: don't know about role switching, but my relation with the computer is something different.
With high tuition fees: one feels the need to get out of the school with practical skills.
So with regards to learning as an experience versus learning a "product" (programs…) the balance skews towards the latter.

Did that change your relation with the student?
Alex: Here you feel less sollicited. You're not only the teacher.
Diane: The fact that the organisers were many and that they changed groups and positions helped a lot.
Caroline: I didn't get what I was expecting but I liked it. I expected a teacher. Eg. yesterday no one from the group had knowledge about what we were working on. No one was really the teacher. I expected to learn tools, but it was more learning about myself, about how to teach…
Magda: Actually it was very practical for me.
Thomas: Git is a living metaphore of conflicts that can happen in a

group. A meaningful experience of learning.

Steph: Ownership of production by students. Schools are not clear about ownership of students works done in the frame of the curriculum. For some students, the Copyright sign is already there even if they haven't already finished their work... Teaching free software technology to teach free culture and putting attention on learning situation.

Also linked to the validation system.
It's important to encourage them to work together and not to only judge on individual results.
In a group dynamics, the place they give to the copyright is quite different.

Christoph: The border between student life and professional life should blur.
Femke: What is interesting about Free Software coming to school blur the boundaries between professional/experimental in a more constructive way. With Free Software, you keep learning.
Very real questions can bring in more experimental side (school).
Introduce the school, in the open source culture.
The scope of F/LOSS is also often reduced to Processing, but there is so much other small tools which can be used.

Christoph :Processing, it's a good beginning.
Thomas: It's so clearly laid out and documented, then it's maybe more accessible for the beginners.

Can we open the gate? Not just about Free Software, about richness, technicity, complexity?
The imagination of Processing is ... (more later, let's compare with the terminal?)
In the UK no more distinction between academic and professional education.

Discuss "learning situations"

— Listing some of the "learning situations", methods and tactics that worked and ones that did not.
— Should caring for the budget and toilet paper be part of the school?
— What if we'd remove "summer" from "summer school"?
— Documentation and how it can be (more) useful?
— Gender issues?
— Theories of group/educational work that could be useful for Relearn; see also http://relearn.be/r/pedagogy::references

List of the different methods we experimented this week:
— Switching from sessions takes out the pressure of finishing a project, refocus on learning.
— Mixing background and skills, heterogeous groups.
— The question of the basic skills that could be asked: is it useful, or then we miss some interesting questions.
— Putting in common the struggles. Multiple people of each level of confidence.
— Rotating the leading role. Performance of being a teacher. How to deal with people who feel like they can't teach anything (although they do). How to acknowledge that we learn from those people too?
— Time keeping. Bell. Seem unfree but helps. Bell sounds too much like school bell? Time keeping mixing presentations and practical time…
— Git as an evidence. Immersion as a way to learn it, not the magistral course.
— To find meaningful examples, to open imagination, to excite when you explain a tool. "Failure": the bash/git introduction of the "Can it Scale to the Universe", too technical.
— Start with the terminal? To do design?
— What if you make the carrying of a school part of the curriculum? Toilet paper, food? Question of scale, how does it scale in people and time. Ways to enable the caring of learning situations. Documenting this list. Food creates an atmosphere.
— Lodging + paying. Minimal fee? People lodging each other. What would be a campus for summer school?

generous utopia

— Free Software as a point of departure, constraint, or point of reference and challenges related to this.
— Design and technology teaching with FLOSS: what difference can it make?
— How does this link, relate to mainstream technologies, initiatives?
— Free Software meets Free Content: licensing and publishing issues
— How Relearn could speak back to other communities in F/LOSS (should schools invest in Free Tools for example?)

How do you deal with the tension between welcoming people and limiting what is allowed (like "we use only free software").
Virtual boxes as a way to take away some restrictions?
The rules have to be shared.
A question of commitment.
It becomes more tensed in a "formal" education.

PZI example: everyone installed Gentoo. It was a requirement. What scale are we talking about. How does it links to validation systems?

Scaling relearn

— Workshop and/or school? Ambitions: Can it scale to the universe?

— Extending (formalizing, full time Relearn?), repeating (a winter school, another summer school next year?), paralleling (relearn.nl, relearn.co.uk?)

— Validation, assets, selection

— Bringing Relearn experiences into formal education. See also: http://lgru.pad.constantvzw.org:8000/177

— Other initiatives connected to Relearn. See also: http://www.f-lat.org and http://lgru.pad.constantvzw.org:8000/145

— Post-Relearn: how relearn.be could be used (mailinglist, wiki/pad)

What/how if we do it again?
Would be a 2 week experience? How can we continue the discussion?
Normally next year would be the last summer school, it's the end of the residency… but there's a project to turn the house into a more permanent school.

To be repeated or to be scaled?
You allow yourself to lose control for a week, but probably not for two years.
School: other teachers, people not in line with the ideas. We are isolated.
The expectation and imagination of students are very important.
School as a service. Times are tough. Difficult for students to be generous. Not being valued for that.
How to escape from the anecdotic.
Generosity as the key even if the main message to the student is around shape and individual personality.
It is important to connect to other practices, to other teachers.
This summer school is a gate to enter these questions.
Maieutics: the art of giving birth to ideas.
What reputation can the school gain from using free software?
Question of publishing.

Relearn.be: growing a network of teachers thinking about free sofware and education. Second meeting of it.
Mailing-list is important.
80Column mailing-list.

copyright licenses

Authors: ERIC SCHRIJVER   AURÉLIE COMMERCE   S V   ANNE LAFORET

Within social movements that criticise conventional notions of intellectual property, there are several strands. A party like the Pirate Party believes in abolishing copyright altogether. Free and Open Source software comes from another legal tradition: that of embracing the legal framework of copyright, but to enhance it with special licensing agreements that stimulate sharing and reuse.

Of what you create, you're the copyright holder by default. Even without putting © signs or special notices,—by default what you make falls under copyright. That means: for any kind of reuse of the material, someone needs to get your permission. When you write a licence, it's a way of saying: you can reuse the files, under these conditions. I've got the right to these objects but I give the right to the others to transform it.

You use traditional law to do something else: to make clear under what circumstances you, as the copyright holder, are willing to share.

Constant licence

Free art license 1.3 http://artlibre.org/licence/lal/en

For Constant it is important to have a licence that links to art history. The Free Art Licence is rooted in existing. It's a manifesto/not a legal document (we understand the law — it's written by artists, not by lawyers). The law must be written by "people" too, not only by lawyers.

What is important too, is that it does not have a non-commercial clause. We do not want to distinguish between professional and amateur, nor marginalise artistic practice that is not corporate.

OSP licences

http://osp.constantvzw.org:9999/p/README.txt

OSP uses a more diverse range of licences, depending on the

kind of elements which are shared. Many licences have been developed for one specific kind of work, but with OSP, there's a lot of different kinds of work: fonts, images, websites, layouts, writings, scripts…

They try to have a specific licence for each specific kind of work:

– For software: Affero GPL v3 (software), https://www.gnu.org/licenses/agpl-3.0.html

– "You can use my work, if you also let the licence for the common sharing" (the "strongest" licence of the General Public License)

– For written and visual work, the Free Art Licence 1.3 http://artlibre.org/licence/lal/en and Creative Commons Attribution-Share Alike, http://creativecommons.org

– For typeface, the SIL Open Font License, http://scripts.sil.org/OFL

They don't believe in non-commercial licences.

Furthermore

http://www.freedomdefined.org

5 Debrief

debrief

Authors: PIERRE HUYGHEBAERT   ERIC SCHRIJVER   OSP   CHRISTOPH HAAG   S V   ALEXANDRE LERAY

THOMAS BUXÓ   LUDIVINE LOISEAU   FEMKE SNELTING

February the 9th, in their weekly meeting, OSP holds a debrief of the Summerschool experience. Femke Snelting writes an e-mail with her feedback, which osp uses as a «fil conducteur» for their meeting.

Hey,
Super you'll do a debrief even before dust has settled —sorry I cannot join tonight.
Again, I much enjoyed the week and learned a lot. It was energizing on many levels. Thank you!!
I wondered if you should announce tonights debrief on the Relearn mailinglist? I think it could be interesting to open this up to potential comments from non-OSP participants.

Some notes to use or ignore!
        — Playful structure (well prepared but with space to manoeuvre); sharing responsibility for both practical, conceptual teaching/learning; amount of participants, three parallel worksessions, great food… all worked well.
        — Shifting between groups was essential for stimulating sharing teaching and learning roles.
        — Question: did we really experiment/prototype school or rather push the learning situation formerly known as "workshop" to another level? Discussion on education showed that we still have a long way to go before we can constructively link this to formal education (how to really bring essential elements such as curiosity/generosity/diversity into a curriculum? If it would be an independent educational initiative, questions of validation, funding, positioning).

It's also related to length of the experiment (5 days), it's clear that it doesn't relate in that sense to a whole curriculum.
The main differences with standard workshops is that there is

no clear production… Caroline clearly explained halfway that
she imagined more a workshop approach and was somehow
disappointed that it was more theoretical than practical… Some
people felt they had nothing to teach, they just wanted to
learn, but it looks like many people in the end got it.
There was a lot of time spent on how to use Git. Femke,
Aurélie and others' experiments on exquisite corpses were not
only playful but super interesting in terms of the sociality
proposed by the tool.
Christoph criticised the introduction to the terminal: his
criticism was interesting just to think about how to turn
something that felt like a "passage obligé" into something
interesting in itself — diff and patch in Git can change the
way you understand this tool… Git and the terminal are always
what we begin with; Git is too implicating in the workflow to
just keep a proper introduction. It's good to keep in mind to
explain cultural conventions embedded in these systems…
Doesn't using these techniques force us into a traditional
situation where we have the expertise?
Not everyone felt like it took so much time…

Treating these questions makes it also more than a workshop.

Validation

— Beforehand we thought of making something like a mock
diploma… we didn't find a good form for that… but did we miss it
necessarily?

Rhythm

— Is a week way too short?

Gijs: One week working with all these tools is short… I'd say
at least two weeks.
Is OSP able to organise much bigger events?
Open the school to other ateliers of the house?
With less participants?
Two others don't think so.

Making it longer would increase the chance to meet more
people.
No one seemed to be lost

Presentation times (restitutions) were too long. Losing some

energy.
Codify the form more.
How do we make more or less people aware about what is at
stake in the process.
README, completing repositories, before presentation. Include
the documentation process in the restitution process.
We liked couple presentations, can people present other
people's projects? Nice! (so you work out together on what
project to let the other present?)
To use Visual Culture as a place to restitute.
Forcing no feedback from the authors.
Explain to the partner the project through git/doc/readme.

— Nice to have both students and tutors participating.
Audience was mixed but it would be interesting to think about
how to push its limits (somehow almost all participants had
experience with formal art education?).

For the OSP's here the mix feels quite nice… Wide range of
different levels of experience with free software culture… Do
you mean more people from engineering culture? But these we
have to invite specifically, because our contacts are of course
in a specific sense.

— Documentation effort was certainly made (issue tracker,
pads, Git, pictures) but it produced only half-legible documents;
will it be still a lot of work to edit into a publication (very curious
about it though)?

We have to find ways to bring people into the writing process.
Eric and friends built the tool right before the event. It
should have been done beforehand. Eric's tendency to invent
tools and not use enough existing ones. Developing tools for
documentation and documenting at the same time is exciting,
but hardly doable. Maybe it is also a question of building up
a practice around this (reuse the tools developed this time a
next time around).

Network problems were really limiting → Intranet that
replicates at night? Create a documentation day. Not on the
last day. But the pads managed to keep up.

IRC is an interesting format. Structurally time-based. Also
keeps traces of thing that would otherwise not be archived.
People are already lost between all those ways of
communicating. Means don't need to be for every groups. It can
respond to specific situations.

How do we do this publication?

The process involves a script with a table of content of the
different pads, printing individual pads to PDF and then
combine them. Inject some structure.

— For a future edition, how to think about addressing who's
paying (participants?), who gets paid (usually: tutors and
organisers) and the balance of give and take.

If everyone is "teaching", it is true that it is weird to pay
a subset of the people for this role. Now only OSP got paid.
That makes sense if you say paying is for the facilitator
role, because in that sense we were the only ones to have that
role…
But yes, maybe we could also find money to pay all
participants. Though that would be a hard sell to any funding
body.

— Metafont/MetaPost as such overpowered the more generous
subject "Gesturing paths". It worked next to "Off Grid" and
"Can it Scale to the Universe" (both less focused on a specific
technology) but it would have been nice to inject some more
conceptual thoughts.

At the same time, Metafont was the only clear, "concrete"
subject at the time of the invitation… I think it is
necessary to have concrete elements like this to be able to
find people who are willing to engage in the experiment. When
we launched the call, "Off Grid" was undefined and "Can it
Scale to the Universe" described quite an abstract concept. In
describing what is Relearn, we need a good balance between the
concrete and the abstract.

— A better connection to Flemish art/design schools will be even more important when another Relearn would happen in Brussels.

We tried to get students from KASK but it was not super easy. I think we are quite linked to the Francophone-speaking art school scene. We never get internship requests etcetera from Flemish schools… What to do about it?

Why not organize a kind of meeting at Sint Lucas (500 meters from Variable): we need you for "Variable/Art Libre". OK, let's do that.

Prepare before hand. How do we reach Dutch-speaking students? Very important to take this seriously.
Dig the connexions with KASK: Diane, Bram and ask Wendy/An for contacts.

Intermediary Relearn days between now and next year?

— Focus on "graphic" design (typography, printing, patterns) helped easy flow between subjects/people. What if it would cover larger territory, i.e. sound, installation work, electronics? This time OSP took on the school and gave it a sense of coherence; how would the organisation of it work if not limited to "graphics"?
— Would be curious about the possibility of a "theory" injection, i.e. lectures or collective reading sessions?
— Any thoughts on connected Relearn elements in here http://www.f-lat.org ?
— Lack of some kind of physical activity was brought up a few times. Dancing and bowling in the middle of the week instead of as a final release?
— How would this work in another location (i.e. another institution or an empty school building?) What would need to be arranged?
— Could there be a better/more playful/informative approach to discuss licenses; maybe also an introduction to F/LOSS? The discussion was interesting though.

— Do you already have ideas about a follow-up? A few things crossed my mind:
— Connect Collision II workshop to Relearn energy (some issues/discussions were linked to it)
— An edition of Relearn in collaboration with Thomas B. (KABK) and Hochschule für Grafik und Buchkunst Leipzig for

LGM 2014 (April 2014)?

We're very much up for it at the KABK! Let's discuss it ASAP
so I can start massaging the budget-people early enough.
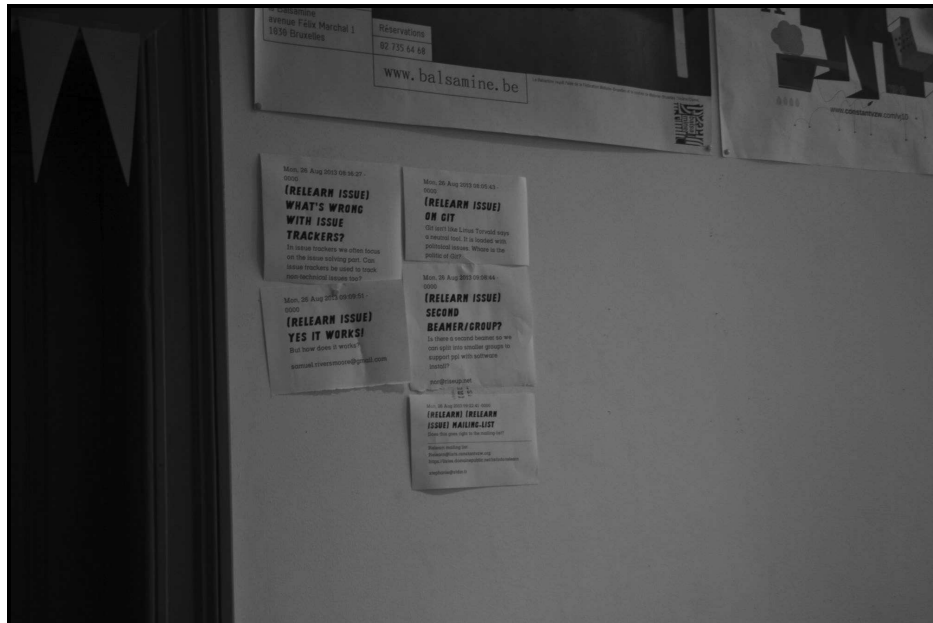
    — A two week Relearn to finish in Variable (earlier in summer;
we'll need to be out of the building by end of July 2014)?
    — Reconnect to Medialab Prado; it seems a mix of summer
school and Interactivos might make sense (needs more extensive
funding)

    — I am happy to help for the reporting to VG (let me know
when?).

6 Images

Authors: s v

7 CheatSheets

git and the command line

Authors: JUANCHO CAPIC   ERIC SCHRIJVER   WENDY   OSP   MAGDA TYZLIK-CARVER   CHRISTOPH HAAG

PETER REID   S V   LORAINE FURTER   ANNE LAFORET   GIJS HEIJ

Command—line

— Another way to interact with your computer.
— Use text commands to instruct your computer.

To open a terminal: Accessoires/Terminal.

BASIC TERMINAL COMMANDS
The first thing written in the terminal is the path, indicating
where you are with the terminal, and the way to get there through
the enclosing folders. The ~ sign represents your home directory, it
is equivalent to the path "/home/user".
```
NameOfComputer:~ user$
```

In tutorials in general, we use $ to say "after that $ type
something". For instance $ cd means "type cd". Here, we decided
to remove the $ sign so we can just copy paste directly into the
terminal.

```
pwd
```
Print Working Directory: tells you where you are on your
computer.
```
mkdir relearn
```
MaKe Directory called "relearn".
```
cd folder
```
Change Directory to "folder"
```
cd ..
```
Go up one directory.

```
cd nameofafolder/nameofafolderintheotherfolder
```
Go into a folder that is into another folder.
```
cd
```
Go back to the home folder.

```
man nameoftheprogram
```
Show manual for a program (e.g. man ls).
```
sh
```
Bash language.
```
#
```

Not for computers :) To write a message to another human reading the file.

    mv

MoVe/rename. Like:

    mv file1.jpg file1_new.jpg

Moves file1.jpg to file1_new.jpg.

    cp file1.jpg file1_new.jpg

Copies file1.jpg to file1_new.jpg.

And in general:

    [nameofthesoftware] nameofthefile

Open a file with a precise software, you need to be in the right folder, see up there.

    ls

See what files are part of the folder you are in.

    touch nameofthefile.txt

Make a new empty file (if it already exists, it changes the modification date to now).

VARIOUS TIPS

    — The terminal commands basically call programs. cd is a little program. But you can call larger programs like mpost (MetaPost) too. Which commands you have available thus depends on which software you have installed.

    — The parts you put after the name of the command, are called the arguments. Arguments are often the names of files: mpost drawG.mp will call MetaPost to convert the file drawG.mp.

    — You can use switches to supply a program with further options. They are like arguments, except that you specify them with a dash, e.g.   ls -lh

    — lists files in the current directory in a Long and Human readable format

    — Use the tab key to autocomplete names of programs or files.

    — To have spaces in filenames you have to put quotes around the filename: "example 1.jpg" or escape the space in the filename: example\ 1.jpg. "Escape" means excluding the following character from bash interpretation and is done with the backslash \ character.

    — Use the up arrow ↑ to access a memory of previous commands, and the down arrow ↓ if you went to much into the past.

    — && means: do two actions with two programs one after the other, but only if the first one is successful:

    — mpost drawG.mp && evince drawG.1

FURTHER READING

Practice:

– Zed Shaw: The Command Line Crash Course

– http://cli.learncodethehardway.org/book/

– I like tight pants and mathematics and absolute beginners: unix for art students

– http://i.liketightpants.net/and/absolute-beginners-unix-for-art-students-part-1

– http://i.liketightpants.net/and/absolute-beginners-unix-for-art-students-part-2

– http://i.liketightpants.net/and/absolute-beginners-unix-for-art-students-part-3

–

Theory:

– Florian Cramer, "(echo echo) echo (echo): Command Line Poetics", http://reader.lgru.net/texts/echo-echo-echo-echo-command-line-poetics/

– Thomas Scoville, "The Elements Of Style: UNIX As Literature", http://theody.net/elements.html

– Neal Stephenson, In the Beginning was the Command Line, http://www.cryptonomicon.com/beginning.html

Note to selves: mistakes from the command line are almost always because of rushing too quickly and making spelling errors. Meditation is an answer, if not the only answer.

Git

Git is a version management system. It is a way to keep track of work that has been done, and allows a group of people to work collaboratively. One is able to see who has changed what. People push their documented changes to a shared repository and collaborators can synchronise.

More about Git: http://relearn.be/r/notes::merging
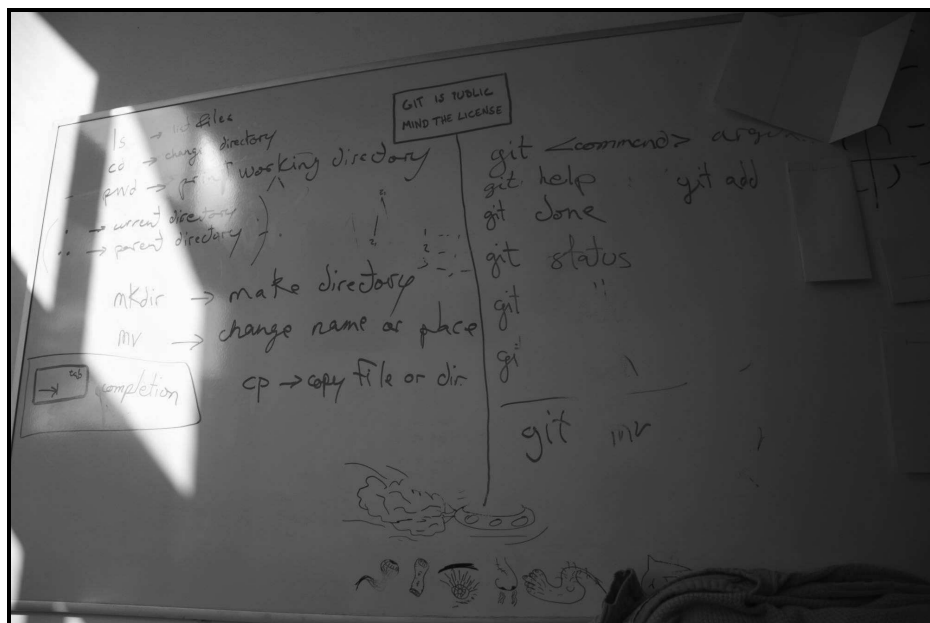
SETUP GIT

You need to tell Git with what name you want to "sign" your commits.

Open up a terminal window and type these commands line by line in the terminal:

```
git config --global user.name "My name"
git config --global user.email "your@email-
address.com"
```

To have colours on your terminal (makes it more legible):

```
git config --global color.ui true
```

We also need a way to authorize our server that you can write to it.

If you have the virtual machine that's already done.

Otherwise, you need to generate an "ssh-key".

You can check if you already have one:

```
cd ~/.ssh/
ls
```

If there are files like id_rsa.pub you already have a key!

If not, run :

```
ssh-keygen -t rsa -C "your@email-address.com"
```

It will ask you where to put it, you can just type Enter for the default location.

Then it asks you for a passphrase, meaning a password.

Then you display the key:

```
cat ~/.ssh/id_rsa.pub
```

Copy it (Ctrl-Shift-C) and paste it on the pad, a bit below (ssh-keys).

Then, you're ready to clone the Relearn repositories :

Maybe first, create a Relearn directory on your computer.

It is already created on the virtual machine.

```
mkdir ~/relearn
cd relearn
```

So now you can clone the worksessions repositories:

```
git clone
git@git.constantvzw.org:relearn.gesturing-paths.git
git clone git@git.constantvzw.org:relearn.can-it-
scale-to-the-universe.git
git clone git@git.constantvzw.org:relearn.off-
grid.git
git clone git@git.constantvzw.org:relearn.Xtreme-
Pattern-Methods.git
```

And if you want the repository of the website:

```
git clone git@git.constantvzw.org:relearn.be.git
```

And/or the one from the publication:

```
    git clone
git@git.constantvzw.org:relearn.publication.git
```

Exchanging files between the virtual machine and the host computer:

http://www.ludi.be/erg-libre/index.php?n=PmWiki.VirtualBox

To clone a repository

```
    git clone git@git.constantvzw.org:[repository name]
```

Basic commands

```
    git status
    git pull
    git add
    git commit
    git push

    git status
```

shows the state of your files (have they been uploaded via Git or not?) When they are red, they are on your machine, but not in the Git repository.

```
    #     "modified" [those that were modified]
    #     "untracked files" [those that are new, not in
the Git yet]

    # On branch master
    #
    # Initial commit
    #
    # Untracked files:
    #   to include in what will be committed:
    # git add ...

    git pull
```

will try to update your local files with the changes other people have put on the server.
git will try to 'merge' your changes with the changes made by others.
sometimes you need to resolve the conflict yourself

```
    git add filename
```

will update or create this file in the git index
it adds it in the files "to be committed"

```
    git reset HEAD filename
```

takes the file out of the git index

```
    git commit
```

will finally commit it on the repository
it opens nano, a text editor, to add a commit message describing
your change
so you must add a description to the changes you are committing
try and type text at the top of the editor
the first line is the title/summary of the change
add a blank line
then expand if you want!

see the commands at the bottom: ˆX to quit the editor, Y to say
Yes: save
DONE!!!
    `git log`
shows the history of the commits
it shows it in a shell, the sign : means there are several pages, and
you can scroll with the arrows]
to close the screen type q

    `git push`
push back your changes to the server.
if others have also pushed in the meantime, you might need to pull
first.

Order of git

    `git add` → `git commit` → `git pull` → `git push`

View Git diffs in another programme

(get the id of the file you want to look at through git log) → I used
Meld
    `git difftool`
`12bc7aeead4e68abb206acb6803fa0205e2e9c93 petersfile.sh`
Merge tool candidates:
    – opendiff
    – kdiff3
    – tkdiff
    – xxdiff
    – meld
    – kompare
    – gvimdiff
    – diffuse
    – ecmerge
    – p4merge
    – araxis
    – bc3
    – emerge
    – vimdiff

TO CREATE A NEW GIT REPOSITORY

You need a space on a server to host your project. You can host it on your own server, on Gitorious http://gitorious.org/ or on GitHub https://github.com/. Gitorious is a free software Git hosting service, GitHub is a similar service which is closed-source but more popular. For those two online services, you need to create an account, and then there are simple explanations to create a new repository.

Then, you can copy/paste the address to clone your project on http://relearn.be/w/relearn::repositories so that we have a shared place to share different projects. Put a one line description to invite people to look at your project.

using the plotter

Authors: ERIC SCHRIJVER   ELEANOR GREENHALGH   CHRISTOPH HAAG   S V   ANNE LAFORET   GIJS HEIJ

A small introduction to Roland, the plotter.

– http://ospublish.constantvzw.org/images/Relearn-2013/relearn_small_1072

– http://support.rolanddga.com/Docs/Documents/departments/Technical%20Services/Manuals%20and%20Guides/UMDXY1350a.pdf

So our nice new plotter is from the late eighties —very camp— and speaks HPGL.

Documentation on HPGL is quite vast:
– http://en.wikipedia.org/wiki/HPGL

– http://music.columbia.edu/cmc/chiplotle/manual/chapters/api/hpgl.html ← Documentation by the python library I use, only the commands they've wrapped are in this list, but as far as I know they cover all of them.
– http://www.isoplotec.co.jp/HPGL/eHPGL.htm ← with pictures :)
– http://paulbourke.net/dataformats/hpgl/

Installing Chiplotle

This is the Python library that lets you talk to the plotter. It acts a sort of driver/abstraction layer. It's also possible to send commands with the cat command, but I hadn't any success, and you'll run into problems with big files since the plotter only has a tiny buffer (512k).

```
sudo easy_install -U chiplotle
```

Connecting the plotter

Connect the plotter via USB to your laptop and turn it on. It should be in /dev/ttyUSB0, or somewhere similar (e.g. /dev/tty/USB1). Run:
```
chiplotle
```
It will ask to create a directory on your laptop; hit enter to

continue, then enter again to go into interactive shell.

If you get error "no plotter found" when starting chiplotle, exit chiplotle to get back to the bash terminal:

```
exit()
```

To change permissions so daily user can write to plotter:

```
sudo chmod 777 /dev/ttyUSB0
```

Or to avoid doing this every time plotter is plugged in, add daily user to group "dialout".

Now restart chiplotle:

```
chiplotle
```

Choose the plotter that best fits your hardware.

When in doubt choose the generic "Plotter".

```
[0]  DPX2000
[1]  DPX3300
[2]  DXY1300
[3]  DXY880
[4]  HP7475A
[5]  HP7550A
[6]  HP7575A
[7]  HP7576A
[8]  HP7585B
[9]  HP7595A
[10] HP7596A
[11] Plotter
```

OSP's plotter "Roland" is a DXY-1100, so type 2 and press Enter.

Chiplotle shell

You should now be in the interactive Chiplotle shell, with the chiplotle> prompt.

See this tutorial for learning chiplotle syntax:

http://music.columbia.edu/cmc/chiplotle/manual/chapters/tutorial/intro.html

Units and coordinates

Roland is approx 16000 × 11000 units wide. Use these units in chiplotle commands.

- left bottom: 0,0
- far right: 16158
- top: 11040
- 40 plotter units = 1mm (is this true?)
- PR: point relative
- PA: point absolute

To print whole files

Instead of sending commands one line at a time to the plotter via the Chiplotle shell —requiring an esoteric pythonic syntax— you can write plain .hpgl files and send them to the printer.
Chiplotle provides a script that helps you do this :

```
plot_hpgl_file.py
```

This script by default lives in /usr/local/lib/python2.7/dist-packages/Chiplotle-0.4.1-py2.7.egg/chiplotle/scripts. You can copy this script to wherever is convenient.
From the terminal, give your .hpgl file as an argument to this script:

```
plot_hpgl_file.py myscript.hpgl
```

You may have to choose your plotter model again. After a short pause it should print your file!

To get a preview of your .hpgl file you can just use:

```
convert file.hpgl file.png
```

Hello Plotter

```
IN;
IP0,0,16158,11040;
SC1488,0,0,1052;
VS1;

SP1;
PA1033.4863,270.10254;
PD;
PA1031.2642,269.94995;
PA1027.351,268.29443;
PA1024.3911,265.33453;
PA1022.7356,261.42136;
PA1022.583,259.19922;
PA1022.7356,256.97708;
PA1024.3911,253.06389;
PA1027.351,250.10399;
PA1031.2642,248.44849;
PA1033.4863,248.2959;
PA1035.71,248.44849;
PA1039.6239,250.10399;
PA1042.5829,253.06389;
PA1044.2372,256.97708;
PA1044.3896,259.19922;
PA1044.2372,261.42136;
PA1042.5829,265.33453;
PA1039.6239,268.29443;
PA1035.71,269.94995;
```

```
PA1033.4863,270.10254;
PA1033.4863,270.10254;
PU;
```

The documentation of chiplotle is quite nice:
http://music.columbia.edu/cmc/chiplotle/manual/index.html
And a tutorial (better than mine):
http://music.columbia.edu/cmc/chiplotle/manual/chapters/tutorial
/index.html

tex

Authors: SARAH MAGNAN   VINCENT MOISAN   S V   LORAINE FURTER

– An introduction to Tex:
http://makingtexwork.sourceforge.net/mtw/pt01.html
– The Tex catalogue online:
ftp://ftp.riken.go.jp/CTAN/help/Catalogue/brief.html
– Comprehensive TeX Archive Network:
http://www.ctan.org/

Stuff to look at:
```
\usepackage{mftinc}
\scriptsize
\pagestyle{empty}
\raggedcolumns
\begin{tabbing} →tabulation !
```
http://tex.stackexchange.com/questions/15866/setting-tabs-by-declaration-rather-than-by-example
```
\raggedcolumns ??
```

Document structure

You should think the structure and the layout as for web. Define boxes, areas as footer, header, margins, body. You will then fill those areas with elements as text area, columns…

```
\documentclass
\usepackage
\begin{document}
\begin{header}
\end{header}
\begin{footer}
\end{footer}
\end{document}
```

Syntax

```
\noindent → no indent
\vspace{.5cm} → add vetical space
{dimension}
\hspace{.5cm} → add horizontal space
{dimension}
```

`\hrulefill` → add horizontal line (default size)
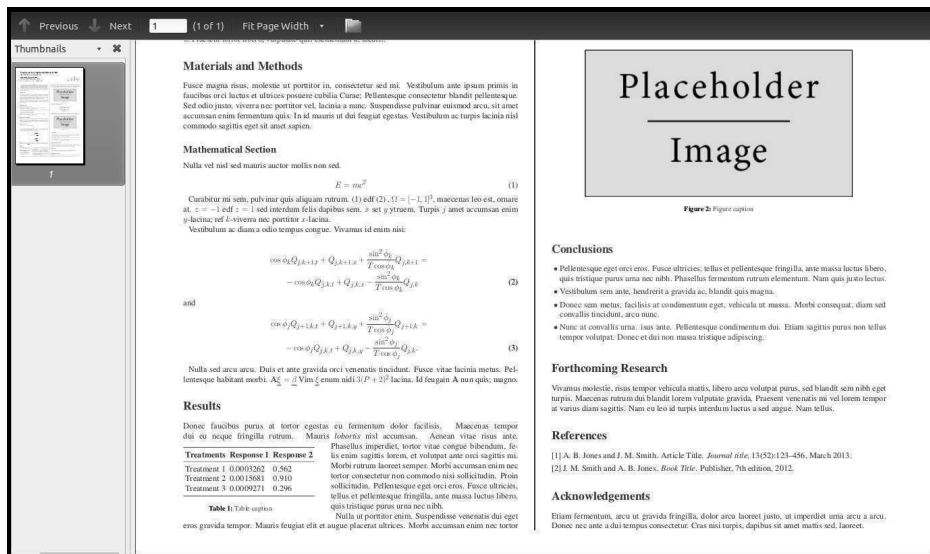`\\` → line break

# Examples

pdf/tex/dvi generator online (from Simon):
http://wrttdwn.com/IDD/demo/idea1.html
A0 poster 2 column layout:
http://www.latextemplates.com/template/a0poster-portrait-poster

Layout

How it's supposed work:
http://en.wikibooks.org/wiki/LaTeX/Page__Layout
Layout package: how to draw package in a document… not design
the layout document itself… http://www.ctan.org/tex-
archive/macros/latex/contrib/layouts
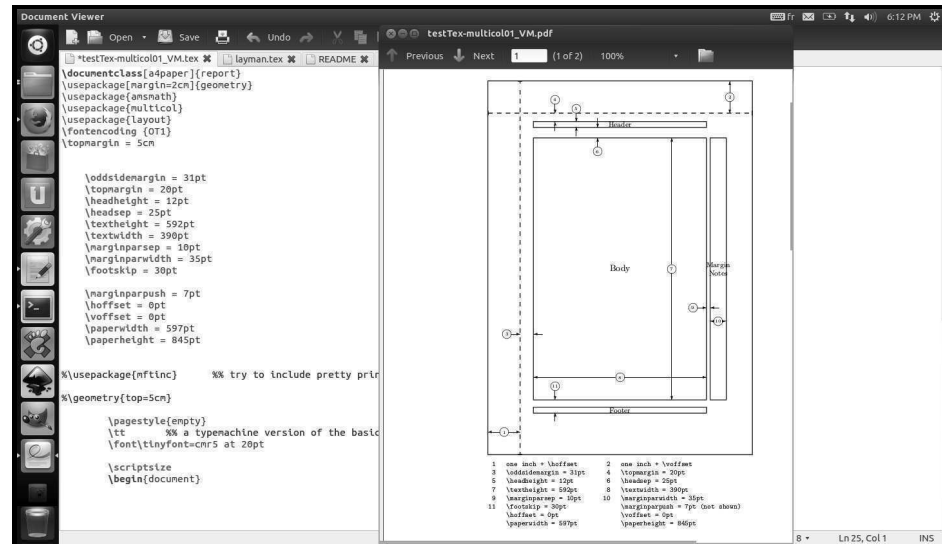
Layout diagram with layouts package.
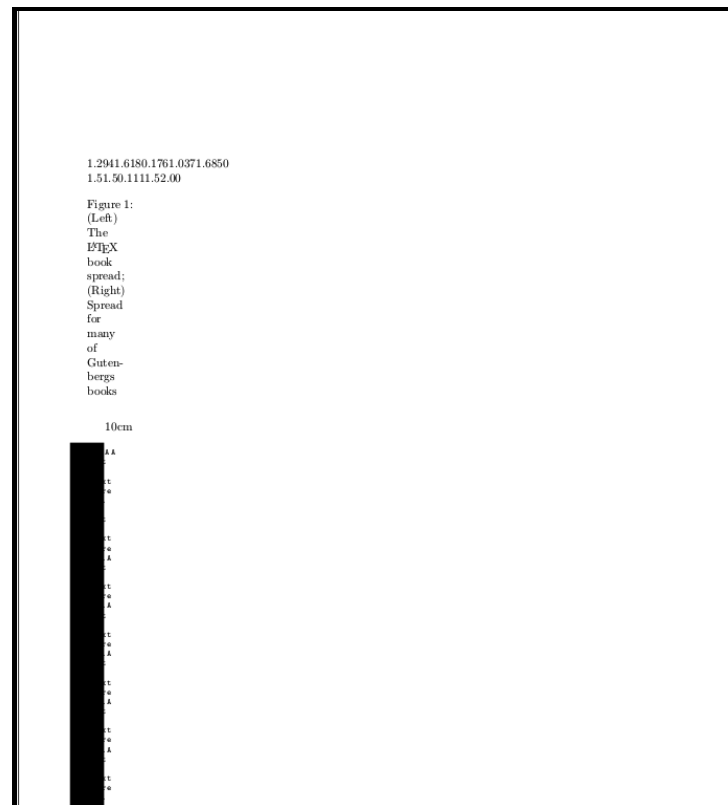
Document layout with layouts package.

Multi-column

Basically, Multicol packpage deals the content considering the number of columns you want.

You need to force column break if you want to control what's in each column.

Package needed:

```
\usepackage{multicol}
```

Syntax (with column break):

```
\begin{multicols}{2} % {2} indicates the number of
columns you want.
    first column
    \vfill
    \columnbreak
    second column
    \end{multicols}
```

How to force column break:
http://tex.stackexchange.com/questions/8683/how-do-i-force-a-column-break-in-a-multi-column-page
Examples of issue:
– http://tex.stackexchange.com/questions/61624/adjusting-column-width-in-latex-with-the-multicol-package
– http://webcache.googleusercontent.com/search?q=cache:aerlVMMzS08J:www.tex.ac.uk/ctan/macros/latex/required/tools/multicol.pdf+&cd=1&hl=fr&ct=clnk&gl=be
Great documentation, ex. control of the grid:
http://www.ctan.org/pkg/ltxgrid

How to import an .eps image

http://www.andy-roberts.net/writing/latex/importing_images

```
    %% package to call :
    \usepackage{graphicx}
    %% syntax
    \begin{document}
    \begin{center}
    %% call an image with: includegraphics
{path/imagenamewithoutextention}
      \includegraphics{chick}
    \end{center}
    %% you can scale the image by a constant scale
factor (0.5, for example, to reduce by half)
    \begin{center}
    \includegraphics[scale=0.5]
{path/imagenamewithoutextention}
    \end{center}
    %% or specify a lengths
    \begin{center}
    \includegraphics[width=2.5cm]
{path/imagenamewithoutextention}
    \end{center}
    %% or crop the image :)
    %% the dimensions are from left – bottom – right –
```

```
top
    %% \includegraphics[trim = left bottom right top,
clip=true, width=3cm]
    \begin{center}
    \includegraphics[trim = 10mm 80mm 20mm 5mm,
clip=true, width=3cm]{path/imagenamewithoutextention}
    \end{center}
```