Meaningful transformations

We discovered the work of Tom Lechner for the first time at the Libre Graphics Meeting 2010 in Brussels. Tom traveled from Portland, US to present Laidout, an amazing tool that he made to produce his own comic books and also to work on three dimensional mathematical objects. We were excited about how his software represents the gesture of folding, loved his bold interface decisions plus were impressed by the fact that Tom decided to write his own programming framework for it. A year later, we met again in Montreal, Canada for the 2011 Libre Graphics Meeting where he presents a follow-up. With Ludivine Loiseau (amateur bookbinder and graphic designer) and Pierre Marchand (artist/developer, contributing amongst others to podofoimpose and Scribus) we finally found time to sit down and talk.

Femke Snelting **Tom Lechner**
Ludivine Loiseau **Pierre Marchand**

FS What is Laidout?

> **TL** *Well, Laidout is software that I wrote to lay out my cartoon books in an easy fashion. Nothing else fit my needs at the time, so I just wrote it.*

FS It does a lot more than laying out cartoons?

> **TL** *It works for any image, basically, and gradients. It does not currently do text. It is on my to-do list. I usually write my own text, so it does not really need to do text. I just make an image of it.*

FS It can lay out T-shirts?

> **TL** *But that's all images too. I guess it's two forms of laying out. It's laying out pieces of paper that remain whole in themselves, or you can take an image and lay it out on smaller pieces of paper. Tiling, I guess you could call it.*

ᛞ **Femke Snelting** ᛏ **Tom Lechner**
ᛉ **Ludivine Loiseau** ᛯ **Pierre Marchand**

ᛞ Can you talk us through the process of doing the T-shirt?

> ᛏ *OK. So, you need a pattern. I had just a shirt that sort of fit and I approximated it on a big piece of paper, to figure out what the pieces were shaped like, and took a photograph of that. I used a perspective tool to remove the distortion. I had placed rulers on the ground so that I could remember the actual scale of it. Then once it was in the computer, I traced over it in Inkscape, to get just the basic outline so that I could manipulate further. Blender didn't want to import it so I had to retrace it. I had to use Blender to do it because that lets me shape the pattern, take it from flat into something that actually makes 3D shapes so whatever errors were in the original pattern that I had on the paper, I could now correct, make the sides actually meet and once I had the molded shape, and in Blender you have to be extremely careful to keep any shape, any manipulation that you do to make sure your surface is still unfoldable into something flat. It is very easy to get away from flat surfaces in Blender. Once I have the molded shape, I can export that into an .off file which my unwrapper can import and that I can then unwrap into the sleeves and the front and the back as well as project a panoramic image onto those pieces. Once I have that, it becomes a pattern laid out on a giant flat surface. Then I can use Laidout once again to tile pages across that. I can export into a pdf with all the individual pieces of the image that were just pieces of the larger image that I can print on transfer paper. It took forty iron-on transfer papers I ironed with an iron provided to me by the people sitting in front of me so that took a while but finally I got it all done, cut it all out, sewed it up and there you go.*

ᛞ Could you say something about your interest in moving from 2D to 3D and back again? It seems everything you do is related to that?

> ᛯ *My feeling about your work is that the time you working on the program is in itself the most intriguing part of your work. There is of course a challenge and I can imagine that when you are doing it like the first time you see a*

ᛞ Femke Snelting
ᛉ Ludivine Loiseau

ᛏ Tom Lechner
ᛝ Pierre Marchand

rectangle, and you see it mimic a perspective you think wow I am folding a paper; I have really done something. I worked on imposition too but more to figure out how to work with pdf files and I didn't go this way of the gesture like you did. There is something in your work which is really the way you wrote your own framework for example and did not use any existing frameworks. You didn't use existing GUIs and toolboxes. It would be nice to listen to you about how you worked, how you worked on the programming.

ᛏ I think like a lot of artists, or creative people in general, you have to enjoy the little nuts and bolts of what you're doing in order to produce any final work, that is if you actually do produce any final work. Part of that is making the tools **[1]**. When I first started making computer tools to help me in my art work, I did not have a lot of experience programming computers. I had some. I did little projects here and there. So I looked around at the various toolkits, but everything seemed really rigid. If you wanted to edit some text, you had this little box and you write things in this little box and if you want to change numbers, you have to erase it and change tiny things with other tiny things. It's just very restrictive. I figured I could either figure out how to adapt those to my own purposes, or I could just figure out my own, so I figured either way would probably take about that same amount of time I guessed, in my ignorance. In the process, that's not quite been true. But it is much more flexible, in my opinion, what I've developed, compared to a lot of other toolkits. Other people have other goals, so I'm sure they would have a completely different opinion. For what I'm doing, it's much more adaptable.

[1] A footnote about footnote.

ᛉ *You said you had no experience in programming? You studied in art school?*

Femke Snelting **Tom Lechner**
Ludivine Loiseau **Pierre Marchand**

I don't think I ever actually took computer programming classes. I grew up with a Commodore 64, so I was always making letters fly around the screen and stuff like that, and follow various curves. So I was always doing little programming tricks. I guess I grew up in a household where that sort of thing was pretty normal. I had two brothers, and they both became computer programmers. And I'm the youngest, so I could learn from their mistakes, too. I hope.

You're looking for good excuses to program.

(laughs) That could be.

*We can discuss at length about how actual toolkits don't match your needs, but in the end, you want to input certain things. With any recent toolkit, you can do that. It's not that difficult or time consuming **[2]**. The way you do it, you really enjoy it, by itself. I can see it as a real creative work, to come up with new digital shapes.*

[2] A second footnote about footnote.

Do you think that for you, the program itself is part of the work?

I think it's definitely part of the work. That's kind of the nuts and bolts that you have to enjoy to get somewhere else. But if I look back on it, I spend a huge amount of time just programming and not actually making the artwork itself. It's more just making the tools and all the programming for the tools. I think there's a lot of truth to that. When it comes time to actually make artwork, I do like to have the tool that's just right for the job, that works just the way that seems efficient.

I think the program itself is an artwork, very much. To me it is also a reflection on moving between 2D and 3D, about physical computation. Maybe this is the actual work. Would you agree?