

INTRODUCTION

From 24 May till 12 June [Anaïs Berck](#) was in residency in Medialab Prado. The residency consisted of three parts, with **different possible modalities of sharing, participation and collaboration**.

During this residency Anaïs Berck proposed to explore the idea of an **algoliterary publishing house**, a collection of books generated by algorithms in infinite versions. The authors of the books are algorithms, presented with their contexts and codes; and in which the content of the books is defined by trees and nature. The algorithms can be simple, like the [Levenshtein Distance](#) developed in the 1960s, or collective, like machine learning models. As the concept for this publishing house originates with [Oulipo*](#), we also welcome Oulipian constraints as possible authors.

By putting trees and their representations at the center of their works, and by welcoming algorithms not at the service of extracting resources or value towards a commercial objective, but for making kin with nature, these intelligences create narratives which speak about trees and also challenge colonial views of classification, methods of standardization, and might speak critically about the effects of dominant cultures.

[Anaïs Berck](#) is an alias that exists since September 2019. The name stands for a collaboration between humans, algorithms and trees. As a collective Anaïs Berck opens up a space in which human intelligence is explored in the company of plant intelligence and artificial intelligence. For this project, Anaïs Berck is represented by the human beings An Mertens, Gijs de Heij (<http://osp.kitchen/>) and Loren Britton (<https://www.lorenbritton.com/>), the trees of Madrid and algorithms like Markov Chain and Levenshtein Distance.

This residency was an important step in the development of an algoliterary publishing house (see below). From September 2021 onwards we will expose the materials of the residency in Medialab Prado. These materials are also available on

<https://www.medialab-prado.es/en/projects/algoliterary-publishing-house>

DESCRIPTION OF THE PROCESS

WEEK 1: Algorithmic Authors

During the first week Anaïs Berck - represented by An Mertens - proposed a workshop for collaborators who are familiar with Python, and interested in texts and data on trees and nature. The idea was to explore together what an algoliterary author could be.

Very soon the collaborators chose to work with the algorithm of the Markov Chain, designed in 1906 by Andrey Markov, a Russian mathematician who died in 1992. This algorithm is at the basis of many softwares that generate spam. It is used for systems that describe a series of events that are interdependent. What happens depends only on the previous step. That is why Markov Chains are also called "memoryless".

We first played the algorithm as a simple game. Next, we tried to link the algorithm to some trees at the entrance of Retiro. Finally, we wrote the code for a book in which the Markov Chain algorithm simultaneously generates a poem and a walk along trees in the neighbourhood Las Letras in the centre of Madrid. For this, we retrieved the data of the beautiful online inventory of trees made by the municipality of Madrid, [Un álcorque, un árbol](#). Despite the impression that there are few trees in the neighbourhood, the algorithm counts 460 of them.

The Markov Chain is trained on two fragments of two different novels:

- '*La madre naturaleza*' by the feminist writer Emilia Pardo Bazán, published in 1887. In this work she uses poetic and descriptive prose to express her love of the Galician landscape, with a knowledge of botany and rural customs far superior to that of her contemporaries.
- '*Miau*' by Benito Pérez Galdós, published in 1888. Framed in the realist genre, it satirizes bureaucratic Madrid at the end of the 19th century through the vicissitudes of the life of its protagonist, Ramón Villaamil, a competent ex-employee of the Ministry of Finance, who has been made redundant by a series of intrigues.

The created work, '*Paseo por los árboles de Madrid*', is now part of the prototype of an algoliterary publishing house:

<http://algoliterarypublishing.net/>.

Code: https://gitlab.constantvzw.org/anais_berck/paseo-por-arboles-de-madrid

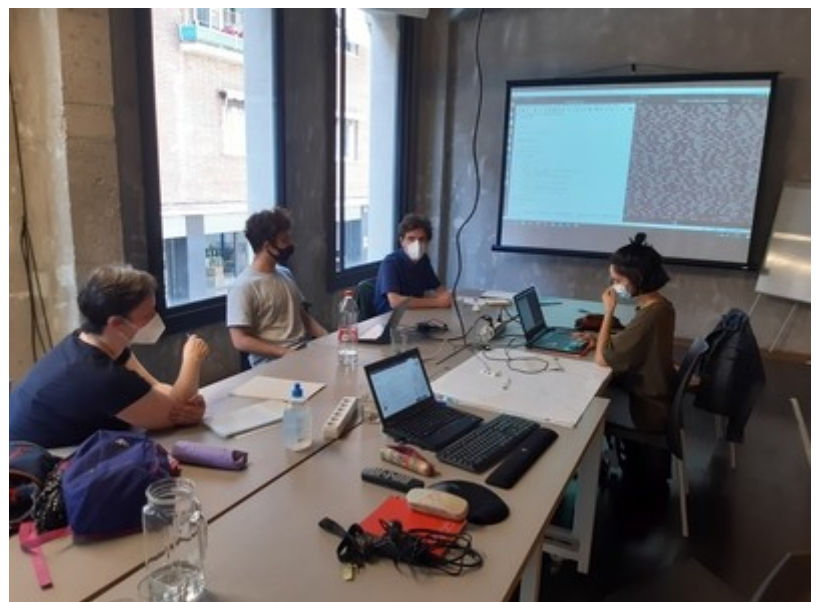
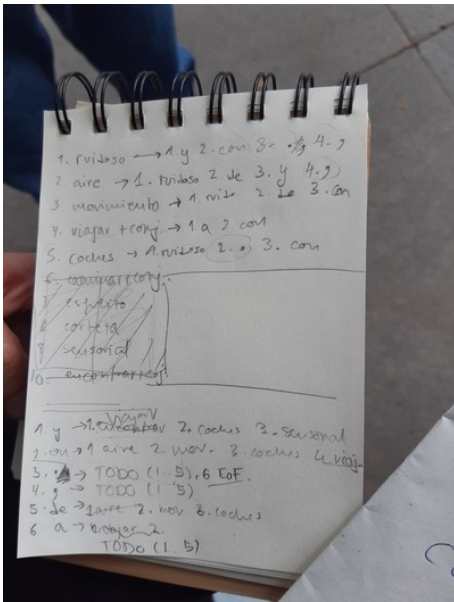
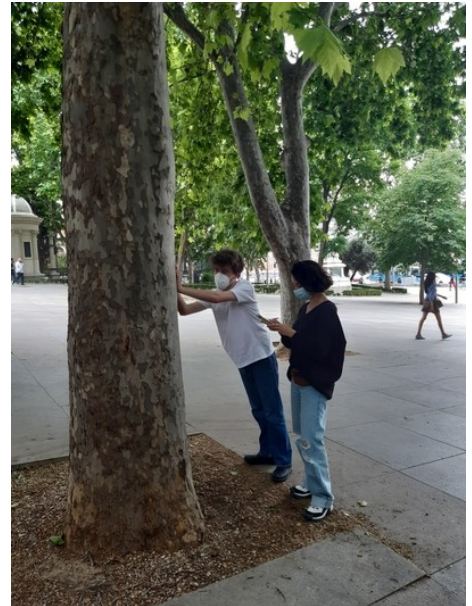
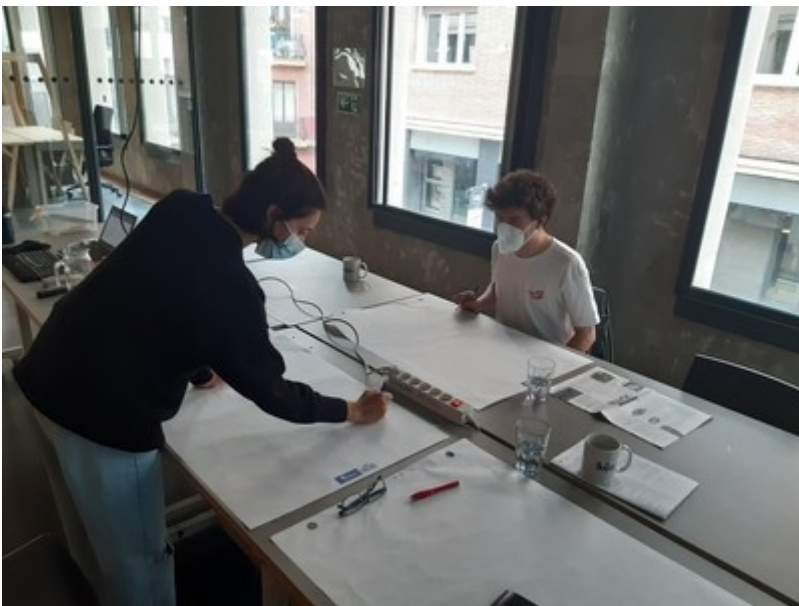
Collaborators: Luis Morell, An Mertens, Eva Marina Gracia, Ana Isabel Garrido Martínez, Daniel Arribas Hedó

→ **MATERIALS:**

<https://cloud.constantvzw.org/s/gigBjojsD8Me6Aj>

* images workshop + rules Markov Chain

* images trees Madrid + screenshot Un alcorque, un árbol



WEEK 2: Html-to-print as a lay-out tool

The second week of the residency Anaïs Berck - represented by An Mertens and Gijs de Heij - organised a workshop for collaborators interested in making graphic design using algorithmic processes, in using code to produce a pdf. The collaborators had experience with html & css and/or the commandline and Python.

The workshop was lead by Gijs de Heij, a graphic designer and programmer. He is part of the collective [Open Source Publishing](#), which has a long history in using html to produce printed objects. After a presentation of his practice and a concrete example of a book produced for an algoliterary publishing house, Gijs introduced the participants to [weasyprint](#), a tool and Python library that allows to 'turn simple html pages into gorgeous pdfs'.

On demand of the participants, a second workshop was organised later in the week, in order to apply weasyprint to the newly created script 'Paseo por los árboles de Madrid' (Walk along the trees of Madrid). The result of the workshop was a new book!

At the end of the second week, Anaïs Berck presented a first publishing platform: <http://algoliterarypublishing.net/>. It collects a series of books that were generated before the residency and during the first week of the residency. A lot of questions were raised, a lot of - temporary - decisions were taken. Does reading lose its value when you can choose one million copies of a slightly different version of a book? Does each book need the capacity to exist in infinite variations? How can the organisation of books be presented in a fair inclusive way?

Unfortunately very few people showed up for the presentation. We missed some interest from Medialab Prado here. With the budget we invited Manetta Berends, graphic designer and researcher on F/LOSS publications. Together with Jaime Munárriz, one of the collaborators of the workshop, they gave very useful comments to the platform.

Collaborators: Jaime Munárriz, An Mertens, Gijs de Heij, Ana Isabel Garrido Martínez, Alfredo Calosci

→ **MATERIALS:**

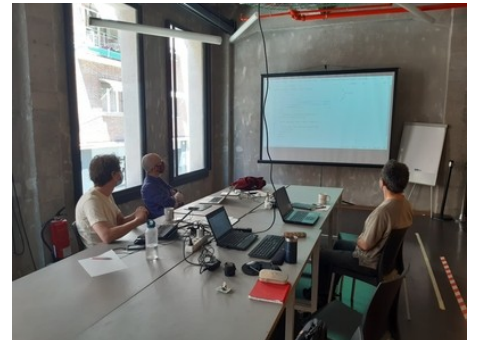
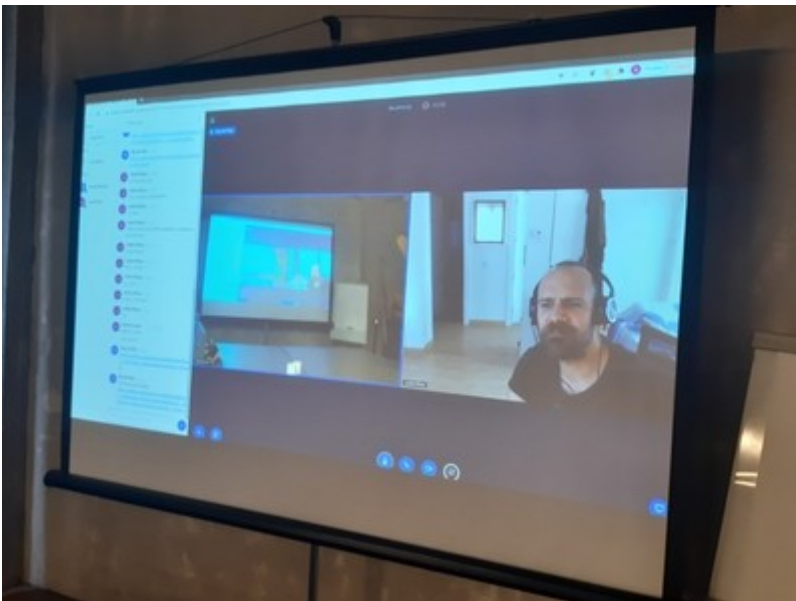
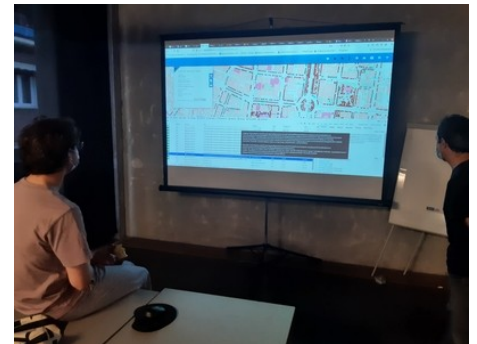
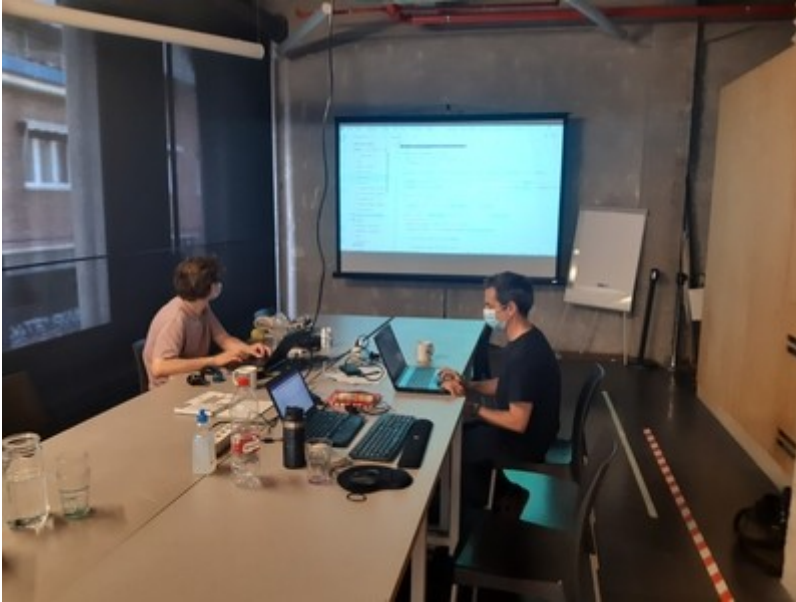
* **the platform:** <http://algoliterarypublishing.net/>

* **B/W A4 prints** of the (not all finished) booklets in this folder:

<https://cloud.constantvzw.org/s/XFAZn5dm9BoLoYq>

* **code:** https://gitlab.constantvzw.org/anais_berck/

* **notes & reflections:** <https://cloud.constantvzw.org/s/pgYmGwotyAxwazA>



WEEK 3. A 'decolonial' publishing house?

As [Anaïs Berck](#) represents a collective of humans, trees and algorithms, the algoliterary publishing house functions within this collective. This means that we have to rethink all aspects of publishing in collaboration with all entities involved. This raises a series of questions. How can questions around ethics and ecology be thought alongside print or online publishing? What does consent mean when working with trees and more than humans? Is a digital book more "ecological" than a printed book?

Artists [Loren Britton](#) and An Mertens composed a reader for the week with texts on indigenous and feminist practises, with a special contribution by Peachie Dioquino-Valera, a futurist researcher from Manila, The Philippines, who still has an animist practise in communication with trees, as a lot of Philippino's do. Each day we organised online reading sessions in which we read a fragment together and discussed possible objects, values and situations inspired by the text. A selection fo these objects, values and situations were implemented in the 'Oracle for consentful publishing infrastructures', a hands-on card desk that allows to collectively envision and share ideas for consentful publishing infrastructures. What kind of present with publishing can we imagine? How can less extraction be woven into an industry with an enormous ecological impact? What kinds of questions do we need to be asking? How do you think consent with publishing all the way through? This oracle is inspired by the [Oracle for Transfeminist Technologies](#), created by Coding Rights & MIT co-design studio.

On the last day of the residency we presented this Oracle and played it together. Unfortunately very few people showed up for the reading sessions, and none for playing the game, although we had about 8 inscriptions. The team of Medialab Prado mentioned the exam period and the extreme heath as factors for people to not show up. It is always interesting to hear different voices, but it did not avoid us from working happily together.

Collaborators: Loren Britton, An Mertens, Anne Laforêt, Jaime Munárriz

→ **MATERIALS:**

<https://cloud.constantvzw.org/s/Y5orLRp9xrK9osF>

* **Cards:** a current set of 31 cards designer by Loren Britton, to be printed on 300g white glossy paper, A6:

<https://cloud.constantvzw.org/s/Pjw4BASR2kwoH5p>

* **Rules to play the game:** <https://cloud.constantvzw.org/s/ZRQ4sWABwdcjJQZ>

* **Some results of the Oracle:**

<https://cloud.constantvzw.org/s/jDzX8TEKfP3pAfk>

* **Texts** on which the game is based:

<https://cloud.constantvzw.org/s/LQcBDqneg5f57We>

* **Box:** For the game we wanted to make a box, in which the card and a zine with texts would fit. After several try-outs, Daniel Pietrosemoli Gonzalez, the manager of the fablab created the final version. He made 3 boxes, 1 for Medialab, 1 for Brussels and 1 to send to the Philippines to Peachie Dioquino-Valera who helped us with references on communication practises with trees. Daniel also prepared the plans for future executions of the box. You find plans and images here:

<https://cloud.constantvzw.org/s/G8N9J6HZS6dWppX>



CONTRIBUTION TO ARTISTIC DEVELOPMENT/PROJECT

A start has been made on an Algoliterary publishing house. That in itself is the greatest achievement of this residency. But it is also a serious beginning. We had a very concentrated working time during those three weeks. The Medialab approach of working with an open call and collaborators gave our work a very steady pace, which was highly productive and satisfactory. It is clear that the concept of the algoliterary publishing house opens up a field with varied themes and a lot of questions. Like the residency, I can divide the themes into three parts.

1. Algoliterary writing

By organising a workshop which was limited in time, I was forced to clearly articulate my hypothesis on algoliterary writing and make the hands-on part manageable in two afternoons. I spent the first few days preparing for this. I searched for local information about trees: databases, literary texts and news articles. I also collected a series of algorithms, which were simple but interesting enough for a two-day workshop.

The combination of artificial, vegetal and human intelligence really appealed to the participants. By first running the algorithm without a machine, it became clear why process-based algoliterary writing is important and useful. They were surprised that during their four years of study they had never been taught this method of manually unpacking an algorithm. Moreover, it created a game environment that provided a lot of creativity and fun. Of course, it was a challenge to get the script ready by the end of the second day, but that also gave a strong dynamic to the cooperation between the three participants and myself.

It was a luxury to work with people who know how to program. The three participants were students, two mathematicians and an aerospace engineer. It was the first time I worked with university students and it was a very beautiful experience.

→ What I learned is that it has become clear that an algoliterary publishing house can further develop this participatory aspect of algorithmic writing; that students are an interesting target audience; and that it is important to have a workable result that can grow into a real book at the end of the workshop.

2. The 'book'

Both in the preparations for the 'html-to-print' workshop and during the workshops themselves, it became very clear that a digital approach to making a book, whereby not only the content but also the layout is generated by a programming script, overthrows many sacred standards in book culture.

These are a series of questions that came up during conversations with Gijs and the residents and that we can continue to work with in the future.

→ CONTENT

- Does reading lose its value when you can choose one million copies of a slightly different version of a book?
- Do we show the infinity of the generated copies? If yes, how?
- Does each book need the capacity to exist in infinite variations? Can we decide upon a 'static' version of a book? Is this interesting?
- How can the organisation of books be presented in a fair inclusive way? What 'fair' categories/characteristics can we think of for a first 'index' web page?
- Do we keep the plain text as a style throughout all editions of the publishing house, reflecting the materiality of code and logging? Or do we also create 'books' that look like more classic / elaborately laid-out books. A more structured layout seems to invite a different way of coding that is written with the layout in mind, for example by splitting logs into parts. But also, the code to produce the layout becomes part of the code, making the scripts less simple and more clearly designed. (Thought: make a special stdout which writes html, rather than plaintext? Could we then use something like ANSI codes to set the styling?)
- Now the pdf does not exist on the server. It only exists in the RAM memory of the reader's computer, and it only exists on your computer if you decide to download it. This is a response to the field of literature, where the book is considered as something fixed. This immediate download takes a step into the distribution itself. We could include the sender in the pdf!

- The format of the pdf is good, because otherwise it would become something else: a media art/a webpage. It would be more about the interactivity and the experience. Now we speak back with an object that is produced by the publishing industry and tradition. We take on the dress and habits of that context: we start as a website and freeze it; what is generated is static; it is a quality that it is a pdf; a way to connect to the website and vice versa.

- How would you cite this book?

- Is each generated book a unique object? It can be easily copied and redistributed. Should we talk about unique objects? NFTs (non-fungible tokens, a way to integrate artworks into Blockchain, wasteful by design...) are unique objects.

- The book can be present in different places: on the website, as a pdf, as a book during the walk, shared in the neighbourhood. They can become topics for a workshop: as tools and to open up algorithms to a wider audience.

- Is it an idea to open up this platform as a service? This rises other questions: what about curatorship? A publishing house is assuring quality, it is more than a Print-on-demand service.

- What about formats of the books? Now they switch between A4 and US A4. Will they always be A4?

- It would be nice to bring questions to the platform.

- It would be nice to bring the oracle and its outputs to the platform.

→ **TECHNICAL**

Code -> output -> book

- Now the graphic design of La Distancia Levenshtein lee a Cortázar is using html and weasyprint, but weasyprint does not support javascript. All variations of the book have to be generated by the layer generating the scripts. This doesn't have to be a problem, but it does offer a limitation. Weasyprint is implemented in Python, but it is also implementing it's own browser/render engine. The development of the library is limited.

- Gijs has a clear preference to work with paged.js because it supports javascript. On the other side it needs a browser running on the server

(100MB). Another downside of pagedjs is that it is running in node, that means an extra layer / technology to maintain.

- What is the api of the publishing platform? What is infrastructure of the publishing house? On what server? How to deal with safety? How to make sure it keeps running? How to avoid server overload? Harmful robots? Or multiple users at the same time? Make a waiting row? What is the scale of this project?

For now, there is the proposal to run the server a year to see what happens.

- What about the ecological impact of the 'infinite' generation of books? How do we calculate that? Include or exclude it?

3. The collaboration with trees

Thanks to the residency, it became clear how explosive this aspect can be for the project.

Whereas the original idea was a rather classical form of publishing house, in which the algorithms are the authors and the trees are the subjects of the books, it became clear in the third week that it can also go in a completely different direction. If the trees have a vote in this publishing house, how do we ask them for their approval, rejection, opinion?

We decided to look for expertise among feminist and indigenous researchers, who have much more experience with inclusion, also of more-than-human beings. By filtering each text through the three categories of the card game - Objects, Values and Situations - aspects such as participation, orality, traditional knowledge entered our spectrum. The game, as it exists now, opens perspectives to ways of publishing that go far beyond the book, that do not always have to exist on paper, that can be very momentous and ephemeral.

We published some results here:

<https://cloud.constantvzw.org/s/jDzX8TEKfP3pAfk>

Opening up the project in this way worries me just as much as it gives me room to breathe. It is pure research and I am glad that we do not have to use it right away.

Since we received a research grant from FrART (Art & Recherche) for the year 2021-2022, this aspect can exist as a research thread, which we can evaluate in a year's time.