

Estranging Comics: Towards a novel comics praxeology

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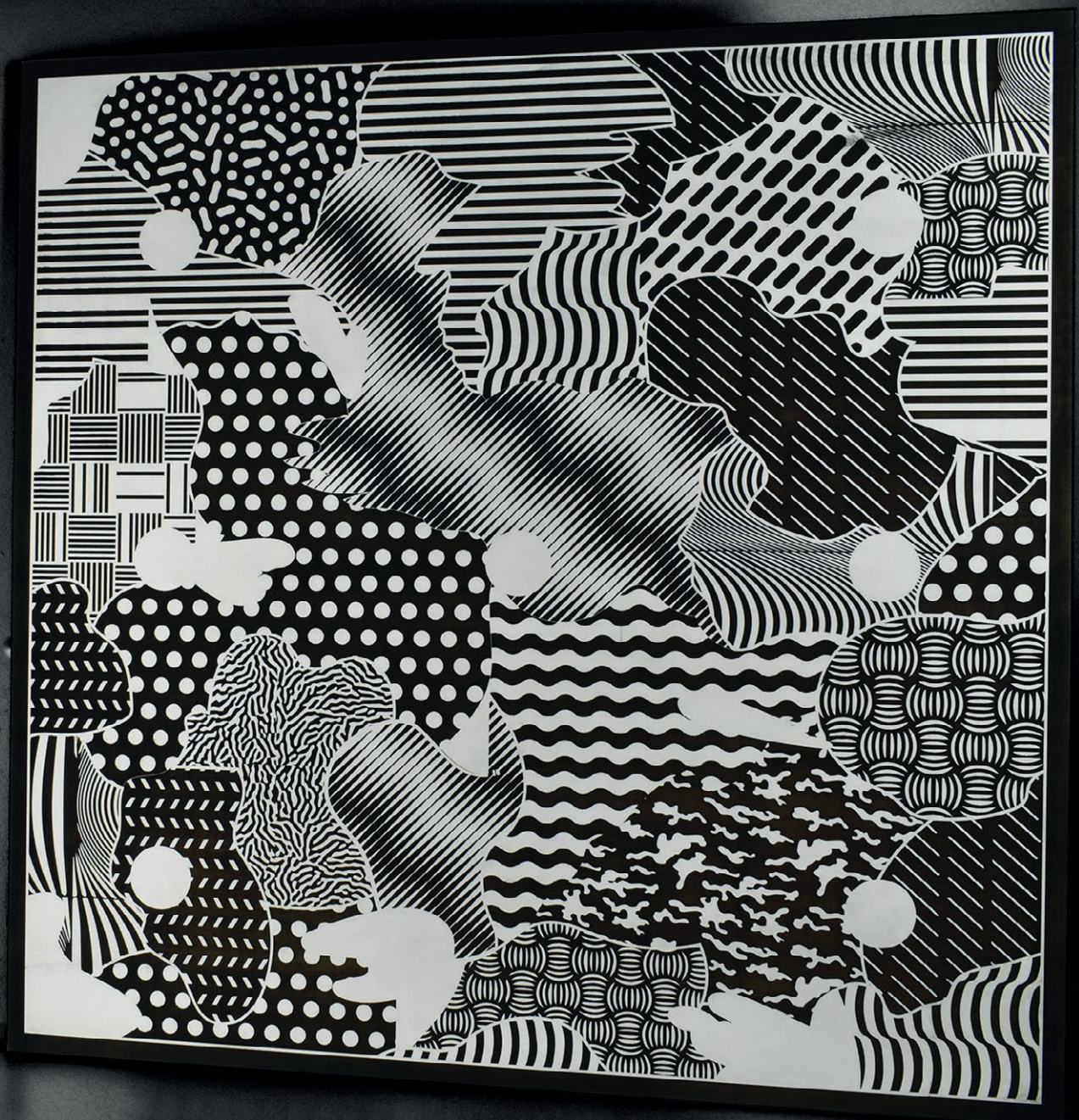


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- Published by France: JBE Books
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- Published by Greece: Onassis Publications.
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Through reading sessions, artist talks, various workshops open to the general public, a symposium and the production of a temporary library / reading space, *Futures of Comics* attempts to document and reflect on contemporary artistic practices with the goal to provide a resonating chamber for works and practices that are little known outside of comics communities.

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Abstract

The industry-wide adoption of digital and network technologies has produced long-lasting and unevenly distributed effects in all the sectors of the comics industry. The globalization of markets and services has profoundly reshaped comics labor. Its effects are economic (the precarization of craftsmanship traditions), social (the rise of entrepreneurial fan culture and the consolidation of increasingly diversified communities with novel forms of amateur and semi-professional activity), technical (the introduction of digital tools for the distribution, the archival and retrieval of media artefacts) and aesthetic (the gradual integration in the production pipeline of AI and synthetic media). As is demonstrated by the recent emergence of radical forms of experimentation documented in the Conceptual Comics media collections of Ubuweb and Monoskop, comic artists are often able to leverage the dependencies of the ever-growing network infrastructure of the comics industry. Nevertheless, these disruptions foreground an epistemic crisis in the understanding of contemporary comics, both in academia and in more traditionally established professional spheres.

This thesis embraces an attitude of productive estrangement towards the medium's forms, material qualities and operations, and constructs comics as a "contemporary object". According to philosopher Anne-Françoise Schmid, a contemporary object is an extra-disciplinary entity that is massively distributed in space and time. Understanding such an object depends on the increasingly aggregate nature of knowledge production and dissemination in the computational age. Both in theory, with a series of papers in peer-review journals, and in artistic practice, by way of published comics and commissioned curatorial projects, this thesis examines the mutations of the comics ecology as an expansion of the scope of knowledge. It embraces the cumulative impact of digital transformation and articulates a novel comics praxeology predicated on two conditions. First, the thesis appeals for a systematic exploration of comics outside of narrow media purviews, the implicitly disciplinary conceptions, and the dominant historical perspectives in Comics Studies. It aims to develop a conception that embraces a rigorous application of a non-hegemonic interdisciplinarity in comics research. Second, and most importantly, the thesis argues for the expansion of operational agency on the part of comics professionals. This agency is described as a heightened contextual appreciation of the industry's infrastructural backend, an awareness of its imbricated institutions and a diversification of the professional toolbox. I argue that a novel comics praxeology is a necessary attribute in order to embrace future, speculative, unclaimed or hitherto impossible forms in comics expression.

Introduction
*Towards a novel
comics praxeology*

Introduction

Comics are variously framed as an industry, a genre, an artistic medium, a system of visual/narrative communication, a set of traditions in craftsmanship, different community subcultures, a form of entertainment and an educational tool. But despite the definitional exuberance in academic research around comics, and the apparent multiplicity in the ways we understand and use comics in everyday life, the recent emergence of radical forms of experimentation in artistic practices has both challenged our assumptions about the medium's modes of address, and pointed to the limitations of the given analytical tools in Comics Studies. Contemporary comics are technical objects whose operational intensity is considerably shaped by the comics industry's infrastructure and the crossings and multiplications of information flows. In that regard, the emergence of radical artistic practices is predicated on the epistemological mutations brought forward by the increasingly aggregate nature of knowledge production and dissemination of our computational age that has an immediate effect on the ways we consume, disseminate and archive media content.

This dissertation argues for an attitude of constructive estrangement towards comics and presents both theoretical and practical/artistic perspectives on the constitution of comics as a highly malleable contemporary object of reflection. Throughout this introduction, I argue that a practiced estrangement is at the crux of understanding contemporary comics praxeology. More precisely, the introduction to my dissertation follows the theoretical intuitions of Generic Epistemology and its ethos for disciplinary co-habitation. It argues for the construction of a generic space of research where the production of new insights does not depend on any established models in the field or any single methods of research. Instead, it is predicated on genuine mechanisms of disciplinary cohabitation where researchers and artists practice epistemic estrangement by disentangling objects from their most well-known concepts in order to start accounting for future, speculative, unclaimed or impossible forms of comics art.

Vignette 1: Zou Luoyang, a comics artist inspired by the emerging interdisciplinary sub-field that explores the wider role of waste in society and culture, distributes his self-published zine exclusively in dumpsters. His artistic practice thematizes the lack of cultural respectability for comics, and points to the ecological footprint in greenhouse gas emissions related to the disposability of printed matter. (Comics X Discard Studies)

Vignette 2: A self-proclaimed hoarder, Inès Chuquet, acquires wholesale batches of unsold comic books and examines, as part of her artistic research, the different varieties of micro-climatic cultivations of mould and mildew that grow on castaway commodities. Her practices frame comics artefacts as organic matter. (Comics X Microbiology)

Vignette 3: As comics are no longer exclusively understood as a visual medium, the artist-initiated Shapereader project addresses people with visual disabilities through a free-floating repertoire of tactile geometric symbols that can be iteratively attributed different meanings according to a narrative's demands. (Comics X Disability Studies)

These works are some examples from the experimental comics archive I curated on behalf of Ubuweb, one of the largest online media collections of avant-garde art. The archive documents a growing body of works, and explores new forms of experimentation in the field of contemporary comics as a material basis for artistic innovation. Over the last ten years, comics workers have been pushing the comics medium into uncharted territories. Originating from an international, highly diversified socio-demographic class of comics artists, collectives and publishing initiatives, contemporary comics are often situated far from the global epicenters of comic book production, and are located at the crossroads of different media, practices and sensibilities. The aforementioned vignettes are symptomatic of the political, social and aesthetic mutations that are currently shaping the comics industry. Presently, a polarity is developing between the conventional image of what is a comic and what comics artists and readers are supposed to be doing, and, on the other hand, different artistic conceptions that resist prevailing critical analysis. I have loosely filed these resistant conceptions under the generic term “conceptual comics” (see Chapter 1, “Outlining Conceptual Practices in Comics”).

Looming below the surface of this dichotomy, is a sense of a radical evolution in the forms and modes of address that take place in the comics medium, and which seems to run counter to the mainstream acceptance of comics as a craft, a minor artform or a literary subgenre. This evolution does not always occur as a series of absolutely logical and incremental changes, nor is it only a direct outcome of increasingly networked and digital affordances. As yet, the evolving politics of the comics medium has no critical vocabulary so necessary for the defense of these new works, nor for that matter, a rigorous and systemic interdisciplinary approach that can account for this productive

effervescence. One reason might be the exceptional diversity in the constituency of these artists. They generally come from diverse professional backgrounds removed from art contexts and often involving technical training, specialized knowledge and experience in working across disciplines. Their multi-disciplinary skills are rarely the products of a consistent educational program. The capacities they developed for the production of their works are usually the results of individual and idiosyncratic choices.

Nevertheless, what conceptual comics artists have in common is an understanding of comics that moves beyond disciplinary boundaries or formal and compartmental media terminologies. For these artists, most of whom are “post-digital” natives, comics is more than a vehicle of individual artistic expression developed through a cultivated familiarity with the medium’s traditional canons or any technical accomplishment in craft. On the contrary, conceptual comics distance themselves from an established, conventional view of craftsmanship and embrace the comics industry’s *operational* and *technical* intensity, as the products of an industrial expression. Some of these works, such as the early Stefano Tamburini’s *Snake Agent from 1984*, with his creative use of Xerox technologies, implicitly echo the avant-garde situationist artist Asger Jorn and his reflection on the benefits and challenges of automation: “It is up to us whether standardization opens up more interesting realms of experience than it closes” (Jorn 1957). These words become a rallying cry that celebrates contemporary comics as a vast terrain of industrial experimentation for the production of works that, in other sectors of contemporary research and practice, might be too expensive, too risky, very slow or simply highly dependent on institutional support, to initiate. The medium’s low-risk deployment, its scarce financial resources, but also its community support mechanisms, rather than constituting here the medium’s limitations as it has often been theorized, are deployed as necessary conditions for the formation of a new industrial expression. Conceptual comics become a Petri dish for tackling larger ideas in politics, technologies and ethics. As the Conceptual Comics Archive demonstrates, the documented works have intensified the decompartmentalization of the comics medium, and by the same token, have pointed to the limitations of the various dominant analytical tools that have been traditionally mobilized in Comics Studies.

Epistemological Crisis

Conceptual comics, along with other forms of experimentation in the medium, they pose

a challenge to the available disciplinary methods that are popular in comics research. An important epistemological question therefore arises: can Comics Studies account for the variety of contemporary forms and insights produced by an increasingly diversified class of comics professionals? Or, more regrettably, is comics research limited to defining and characterizing comics through traits extracted from past histories, and only suffice in operating marginal displacements by continuously adding new ones as they emerge? At the crossroads of institutional, educational and commercial establishments, comics artworks have the potential to play out multiple infrastructural interests. The question of whether these interests might be integrated into broader strategies with far-ranging impacts on the comics industry, is tied to how we understand the production of new insights in comics, and what futures we are able to construct from these insights.

The fact that there is little to no scholarly writing about the individual works from the conceptual comics collection of the Ubuweb archive, points to a relative failure of comics academia, and to the current frames of knowledge that are still dominant in comics research. The production and understanding of novelty in the comics medium, as demonstrated by these works and other similar artistic practices, should no longer depend on the implicit disciplinary conceptions, the existing critical apparatuses and the specific historical perspectives of Comics Studies. Strands of comparative literature analysis or narratology, might have been productive in the understanding of comics in the past. Unfortunately, these tools can no longer deliver meaningful theorizations with regard to the increasing heterogeneity of forms, histories, communities and technologies that are shaping, and have been shaped by the comics industry.

Comics Studies therefore, needs to start considering the multitude of practices in comics by encompassing objects that are not constituted yet as facts or fully blown practices, such as in the work of Zou Louoyang, nor can they be integrated within narratives of historical continuity of the medium, like in the Shapereader project. The current diversity overwhelms the usual disciplinary frameworks, be it semiotic, narratological, geographical or historical. New insights in comics art, demonstrate the need for an external, epistemological space that is situated outside the purview of Comics Studies, or at the crossroads of multiple research fields. Instead of trying to grasp and fix comics objects, by reducing them to some structural, essential components (diegesis, imagetext constructions, craftsmanship), I argue on the contrary, what is required is an estrangement of comics, opening them up to simultaneous overlapping

perspectives. This epistemological space should be one of rigorous disciplinary cohabitation and should embrace the proliferation of knowledge production mechanisms without implementing any single hegemonic approach. A rigorous interdisciplinarity, consisting of multiple complimentary models and a plurality of epistemologies would rightly reflect the aggregate compositional process of knowledge production in our computational age.

This thesis argues for an attitude in comics research that is based on working between disciplines. My doctoral research consists of both scholarly publications published in peer-reviewed journals and artistic components including my own comic book projects produced with different publishing partners as well as curatorial work that I conducted with various institutional affiliations. The following assumption informs my understanding of a contemporary comics praxeology: the production of knowledge in comics research takes place in an increasingly media-rich and informationally dense environment. Most professional areas of expertise in the industry of comics require an aggregate approach to knowledge, a multiplicity of epistemic regimes and the exploration of extra-disciplinary territories. Echoing Francois Laruelle's urge to "make a tabula rasa of the future" (Laruelle 2012), the epistemic liberation in working between disciplines in comics research, contributes to more than simply revealing hidden intersections of research fields; working between disciplines has an operational constructive intensity similar to what Laruelle calls "futurity", defined as a specific kind of relation to the future that is not tied to the past, neither proceeds through cycles of constant revolutions.

New insights, past ties

In her 1995 essay "On Contemporary Objects", Anne-Françoise Schmid questions the production of new insights in the sciences, but this could be applicable in other research domains. According to Schmid, disciplinary knowledge procedures condition our ideas of contemporaneity. Disciplines structure our recognition of new observations by instituting and preserving discursive mechanisms of historical continuity. This continuity is effectively summoned only when new observations can relate to already established paradigms, either through well-rehearsed forms of dialectical opposition (such as in the paradigm shift) or through complementarity (the incremental additions to existing knowledge). Contrastingly, when classical theories of epistemology cannot account

for “the multiplicity of contemporary manifestations and methods of science” (Schmid 2015), the accumulated knowledge in a scientific field operates with an inhibiting drive; objects that sit uneasily between established categories, or objects that resist totalization by aforementioned precepts of a historical continuity, fail to be integrated within the framework of existing theories and histories. In Comics Studies, the dialectical theorization in the evolution of forms in comics is still the dominant tool mobilized in the understanding of novelty. I would like to demonstrate that novelty cannot rely on the narrow confines of a single discipline nor on its normative mechanisms of historical continuity. I would like to illustrate the limitations of a simple dialectical model in the production of new insights using as an example the resurgence of painterly aesthetics that defined the Belgian independent comics scene in the 2000s.

The popularity of a *visual* experimentation in comics was heralded in Belgian art schools as the most “promising” direction for an “artistic” approach in the medium. Both in the Ecole Supérieure des Arts de St.Luc (ESA) where I did my BFA in the late 1990s, and the Ecole de Recherche Graphique (ERG), comics students were expected to experiment with comics in the same way painters experimented with their medium. They were called to expand their comics craft techniques with scribbling, stains, impasto and collage, redefine the formats beyond those imposed by industrial reproduction with the introduction of large canvases, floor painting or the inclusion of non-reproducible three-dimensional objects, and activate modes of display from exhibition making, by presenting their work as unique pieces hung on walls. This was a way for many of my colleagues, and myself, as a young aspiring comics artist, to embrace various forms of gestural “painterly” experimentation; this was, after all, the quasi-canonical paradigm of artistic expression in the general sensibility that radically contrasted with the laborious attitude of comics artists on their desk. The production of non-multiples was more than a deliberate aesthetic choice for students. It was a position that supposedly opposed the medium’s “inherent” reproducibility, and a direct repudiation of Belgium’s very own mainstream comics tradition largely consisting of the international commercial success of *ligne claire*¹ aesthetics.

1. *Ligne claire*, a term coined by Joost Swarte in 1977, defines a style of drawing that was pioneered by the artist Hergé, the author of *Tintin*. The technique is characterized by the use of clear black lines with the same width, strong spot colours, no gradients and no textural hatching for representing variations in shadows. The style is also recognisable by the contrasting depiction of cartoonish characters against more realistic backgrounds, and by its overall flat aspect granting equal amount of attention and focus to human figures and to the backdrop.

Assuming a dialectical opposition to the dominant paradigm, that construed comics as an industrial product defined by prevailing market considerations, the educational establishments, the aspiring comics/painters students, a few comics publishers such as the Brussels-based Frémok² (ex-Fréon) and La Cinquième Couche,³ but also public funding bodies, ended up effecting an overall conservative gesture as visual, and painterly experimentation in comics was in retrospect a class statement. It seemed to be an opportunity for its practitioners to elevate comics craft in the cultural sector by addressing collectors and gallerists rather than readers and publishers, by assigning prices on original works rather than relying on industry practices for book sales, and by marginally expanding graphic and visual arts canons in art history instead of mobilizing the comics industry's very own affordances.

In hindsight, painterly comics were the product of a discipline's narrow understanding of historical continuity and not the oppositional force to the existing aesthetic traditions. Both a misguided opportunity and failed entry in the art market, exclusively occupied as it was, and as far as original comics plates were concerned, with works that had already accumulated the value of heritage, painterly aesthetics ended up confirming the irrelevance and the marginality of comics practices in the larger artistic outlooks. Painterly comics reinforced the stereotype of a milieu and a posture that was desperate for formal respectability but, through the tunnel vision of a narrow dialectical opposition, comics were once again positioned behind a rapidly moving art industry and an already decadent gallery art market. Not unlike the commercial and mainstream comics they "dialectically" opposed, contemporary painterly comics were reified as a dominantly *visual* artistic enterprise.

How did something that looked and felt like a shift in the forms and modes of address in the medium, end up perpetuating a stereotype according to which comics is a parochial, campy craft whose legitimacy can only be predicated on conventional and outdated formats (canvases hung on walls in museum exhibitions)? A discipline's dialectical or complementary evolutionary views of ideas and forms is not justification for the production of new insights. Artistic productions that are tied to single disciplinary formations, with established frameworks of what constitutes a work and what should be

2. Frémok (FRMK) is a Franco-Belgian comics publishing house, that was formed by the union of the former publishers Amok (France) and Fréon (Belgium). <https://www.fremok.org/>

3. La Cinquième Couche, also known as 5c, is an independent Belgian publishing house based in Brussels, structured into a publishing house in 1999 and which publishes mainly experimental comics. <https://5c.be/>

the defining features of an object or a practice, fail to reflect that novelty is increasingly relying on the aggregate production of knowledge that no single discipline, or their linear oppositional historicities can produce.

In a recent lecture informed by Schmid's insights, writer and Urbanomic publisher Robin Mackay suggests that working between disciplines has important political implications not only in the scientific domains but in most objects of contemporary study. The limitations of single disciplinary perspectives, based on historical divisions of labour have to be replaced with new epistemological models of knowledge production where "theoretical, speculative, and historical approaches of the humanities cross over with the empirical and systematic investigations of the sciences" (Mackay 2016). After all, the comics industry is far from being a unitary field of operation. Comics making is an entanglement of commercial, artistic and technical ambitions that is reflected in the historically contingent assortment of roles that define comics professionals. Most comics artists are often highly networked and media-savvy individuals who operate on a freelance basis with no steady affiliations with publishers or other institutions. They have learned to organize their time around a patchwork of fragmented schedules of day job obligations, documentation, reading, research and community work, only part of which could be classified as artistic commissions. From feeding a DeviantArt account with "relatable" comics and reviewing the latest *dōjinshi*,⁴ to setting up a mail-order for a serialised xerox zine and selling original art on Behance, the lives of comics professionals are composed by multiple social activities distributed across various social and economic levels.

I argue that the "weakness of the field's institutional footing" (Hatfield 2010) and the lack of affiliations with cultural establishments that produce the necessary social fabrics regulating financial activity in the arts, do not necessarily constitute a drawback for the comics industry; nor is the medium's general ambivalent positioning in relation to official art history and its canonical criteria of cultural legitimacy. On the contrary, I believe that these conditions induce forms of social relationships, research methods and a certain epistemic standpoint towards plurality in the production and organization of knowledge, that is indeed industry-specific. In other words, it is because, and not despite of their marginal position in the cultural spectrum, that comics allow for specific affordances and operational modalities: the comics industry is construed in this

4. *Dōjinshi* is the Japanese term for describing the self-published, mostly derivative works of existing works of fan-fiction in manga.

perspective as a mediating environment for the production and the distribution of dense, multifaceted contemporary objects depending on particular forms of interdisciplinary labor disseminated in multiple time and space zones. Comics can no longer be assumed as known objects; they require instead the emergence of a novel epistemological space that should take seriously a non-hegemonic disciplinary concurrence.

Comics epistemology

Analytical tools, methods and disciplines are not neutral or ahistorical. Scientific disciplines can be dated and traced back to the strong historical antecedents in the nineteenth century's specialisms. Knowledge production was contingent on the agreed delimitations of the field of a research project, whose role was to articulate all the heterogeneous aspects of an inquiry. A field's institutional consistency was mostly formed through the proceedings of scientific societies that established a certain theoretical unity legitimizing only a specific type of hypotheses, accepting only certain types of evidence through best practices of chains of measurements, observations and experiments. Disciplines generally enforced ideas of the very nature of a scientific problem. Through the works of Michel Foucault, the understanding of disciplines was broadened with important epistemic and institutional consequences which reflected the political and social upheavals of his time. Disciplines previously defined as clearly delimited, forged on well-determined practices, and only capable of specific analogies, were theorized in Foucault's work as social historical constructions. As such, they had the ability to positively constitute objects through sets of rules, habits and productions of enunciations that necessarily involved a convergence of knowledge practices and power relations. In the work of Foucault and in many of his contemporaries, knowledge production was increasingly purged from any assumptions of a detached, disinterested inquiry. Disciplines were therefore increasingly construed as systems of situated knowledge and were further denaturalized in their capacity to construct, and enforce specific views of realities.

The complexities of competing disciplinary perspectives in the understanding of a work, and the way institutional contexts are played out in the preservation or refutation of dominant discursive interpretations can be demonstrated in recent theoretical attempts to revisit canonical works of comics in Comics Studies. In many cases, the understanding of some established works of comics, has been traditionally dominated by outdated

strands of structural narratology, visual culture studies or film theory. Approaching them with a variety of theoretical tools and methods, outside of the canonical apparatuses of Comics Studies, reveals how disciplinary perspectives are both fragile, ephemeral and tied to individual, embodied and historical knowledge mechanisms. An illustration can be found in the simultaneous erosion of classical narratological/semiotic analyses in the genre of superhero comics, and the recent scholarly emergence of approaching the same comics with an abundance of perspectives: disability studies (Alaniz 2014), queer theory (Fawaz 2016), cognitive neuroscience (Cohn 2017), third-wave feminism (Curtis 2017) and post-human body representations (Jeffery 2016), to name just a few. Disciplinary cohabitation is predicated on dynamic cartographies of knowledge production and the confluence of multiple disciplines. Institutional bodies and research interests have their own specific political implications. The pluralization of different hypotheses, practices and disciplines is not simply a prerogative for a contemporary comics praxeology, but a shift “from a critique of truths to the construction of objects” (Schmid and Hatchuel 2014), that allows for engagement with the multiple becomings of comics.

A pluralization of overlapping, non-competing perspectives is also at the heart of comics experimentation and contemporary conceptual practices. The comics industry is a network that consists of a multitude of legal, institutional, economic, political and personal bodies whose speed, direction of movement and overlapping temporalities are shaped by infrastructural affordances. Kenneth Goldsmith intuited that “conceptual writing or uncreative writing is a poetics of the moment, fusing the avant-garde impulses of the last century with the technologies of the present” (Goldsmith 2008). Always co-terminal with technological innovationism, the comics industry proves that “separating publishing from technology is impossible” (Bhaskar 2013). Judging from the diversity and proliferation of conceptual practices in comics and the novel use of archive, production and distribution technologies, one can argue that conditions are ripe for the formation of a genuine interdisciplinarity in the comics infrastructure.

The comics industry is an infrastructure

Speculations about the growing role of automation in artistic production have been a consistent trope in modern and contemporary art debates throughout the twentieth century, and into the twenty-first. The early forerunner exhibition “Machine Art”, curated by Alfred H. Barr Jr. and Philip Johnson in 1934 at the Museum of Modern Art

in New York provocatively put on display items such as typewriter carriage springs, a toaster and a cash register. The exhibition claimed for industrially produced objects that were deemed to be purely functional an aesthetic appreciation equally intense to the one reserved for works of art. Described by Philip Johnson as an “anti-handcraft show” (Zane 1991:32), the exhibition significantly contributed to the expansion of the art collection’s museographical scope, and to a quasi-canonical application of an equal aesthetic scale for art and industrial objects. The show, but also the discussions that it provoked, contributed gradually to the erosion in the humanities of “a conception of technology in which technics is pitched against the human” (Broeckmann 2019), and many years later, this legacy is now clearly part of the general sensibility: a series of sensationalist contemporary shows in important museums worldwide explores the latest creative developments in machine learning and examines how artists can deploy technologies in prescient ways.⁵ These manifestations are no longer perceived as provocative, but as a part of the natural expansion of an ever-growing artistic toolbox. While the conceptual power of machines has shaped the human imagination and found expression in humanity’s rituals, languages and social organization since ancient and prehistoric times, it is only recently that the fiction of quasi-autonomous technical systems is celebrated and thematized to such an extent in the artistic imaginary.

Comics, on the other hand, have been symbiotically expanding from their early beginnings, with the infrastructural development of printing, distribution, communication and media technologies. Since the earliest reproductions, the most auteurist comics, unlike works in other fields of visual culture, could hardly be seen as the figments of a single artistic genius. Their production depended on an array of different professionals and skills. Both formally and conceptually, comics have foregrounded from a technical and economic point of view, important notions of efficiency, marginal utility and computability. Comics are the products of an operative architecture, unfolding sequentially and built from discrete instructions like the stages of a recipe. They are scripted, written, pencilled, inked, coloured, lettered, edited, lithographed, printed, marketed, distributed, sold, collected, archived, digitized, shredded and recycled into pulp.

5. Some of which: “I am here to learn: On Machinic Interpretations of the World” (Frankfurter Kunstverein, 2018), “Machines Are Not Alone: A Machinic Trilogy” (Chronus Art Center, Shanghai, 2018), “Entangled Realities: Living with Artificial Intelligence” (House of Electronic Arts, Basel, 2019), “AI: More Than Human” (Barbican Centre, London, 2019) and “The Work of Art in the Age of Artificial Intelligence” (Victoria and Albert Museum, London, 2018).

Comics are the direct output of an industrial processes of completion based on instituted sets of standardization practices that are deeply embedded in the ways we understand and consume comics, that have become essential features for the conceptualization of artistic practices in the medium. As commodities and disposable goods, comics have been in constant dialogue with the existing consumer technologies that have shaped the medium's forms, modes of address, the composition of its communities and the medium's relation to institutional memory. As objects of sustained attention in art education, comics syllabi are infused with a variety of educational material that goes beyond what can be narrowly defined as artistic: technical knowledge(s), industry's best practices, basics of Intellectual Property law, marketing strategies for self-publishing, digital promotion and career planning. For example, the Center of Cartoon Studies in White River Junction, intensifies this tendency in its educational program. "Applied cartooning", the art of professional flexibility in technically and artistically responding to different job openings, shows how comics education encompasses a multitude of skills beyond the narrow remit of printed comics such as comics journalism, infographics, "graphic facilitation" and advertisement storyboarding.

Comics are situated in a dense information economy and each step in the artistic process is technologically mediated and heavily coded: from the industrial adoption of the patented Ben Day photoengraving technique as a *conversion* tool for color separation in printing technologies and the *optimal* allocation of space for cartoons and daily strips in early newspapers, to the industry's complex *logistics* funnelled through global distribution sinews, transatlantic containers, warehouses and data centers, comics can be described as *technical/computational* objects. The all-encompassing influence of technological advancements has a continuous profound impact on the ways we produce and consume comics. Nevertheless, the technological coevolution takes place in the industry's highly striated space, operating under the conflicting interests of market forces and legal, commercial, historical and academic institutions.

Situated at the vanguard of capitalism, the infrastructure of the publishing industries has always operated as a disruptive force in the knowledge economy, the copyright establishment and the application and enforcement of patent laws, and most importantly with tangible effects to their very own professional constituency. One needs only examine the consolidation of US retail distribution services in the 1980s and the massively digitized operations of logistics and global supply chains in the twenty-first

century, to get a sense of the comics industry's very own vibrant topologies.

In order to understand better how the conceptualization of the comics industry as a hybrid object-human networked activity, can allow, or deter, specific artistic practices, the work of sociologist Susan Leigh Star can be particularly helpful. Her research focused on the informational infrastructures of modern societies and discerns nine defining characteristics in the concept of the infrastructure as a system of substrates: Infrastructures are large scale technical systems that are often *embedded* in other structures and social situations, making their operational aspects hardly discernible to external observation. Infrastructures are complex, multi-layered formations that are built and depend on an *installed base* of sunk capital and whose maintenance often occurs in *modular increments*. Infrastructures *embody* standards, technical specifications and hidden mechanisms, but at the same time they are present as *transparent*, ready to use technical configurations that don't need to be reinvented every time they are called upon. Their operational regimes are usually *linked* to conventions of practices that have been developed by communities of users. Infrastructures are often *learned* and for that matter, they are also taken for granted by a community's "usership". Finally, infrastructures tend to develop their own *temporalities* and modes of *spatial reach*. As highly contextual and relational objects where "one person's infrastructure is another's topic, or difficulty" (Leigh Star 1999), infrastructures become naturalized, invisible and resurface in our consciousness only upon *breakdown*.

With the advent of the Internet and network technologies, the infrastructural dynamics of the comics industry are greatly magnified. For instance, the international emergence of global communities of comics professionals has not only provincialized the few global epicentres of comics production, but also contributed to overruling an array of professionals that once were key agents of the industry. The disruptive and technologically mediated effects of networked affordances can be examined, for instance, through the rising entrepreneurial fan culture and the emergence of independent, interconnected and globally distributed communities of "scanlators".

Scanlating is a portmanteau that describes the unsolicited work of comics fans who buy, scan, translate (usually to English) and distribute online and for free, their favorite manga series. Catering to the needs of a western readership that is thirsty for works that haven't yet been licensed for foreign distribution, and whose "radar" moves faster than the acquisitions of western publishing conglomerates, scanlators operate under what is

called a “gentleman’s agreement” (Pink 2007) where “the redistribution of scanlated manga takes place without explicit approval or material support from the original manga publishers” (Manovich et al. 2011). The unsolicited activity is often strategically allowed by the original publishers as a safe breakthrough in western markets. Scanlating communities operate an entire digital infrastructure, with its marketplace, its online repositories and its very own digital app ecosystem. A “multitude of freely available scans are downloaded in the millions” (Ratti 2013) through media repositories such as MangaReader that consist of the backbone of community engagement in the scanlations communities. These websites are aggregators that often supersede by a large magnitude the existing official and corporate efforts to encourage community engagement, but in reality they are not very different from existing shadow libraries such as *aaaargh* or *Monoskop*. Subscribed users are invited to review their favorite manga series, exchange ideas in adjacent specialized fora and make requests for missing entries. Visitors can also make use of a custom-made crawler, an indexing tool that covers multiple repositories and offers a comprehensive RSS feed to thousands of available scanlated series.

Scanlations also have their own p2p sharing websites and their own legacy file extensions: *cbr* and *cbz* are hybrid file formats, executable by special manga-reader mobile apps and are used for storing and displaying comic books. Besides making a name for themselves or for the highly competitive collectives they represent, scanlators find ways to monetize their work. The downloaded files come often with advertisements, paid editorials, promotional coupons, and any other tried way to commodify the attention of a very large readership. As demonstrated by this quick overview, the emergence of digital and network technologies, allows spontaneous communities of fans to develop novel *technical/affective* capacities in accessing, annotating, archiving, disseminating and monetizing digital artefacts of comics, with highly disruptive implications for the entire sections of an industry.

The scanlations effect would have naturally never been possible without the advent of the Internet’s novel affective infrastructures of sharing and the growing discontent with artificial scarcity in the “new environment of textual abundance” (Goldsmith 2010). Comics are highly malleable technical objects that are shaped by and respond to new infrastructural demands. An infrastructural framing of the comics industry and its organizational affordances allows the contemporary comics artist to undertake specific

sets of actions and productive opportunities for intervention. In “Outlining Conceptual Practices in Comics”, I reflected on Willem Flusser’s historical conceptualization of art making in the information age. While Flusser was explicitly referring to the art of photography, his insights are useful for the comics industry as well. According to the writer, photographers are more like networked performers. They operate with a high degree of abstraction, rely on different layers of information encoding and decoding, and are integral parts of a succession of agents and social institutions that produce their own type of discourses, knowledge(s) and histories. These apparatuses permeate and overdetermine every artefact, every single photograph. These imbricated institutions range from the patent holders of image compression algorithms, to the shareholders of a photographic empire and the military-industrial complex R&D departments developing new technologies. In the example of the scanlation pipeline, each step of the entire chain of labor, from the distribution to the communication, and from the consumption to the annotation, is reflected in the materiality of the very same digital artefacts: manga books are broken down to individual chapters so that readers are only notified about the latest updates through the available RSS feeds. The chapters come as highly compressed files, industry-specific extensions (cbr), specially packaged for readers with low bandwidth; their design, such as the dimensions, the typography, and the promotional material and advertisements, is responsive to the requirements of mobile devices and commercial reader apps, while advertisement links can be directly opened in the native browser of the reading apps, further allowing the gathering of leads and the monetization of visits.

Related to a similar contextual understanding of media, curator Jack Burnham wrote in *Artforum* in 1968, “we are now in transition from an object-oriented to a systems-oriented culture [where change] emanates not from things, but from the way things are done” (Burnham 1968). These technical affordances pose new challenges to conceptual comics artists who navigate and disentangle the different levels of signification that are encoded in each and every artefact. Eager to find out how an infrastructural approach to comics can be updated in our present time and within an increasingly interconnected, globalized comics industry, I turn to what researcher Victoria Ivanova calls “infrastructural praxis”.

Infrastructural praxis is the artistic practice that prioritizes engagement and actions allowed, or afforded by the operational backend: the technical-economic scaffolding that “has the potential to shape the operational domains of other fields (such as)

relationships with other systemic conditions globalization, finance, and the liberal values underwriting human rights regimes” (Ivanova 2019). According to Ivanova, a systemic approach understands how separate demands coalesce and inform each other. The backend traverses the multiple scales and the seemingly separate contexts that constitute the infrastructural space. Infrastructural praxis activates the operational protocols, norms and regulations, the “byproducts of unintended confluences, junctures” and market forces that have been crystallized through repeatability and that have been gradually integrated in the infrastructural connective tissue, often up to the point of being naturalized and taken for granted. Infrastructural praxis and its situated affordances is an opportunity to demote the importance of human-oriented decision making and to explore or to orchestrate situations where infrastructures can be hacked or even stop being operational. Infrastructures, as is demonstrated by Leigh-Starr’s theoretical work and by the example of the scanlation communities, are not only dynamic but are also fragile and volatile. They require intense maintenance and repair. Infrastructural breakdown through erosion or decay is an invitation for hyperawareness; a way to poach holes in the infrastructural tissue and to make their operational capacity, an object of systematic and sustained attention from the perspective of the conceptual comics performer.

The digitization of the production and consumption of comics allows for an unprecedented proliferation of available media. Conceptual comics practices respond to the mutations of the comics ecology as one that is increasingly informationally dense. A recent reviewer of contemporary conceptual poetry historicized this turn in the following words: “If conceptualism tracked the hyperproduction of material objects, neoconceptualism tracks the hyperproduction of services, immaterial goods, finance” (Clover 2014). From the standpoint of the democratization of digital access to media content, Matthew Fuller writes that digital abundance, reflected in the “numerous forms of circulation that exceed, disorder and amplify their capacities as media” (Fuller 2017) does more than just point to the limitations of our conceptual frameworks or disturb our assumptions of what constitutes a book object. Media accumulation is productive in its capacity to expand our relation to memory, to contribute to the awareness of different regimes of attention, to broaden our understanding of the environmental footprint of artistic and publishing production and to rethink the performative aspects of information management as contingent to artistic sensibilities, in terms of what Paul Stephens calls “the poetics of information overload” (Stephens 2015).

Additionally and as creative processes are increasingly shaped by technological affordances, the comics industry is already facing the complex developments in artificial intelligence. The abundance of digitised media content available through third-party groups of comics fans, the increasing convenience of programming language frameworks and machine learning libraries, the secularisation of knowledge through e-learning and plummeting prices in specialised hardware is reaching a critical/inflection point where artificial intelligence will profoundly shape the ways we produce, consume, archive and distribute comics artefacts. An increasingly wide adoption of synthetic media, generative processes and predictive algorithms will not only reconfigure existing readerships and markets, but will ultimately force a radical realignment for the practitioners' artistic ethos and contribute to the formation of new reader sensibilities. As is demonstrated by the twitter bot *The Neural Yorker*, the use of deep learning technologies in comics, powered by multiple models trained on millions of data units whose collection occurs on a variety of different indexing regimes, both thematizes and accelerates the effects of the aggregate nature of knowledge production in a semiocapitalist age.

Comics Interdisciplinarity

As fragmentary observations, theories and experiences fail to cohere in the production of clearly delineated systemic disciplinary knowledge, the contemporary discussion around disciplinary concurrence attains momentum in multiple areas of expertise. The production of contemporary comics relies and depends on multiple infrastructural overlapping temporalities and globally distributed and interconnected labor regimes. How can we account for the production of new insights in comics when comics cannot be contained within single disciplinary approaches? In scientific research, the explicit heterogeneity is typical in extremely large objects, or what philosopher and literary theorist Timothy Morton calls "hyperobjects". These objects of study, such as global warming or radioactive plutonium, are massive, nonlocal entities that transcend human spatiotemporal specificities. They are inter-objective systems, formed through the relations between multiple objects, eliding simple and detached descriptions. They cannot be disentangled from the observer in a conventional epistemological distance. Hyperobjects such as climate change for example are dense, multilayered objects that beg for multiple disciplinary inputs and approaches that go beyond the narrow scientific and managerial existing frameworks (O'Neill 2010). Morton's own writing on hyperobjects exemplifies this attitude, and draws from quantum physics, climate science

and contemporary art among others. Contemporary research is increasingly determined by the scientific need for pluriformalized modelizations and computer simulations that have led to “the coexistence and the co-calculation of a multiplicity of formalisms” (Varenne 2009). The increasing informatization of knowledge and the aggregate nature of its production means that the mobilization of multiple disciplinary perspectives is no longer an exceptional state in the sciences, regarding only the study of hyperobjects. Increasingly, any system manifesting a certain complexity overrides single disciplines and has to be captured in its “interdisciplinary oscillation” (Schmid et al. 2011).

For example, an emerging research field that is co-contemporaneous to comics research is Curatorial Studies. As an emerging area of research, it shares a similar lack in the consistency and solidity of established academic fields. It addresses similar challenges in formulating its foundational narratives, much like Comics Studies. Contemporary curating practices have been gradually shifting away from a professional purview traditionally consisting in the narrow imperatives of exhibition making, towards embracing a diversity in critical practices around visual cultures. As a result, Curatorial Studies started questioning its very own object of research. Jean-Paul Martinon, the co-founder of the Curatorial PhD Program at Goldsmiths, wrote that contemporary curating is a practice that no longer needs to be legitimized by any single institutional discourse (historical, theoretical, socio-cultural or political), and that consequently “can only be taught in fragmentary forms detached from any previous system, including any previously shattered disciplines” (Martinon 2017). New directions in Curatorial Studies tentatively embraced the aggregate nature of knowledge production and this turn, according to the author, means that the traditional demands of professional integrity in the field are revised in order to respond to “the exigency of fragmentation, the imperative of the smithereens”, making curating an important toolbox in the contemporary world.

A similar dynamic is played out in Comics Studies, where there is little agreement about the nature of comics research and “its history, its methods, and the intellectual and institutional goals that will determine its future” (Steirer 2011). One important factor stems determinately from the lack of attachment for Comics Studies to a specific research department nexus. This is due to the lack of scholarly consensus about their media specificity, or in Greenbergian terms, as comics’ very own “unique and proper area of competence”. Described by Aaron Meskin as the “definitional project” (Meskin

2007), the heated debate around “what comics is” is based on a largely modernist assumption about what the defining features are, the expressive possibilities and the modalities of representation in comics, and to what extent an academic consensus should give rise to a normative framework of shared convictions about methods, histories and canons.

Here, it is important to be reminded that all definitional projects, whether they frame comics as a form of literature, an artistic medium, a set of craftsmanship traditions, a multimodal construction, or just a social object, are always pegged to entrenched academic interests that cannot, and do not need to converge. Studies in comics are “scattered across disciplines” (Steirer 2011) and are always produced through the sum and the variety of “backgrounds, traditions and research interests that comics scholars bring in the field” (Woo 2019). Therefore, disciplinary affiliations have an immediate effect on the academic understanding of the medium’s affordances. One could argue that comics is a genuinely interdisciplinary endeavour. Unfortunately, as is demonstrated by the institutional affiliations with Literary Studies for most comics researchers, comics research predominantly exists as a narrowly circumscribed domain due “to the largesse of English departments” (Beaty & Woo 2016). This ends up necessarily prioritizing certain (literary) readings of the medium. For instance, the recent “literary turn” in research (Beaty 2012), expressed through the early writings of Rocco Versaci, Charles Hatfield or Harry Morgan in France, attempts to describe comics based on the medium’s literary premises. The “literary turn” gained increasing traction as the prevailing direction in comics academia. According to Charles Hatfield, the academic study that explores the literary values of contemporary comics works towards the academic legitimization of these works and can be understood as an “incipient attack from within on hidebound ideas of what literature itself is or should be” (Hatfield 2010). Alternatively its purview is to marginally expand the established literary canons, i.e. by highlighting, through the lenses of comparative analysis with more “legitimate” (sic) literary and media genres, the power of character-driven narratives in canonical comic books (Versaci 2007).

As Comics Studies is gradually constituted as a fully-fledged field, with its own journals, conferences and imprints in academic presses, the relation with other academic fields becomes a matter of programmatic concern. Working between disciplines is often portrayed as a trade-off. From Benjamin Woo’s question “what might we gain by

drawing comics studies and media studies into closer alignment?” to Henry Jenkins’s “should the reading comics be disciplined?” and Art Spiegelman’s “faustian deal with culture”, to Bart Beaty’s “do we have to sacrifice too much specificity in order to regard comics as a literary form?”, comics praxeology, and interdisciplinary cohabitation seems to be an eternal compromise haunted by Faustian overtones.

One may wonder nevertheless if performing comparative analysis on graphic novels is really a mark of working across disciplines. It is hard not to agree that the object of comics is predominantly pegged to literary disciplinary perspectives. It’s tempting to read this as a symptom of an irrecoverable gravitational force operating in academic faculties. After all, dedicated journals, conferences and research groups are always originating in specific departments, and address specific constituencies of scholars. Interdisciplinary attributes are often perceived by some researchers as contributing to the fragility of the medium (Troutman 2013), triggering, like in the example of the “literary turn”, hegemonic disciplinary attitudes based on the domination of a single knowledge production mechanism. Whether this mechanism is experiential, theoretical, or tied to conventional disciplinary automatisms, such as the knee-jerk mistrust of images, being “one of the basic ideological moves of literary studies” (Hatfield 2017), the disciplinary ambivalence of comics research is often framed as an institutional liability, and a call to action.

The writer and critic Dale Jacobs notices that the question of interdisciplinarity in comics becomes a matter of articulation begging the following question; how are the constituted fields of comics research (cartooning, librarianship, etc.) supposed to integrate methodologies from other fields such as book history and media studies (Jacobs 2019)? While Jacobs rightly stresses that this is a collective issue that demands sustained attention from the entire community of comics researchers, he glosses over the important political ramifications that come with conventional disciplinary cohabitation and the fact that in comics, interdisciplinarity traditionally seems to come in the “shallowest descriptive sense” (Steirer 2011).

It’s important also to acknowledge, that despite the typologies of different kinds of disciplinary cohabitation that have been put forward, active in one way or another in current comics research and education (Hatfield 2010), knowledge production has a certain relation to futurity that interdisciplinarity hasn’t quite been able to capture yet. A non-explicit injunction to work across disciplines in Comics Studies could be

framed as a structural position against the usual disciplinary urge to reduce research objects to their most obvious features. Unfortunately, following the aforementioned example in Curatorial Studies, there is little academic consensus, mostly justified by the researcher's academic affiliations, about whether disciplinary concurrence should be genuinely embraced.

In his 2010 critical article "Indiscipline, or, The Condition of Comics Studies", Charles Hatfield, echoing an implicit premise on the nature of the field, advised for the development of an intentional interdisciplinary ethos in comics research. Due to "the heterogeneous nature of comics" (Hatfield 2010), Comics Studies, he claimed, is a productive field of academic interest with no cohesive, self-contained disciplinary identity. As an object of inquiry, comics research somehow "has fallen between the cracks", and can only be accessible through the intersection of multiple disciplines. Hatfield justly asserted that research in the field is a challenge to the specialization and the compartmentalization of knowledge production in general. This opportunity should "foster collaboration and collegueship across disciplinary and programmatic boundaries", something that should equally be reflected in a deep restructuring of academic programs, schools and university faculties. In 2017, the situation hasn't considerably changed and Hatfield rehashes and broadens his initial statement. He adds, echoing Jean-Paul Martinot's idea, that Comics Studies, "a liminal field, defined by the unresolved nature of its very object of study" is "a challenge to the very idea of disciplinarity as the academy is used to practising it".

I suggest we take Hatfield's intuition seriously and not just as a tactical opportunity to operate marginal expansions of a canon inside departments of English. The sustained substantial disagreements on the nature of comics within the research community, and the dispersal of comics research in the academic spectrum, are not a mere limitation. The heterogeneity of comics threatens the very same idea of media disciplinarity. Following a similar dynamic in Curatorial Studies but also in other nascent fields of research, liminality could be weaponized in order to prepare the ground for a new epistemological space leading to the abandonment of top-level access modes to knowledge production, as well as the desire to critically and theoretically exhaust any object by reducing it to its basic field properties. A real democracy of disciplines is incompatible with hierarchies of hegemonic disciplinary regimes, such as Comparative Literature, Popular Culture Studies or Film Theory. Comics, when hollowed out from any defining features

pegged to specific academic intensities, become an invitation to rigorously think and mobilize a genuine disciplinary concurrence. It seems therefore increasingly necessary to unstitch comics from traditional media interpretations, disentangle research from the predicaments of the present and focus on the unknown as a structural part of a systematic exploration of comics.

Generic Epistemology

The comics industry is an infrastructure distributed across multiple timescales and geographies that can only be described through the residual traces and inscriptions produced throughout the different layers of meaning signification. Comics infrastructures can be approached through intrinsically aggregate knowledge production mechanisms that follow the hyper-complexity shift in contemporary sciences. New insights in Comics Studies express the need for an epistemological space that is structured neither by the domination of certain disciplines nor by the traditional tension between theory and a certain relation to the real. Generic Epistemology is an epistemology of modelizations. Manifested through the need for multi-agential strategies (Schmid) and simulation and modelization practices (Legay), it responds to and reflects an understanding of knowledge production based on working across disciplines. Initially conceived as a tool of scientific method that can account for the creation of new disciplines in sciences such as quantum biology or computational social science, Generic Epistemology invites us to rethink the proceedings of scientific methods by pointing correspondingly to the insufficiency of unique and singular disciplinary perspectives. By vouching for the framing of a research object as a largely unknown one, Generic Epistemology allows us to elude simple formalizations; the objects' inherent heterogeneity is no longer treated as a marginal predicament but becomes a constituent feature for any meaningful insight.

Without demoting the historical importance of individual disciplines, Generic Epistemology brings forward an integrative approach to knowledge that is not predicated on any specific doctrinal system, the hierarchical relations of different disciplines, nor on any presupposed subject/object relation as a scientific imperative to objectivity. On the contrary, the researcher's intentions, cast in the object, are part of the object's identity⁶. Unpegged from any single disciplinary perspective, Generic Epistemology

6. Interestingly, Schmid et al. cite the example of NASA's exploration program on Mars and its deployment of robots

presupposes the creation of an “outside” space, a space structured by experiments in “inventive thinking which no longer treats objects as given and known” (Schmid 2013). According to Schmid, this outside space is striated by zones of inseparability and zones of incompleteness, “an immanent in-between” (*un mi-lieu immanent*) from which new interdisciplinary and ‘indisciplinary’ objects can be constructed. Generic Epistemology reclaims the act of scientific invention inspired by the emergence of complex computer simulations expressed in a variety of heterogeneous symbolic languages (i.e. pluriformalized modelizations) that can be found for example in the field of climate studies where multiple prismatic perspectives are needed to account for a research object composed of thousands of different models, incompatible scales, data collection practices and heterogeneous objects. Models, in their capacity to mediate between different ontologies, are understood as necessary buffer zones between theory and experience or between experience and fact. They offer a middle ground, where one can put in practice the displacement of continuities and oppositions between conflicting epistemological regimes. By establishing a democracy of disciplines, Generic Epistemology can address fragments and bodies of knowledge in a horizontal fashion, while remaining totally independent from the formation and the institution of these very same disciplines. Generic Epistemology introduces a new type of object that is not simply definitional but somehow operationalizes the discourse predicated on the fragmentary nature of knowledge production. *Integrative objects*, according to Schmid, are formed by the superposition of bodies of knowledges, disciplinary fragments, collective intelligences and individual researcher intentions. The comics industry, with its infrastructural backends, is an integrative object.

Distributed in multiple disciplinary levels, both in space and time, integrative objects consist of new types of contemporary objects that are convened in a non-conventional manner, counter to the phenomenological distance separating object and subject.

According to researcher Patricia Reed, integrative objects “radically undo our conventional concept of ‘object-particulars’ [...] since these new objects are massively distributed in space (they are extra-local, and extra-disciplinary) and time (from the milliseconds of communication transactions to the long temporality of geological transformation in some cases)” (Reed 2016). Their understanding does not depend on any specific theory, any particular discipline nor any relation to the present state

collecting geological information whose operational modes embody collective human intentions.

of knowledge. Integrative objects form “a disciplinary hole” (*un trou disciplinaire*) (Schmid et al. 2011:21) that allows a displacement of disciplines to proceed by strategically locating zones of inseparability where different doctrinal regimes overlap. Through multiple partial approaches and non-convergent disciplinary perspectives, the goal of a research project is to always approach its object in an indirect way, in order to not reduce it to its most known elements, but instead to complexify it. In comics, this would be translated by the demotion of narratological devices and text-image correlationism in favor of new cartographies of knowledge where non-overlapping disciplinary fragments, hypotheses and other research ingredients are put into play in a rich cognitive setting. An example of coming from the introduction vignettes is quite telling in that regard. By framing comics through the lenses of what anthropologist Arjun Appadurai names “ex-commodities” (Appadurai 1986:16), defined as things retrieved temporarily or permanently from the commodity state, Inès Chuquet mobilizes physical evidence for establishing an industrial history of a medium, and forging new practices in collectability. In this regard, comics is an integrative object whose epistemological space needs to grant a status to an alien heterogeneity, as a fragile but necessary prerequisite for the formation of virtual and futural artistic practices.

As Schmid, Mambrini-Doudet and Hatchuel assert, it is a considerable challenge to organize the combination of knowledge from different disciplines in an agile way and without having to center any particular discipline. Existing classifications of interdisciplinarity present a diverse range of possible disciplinary relations in the articulation of the heterogeneous elements from each discipline. At times, combinatorial modes favour the juxtaposition of different knowledge(s), the integration of new insights, synthetic views of collective intelligence, or a more institutionalised “metaprogrammatic” perspective, with a political oriented goal to foster new expertise.

The authors advance a new hypothesis of non-continuity, where a combinatorial approach to knowledge is cut short. The goal is not to foster a common language in order to bridge the gap between different regimes of knowledge production, but to instead make of this gap the very same condition of working across disciplines. As they provocatively argue, incomprehension is much more productive than simili of common understanding, and researchers should not seek at all costs “to understand each other, not to project a meaning from one area to another, not to assume transparency of meanings, but to construct *iterations*” (my highlight) (Hatchuel et al. 2011). This last

term, emphasizes the authors' familiarity with modelization processes, as it is used in describing the iterative nature of training in neural networks.

Here, Schmid and Hatchuel introduce the practice of "fiction" as a multiplier of disciplinary perspectives, a way to alienate the object of research from a state of received knowledges and to open it up to an expanded cognitive field. Fiction is distinguished from invention, so far as it "assumes a point of externality" where the study of an object is disentangled from any specific discipline and irreducible to its most well-known concepts, but can still be constituted without these. Following Schmid's example of mathematics "without" numbers, philosophy "without" transcendental concepts and mechanics "without" authority, what would comics be "without" narratives or "without" images?

When comics are hollowed out from their main object of study, they reclaim the status of multidimensional entities; each discipline offering a partial perspective to the object becomes a dimension of it and contributes to the construction of an object. When readerly and writerly subjectivities that have dominated much of the critical discourse are purged from our understanding of comics, and when the established protocols or the best practices for conducting research are no longer provided, comics fail to "fall under one set of finalities" (Mackay 2012). Experimental or "advanced technologies" present exactly the same opportunity for Schmid's fiction as a productive method to comics futuralities. The following example, whose description should be quoted in its entirety, originates from the investment portfolio of a small organization based in Brussels. It manifests a sort of futurity where comics are no longer 'disciplined' and instead are considered through the lenses of financial speculation, not as the joyless accumulative practice in comics collectordom, but as an active productive force with radical imaginative capacity to construct alternative forms of media preservation.

"As the market for vintage and rare comics reaches astronomical prices, comics collectordom has its own mechanisms to assess the condition and value of a print. An entire industry-specific dictionary was put in place in order to mitigate the risks of investment. One can find a rich jargon of terms such as 'deacidification', 'oxidation shadow' and 'quinone stains'. Every wear and tear mark has a name. Every name reflects practices of mishandling. Every name represents a tangible asset liability. For comics collectors, whatever is outside a heavy duty 4-mil acid-free Mylar sleeve loses its

collector value. All this changed when **Echo Chamber**, a small organisation based in Brussels decides to address deterioration not as a logistical problem, but as an opportunity. The organisation's *Radical Conservation* portfolio targets wealthy collectors and offers a variety of derivatives for those that are willing to entrust them their valuable possessions. Their underlying business idea is that decay, an inevitable fate for paper products, can be programmed, even artificially accelerated in order to reflect the collector's idiosyncrasy. Some of the previous commissions include cases of expedited disintegration where *Bone's* first issue from a Dutch client was buried along long-term Organic Carbon sequestration in tidal marsh sediments along Scheldt's estuarine salinity gradients in Belgium, or a highly entropic environment where a mint copy of *Tales of Suspense #39* laid in monitored exposure to microbial detriogens and macrofauna such as tubeworms and bivalves in the company's Pacific Lab." (Echo Chamber 2019)

The redefinition of comics research through the lenses of the financialization of decay for collectibles is not framed here as an enriched commentary, nor as a failure to mobilize popular concepts that can be found in Comics Studies, whether these are artistic, narrative or community specific. In the aforementioned case, we are presented with a speculative scenario of media disintegration, where the relation of comics media to geological time, the proceedings of an R&D experimental lab and the financial operations of trading, allow an estrangement of comics, distancing them from an accustomed position or set of popular associations that define academic research. By hollowing out comics from the dominant modes of knowledge production but also by the current state of knowledge, Schmid's and Hatchuel's fiction grants every piece of knowledge and every hypothesis, in the frame of the study, a relative consistency and autonomy.

On the contrary, the proposal mobilizes productive concepts that are situated in atypical areas of research in relation to Comics Studies, and ultimately contributes to the restoration of comics as an "unknown" object that can remain partly indeterminate and susceptible to virtual and future notions. The epistemological result, and here Schmid urges the reader to wager, is not the violent reconfiguration of knowledge production described by Kuhn's paradigm shifts, in a constant cycle of historical continuities. On the contrary, it's the formation of a site of interdisciplinarity, a space of superposed

methods, hypotheses, practices and theories, where knowledge is expanded through “collective intimacy” (Schmid and Hatchuel 2014:137). This reframing has an important epistemological impact on the way we engage with the comics industry as producers or consumers. Instead of displacing the medium’s conceptual scaffolding on certain assumptions of what craftsmanship, authorship or readership is, an understanding of comics as a technical/computational object through the operational intensity of its infrastructural backend provides a dynamic context that allows for new and diverse forms of media engagement, that are not conventionally understood as comics works.

As it can be intuited from the artistic components of this thesis, a conceptualisation of disciplinary concurrence has informed my understanding of artistic research in contemporary comics. From *Peanuts Minus Schulz* and its reflection on organization planning through globally distributed labor and *The Cubicle Island’s* human-algorithmic revisiting of press cartoons to *Compendium’s* semantic segmentation of proto-narrative elements, *Shapereader’s* index poetics through the lenses of disability studies and *Fastwalkers*, the first comic book co-created with emergent AI, my artistic work demonstrates how a constructive approach to comics futuralities is predicated on working across disciplines. An investigative exploration of comics not only renegotiates the very concept of comics making, but also investigates the prospects of what can be done, both in theory and through practice, with a concept of comics not as a ‘thing’ with immutable structures, histories and affects but as an ongoing project, where new forms of intuition are put forward and new methodologies have to be devised according to their very specific needs. I’ve investigated the aforementioned concepts in various ways: through curatorial commissions, through writing, and through my publishing practice. This thesis argues for a novel comics praxeology informed by a rigorous disciplinary concurrence in comics research, and a heightened perceptual awareness of the comics industry’s very own infrastructural affordances.

Précis

This thesis is structured as follows:

In **Chapter 1**, I examine how the shortcomings of institutional representation in comics and the eroding role of the existing institutions in the increasingly interconnected, globalized comics industries might be conceived as both an invitation to formulate an alternative institutional memory, and as productive conditions for a contemporary comics praxeology.

In **Chapter 2**, I take a closer look at the composition process of the book *Abrégé de Bande Dessinée Franco-Belge*. I examine how the book was built following the precepts of ontography's model of conceptual representation of objects, focusing on the rich visual typology of graphemes drawn from the Franco-Belgian tradition of the bande dessinée.

Chapter 3 consists of two parts that focus on the project Shapereader, a system specifically designed for users with visual impairment with regards to the production and consumption of tactile comics. The first part is a theoretical investigation of the tactile novel *Arctic Circle*, and explores some of the strategies used to translate concepts and elementary semantic features into haptic formations. The second part consists of the artist notes as well as various exploratory tangents related to embodied cognition and includes a visual documentation of the multiple forms of engagement that occurred around the project over the last few years.

In **Chapter 4**, I reflect on my conceptual comic book *Peanuts Minus Schulz* and how distributed digital labor, used as an opaque, material and possibly disruptive compositional practice redefines the contemporary disenchantment in digital comics with information flows, and rethinks the industrial precepts of the medium in post-digital production modes.

Chapter 5 is a technical paper sketching how a production pipeline based on deep learning technologies such as computer vision algorithms, language modelling for text generation and image generation algorithms, can be used for the production of an entire synthetic comics book.

Chapter 6 is a multicomponent chapter that brings together four short articles that explore the unconventional work from individual conceptual comics artists and establishes the

conditions for affective lineages among similarly minded practitioners in comics.

Comics

This section collates my artistic research that was mostly manifested through the form of books published under different imprints and with the help of various of partnering institutions.

Abrégé de Bande Dessinée Franco-Belge, published in 2018, is presented as a non-exhaustive idiosyncratic index of elements considered to generally define the tradition of Franco-Belgian comics. *Abrégé* is structured as an orchestral comic book whose elements such as comics proto-memes, metanarrative devices and paratextual elements, once extracted by their original books and freed from the imperatives of their specific narratives can be contemplated as the building blocks of the European BD.

The Cubicle Island was published in 2020. It is a conceptual comic book project that explores the blurring between human and machinic subjectivities through the distributed ramifications of digital labor and the new regimes of work and playbor in the making of an international class of precarious cognitive workers. It collects hundreds of desert island cartoons, a genre that reached its peak of popularity in 1957, possibly as an expression of a Cold War fear of the nuclear bomb and the nascent alienation felt by the increasing post-fordist labor regimes. The cartoons were then outsourced to digital labor farms, where an unskilled textual labor force (microworkers) and different algorithmic surrogates (process of offices automation) were solicited to contribute to the book by proposing punchlines for each cartoon.

Peanuts Minus Schulz appeared in 2021 and consists of the reproduction of Charles Schulz's work by commissioned artists, using digital tools and mediated by a digital labor management platform. The book explores the industrial affordances of comics and proposes an alternative production belt, where the differences between contributors are neither levelled nor neutralized. Contrarily to mainstream comics, the book is composed from a diversity of temperamental and idiosyncratic approaches to the interpretation of Schulz's work. *Peanuts Minus Schulz* underlines the very nature of comics as an eternal score subjected to vagaries and contextual instantiations.

Fastwalkers is the first synthetic comic book generated with emergent AI. Co-created with emergent AI (GAN, GPT-3), and developed by an interdisciplinary team of

computer scientists and designers, the book is the eclectic outgrowth of a variety of different indexing regimes, community datasets, proprietary algorithms, beta-testing and generative models trained on millions of data units and bodies of text. By addressing the aggregate nature of knowledge production in the semiocapitalist age, *Fastwalkers* thematizes the inherent computational qualities of comics and operates a foray in the latent space lurking in the reader's pre-attentive cognition.

Lastly, *The Neural Yorker* is an AI engine that posts synthetic cartoons on Twitter. It is based on a GAN-derived model and a pre-trained GPT-2 transformer trained on millions of data units whose collection occurred on a variety of different indexing regimes and systems of classification and labelling. The multitude of epistemic regimes is not only thematized here as a metaphor or a theoretical perspective on the increasingly aggregate nature of knowledge production in our computational age, but becomes an operational procedure in the construction of the very same synthetic cartoons.

Curatorial work

In October 2020, I was invited to curate a *Conceptual Comics Archive* for the online media collections Ubuweb and Monoskop, popularly known as 'shadow libraries'. The collections feature seventy-five books and other printed formats that have been documented, and photographed from cover to cover, with a focus on the materiality of the artefacts. Each document is presented along with metadata and a text from the publisher's press release or a small critical introduction to the work written in order to provide background information about the needs of the collection. The collection embraces equally real, unclaimed, anticipated and fictional practices in their perpetual materialisation. As a whole, it reflects on the specific sites of production and their potential to register meaning and organise discourse based on inscriptions of the material language of the industry.

Shadow Libraries: Ubuweb in Athens was a three-day festival at the Onassis Cultural Centre in Athens that I co-curated with Kenneth Goldsmith. The program consisted of an exhibition, an educational program of four workshops and two symposia and explored the conceptual consistency and the ethics of digital preservation and distribution from the practitioners' perspective. The invited guests unpacked the 'thingness' of these fragile knowledge infrastructures and discussed how their architecture challenges current norms of intellectual property rights, market concentration and control of access.

The Futures of Comics is an international non-academic research programme that explores how comics are undergoing historic mutations in the midst of increasingly financialized, globalized technological affordances and proposes to map the social, economic, racial and gendered forces that shape the industry's commercial, communication and production routines. Through reading sessions, artist talks, various workshops open to the general public, a symposium and the production of a temporary library / reading space, Futures of Comics attempted to document and reflect on contemporary artistic practices with the goal of providing a resonating chamber for works and practices that are little known outside of comics communities.

Lastly, *The Mural* explores Shapereader and its tactile resources as a speculative tool of graphic musical notation. The work was installed in the Balzaal of the Kunstencentrum Vooruit, in Spring 2020 and in the middle of the global pandemic. In compliance with Belgian health regulations, this art residency was an opportunity to invite eighteen performers from a variety of musical backgrounds on a daily basis. Structured as individual meetings, we discussed and shared affective (and other pre-attentive) individual experiences related to embodied experiences in sound production, and together conceptualized the building blocks for a tactile, graphic musical notation according to each performer's preoccupations. During the month of April 2021, and along with the different participants, we questioned the normativity of conventional notation tools, discussed the de-emphasizing of vision with regards to "reading" music and explored the manifold ways in which sound can be translated and stimulated by touch. The encounters, the short performances and the interviews with musicians were documented on camera, and were released as a short film - a collective commemoration on the awareness of mutuality in the sense of touch, that may never be the same again.

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Estranging Comics
Chapters 1-6

Chapter 1

Outlining Conceptual Practices in Comics

- Published in *European Comic Art Journal* (10/2021)
- Presented at the *Materialities of Comics Symposium*, Aarhus University, (02/2019)

Abstract

This article examines how the shortcomings of institutional representation in comics, and the shifting role of existing institutions in the industry, can engender a new comics practice. ‘Conceptual comics’ mobilise the historical legacy of conceptual art in its capacity for institutional critique, self-reflexivity, alternative forms of skilling and the prioritisation of context over content, to renew comics making and reading. My case study, *Noirs* (2015), a facsimile *détournement* of *Les Schtroumpfs noirs*, closely approximates the original, with the same cover, number of pages and format, but replaces four different composite colour plates by four uniform plates of cyan, resulting in a monochromatic deviation. *Noirs* demonstrates how a form, when no longer conventionally operational, can foreground industrial fabrication normally intuited as a transparent and mechanic process.

Introduction¹

In 1959, Brion Gysin wrote that ‘writing is fifty years behind painting’.² Similar statements about behind-ness or ahead-ness in the arts do not seem to gain as much traction nowadays. More than sixty years later, the evolutionary race between different forms of expression / inscription outlined in Gysin’s oft-cited quote seems to be a matter of evolutionary concern itself, and a vestigial relic in that regard. One factor might be the diminished conviction in traditional media categorisation, which can be justified only in market terms, and whose constructedness escapes conventional readings. This shift can be partly explained by the pluralisation of contemporary artistic

1. The research on Conceptual Comics was generously funded by the Kone Foundation in 2016.

2. José Férrez Kuri (ed), *Brion Gysin: Tuning in to the Multimedia Age*, (London: Thames & Hudson 2003), 153.

practices and the increasing exploration of the interstitial space between different media along with the advent of categories that blur distinctions between different artistic forms and media. Gysin's own uncategorisable artistic production is a natural counterexample to the modernist dictum according to which artists should investigate, or to put it more bluntly, draw the boundaries and defend, their medium's 'unique and proper area of competence'.³ The media researcher and writer Jonathan Sterne urged us, already in 2003 before the tectonic shift of media convergence and the merging of mass communication outlets through digital platforms, to take a further distance from essentialist perspectives and 'consider media as recurring relations among people, practices, institutions, and machines'.⁴ The word 'recurring' challenges a definitional fixity that emphasises the media specificity of histories, communities and signifying potentials, and gradually shifts our focus towards a certain persistence, a repetitive occurrence. Unlike ontological categories and more like dynamic entities, media are hybrid, malleable formations where models, technologies and arrangements, old and new, converge, evoke, thematise or mutually shape each other. Cultural institutions and professionals that have established their reputation within a media-specific purview, face the transformation of media ecologies both as a challenge and an opportunity.

Another factor that we need to take into account is that access to media content increasingly occurs in information-intensive contexts. Networked technologies have their own specific 'affordances', described by Sellen and Harper as the 'possibilities of action' allowed within a defined material setting and determined by an object's properties.⁵ The increasing access to online media content has contributed to the process of reconfiguring dated criteria of media hierarchy that have allowed a comparative developmental understanding of different artistic forms to take root. The Internet definitely changed how we produce, consume and archive comics, in ways that are at once infrastructural, ubiquitous, and quiet. For instance, a paradigm shift in media access, whose critical impact still needs to be researched and weighted in the understanding of the comics industry's complex distribution and communications patterns and channels, can be found in something as 'mundane' as network neutrality; this is the open Internet's backbone, a single infrastructural

3. Clement Greenberg, 'Modernist painting' in *Modern art and modernism: A critical anthology*, eds. Francis Francina and Charles Harrison (London: Routledge, 2018), 5-10 (6).

4. Jonathan Sterne, *The audible past: Cultural origins of sound reproduction* (Durham: Duke University Press, 2003), 223.

5. Abigail J. Sellen and Richard H. Harper, *The myth of the paperless office* (Cambridge: MIT press, 2003), 17.

technology that undergirds our networked experience. It is benchmarked to ensure that equal opportunities for unbiased access to media content are offered, ‘regardless of the source and without favouring or blocking particular products or websites’ (OED). Network neutrality still constitutes an important battleground between Internet Service Providers and media conglomerates. Although the Internet is far from being in practice a smooth, unstriated space where all media content, independently from its belonging to an industry, an art form or a mode of address, is equally present to the user, comics are found to exist simultaneously and compete for attention, with other forms of media content. The evolutionary competitiveness between media in terms of forms and histories, has shifted to a race for attention that encompasses all media ecologies, an opportunity that comics professionals have been able to leverage in different ways.

As the comics industry and its institutions are being reshaped by technological and networked affordances, I argue in this paper, that an industrial understanding of comics can be the basis for the constitution of a comics practice, which I have called conceptual comics. In this article, I use the example of *Noirs*,⁶ part of an artistic research project that I have been conducting for many years with a dozen of different publications (see Figure 1). I would like to sketch how a work of conceptual comics explores its very substrate ‘not as transparent signifier, but as an object in its own right, replete with its own material properties, histories, and signifying potential’.⁷ Conceptual comics mobilise the historical legacy of conceptual art in its capacity for institutional critique, self-reflexivity, the constitution of alternative forms of skilling/deskilling, and the prioritisation of context over content, to a novel notion of comics making and comics reading. Through an industrial-affective approach to comics, these works reflect the need for a new sort of institution that responds to rapidly changing media ecologies.

Works in progress

The Internet’s attention economy and the need for new markets have greatly contributed in revealing the diversity of comics demographics. The global exposure for comics artists, scenes and small publishers, provided by media platforms and online communities such as instagram, deviantart and tumblr, has provincialised once and for all the traditional, western epicentres of the comics industry. The stereotypes

6. Ilan Manouach, *Noirs* (Brussels: La 5e Couche, 2015).

7. Craig Dworkin, *No Medium* (Cambridge: MIT Press, 2013), 9.

according to which comics makers are white ‘bespectacled fanboys, acned overweight misfits’,⁸ or ‘anal retentive, adolescent and emotionally arrested’,⁹ naturally a critique that could have easily applied to the literary-on-high, is further corroded to the point of untenability; the Internet has contributed to revealing the real demographics of comics makers and fans; from an audience consisting predominantly of a white, young and middle-class male population to steadily growing reading communities, extremely diversified in terms of ethnicity, gender, race and sexual orientation. Comics communities, increasingly mixed, evolve beyond a passive acceptance of marketplace choices. Makers and readers have used the Internet as an empowering technology that enables ‘average consumers to archive, appropriate, annotate and recirculate media content’.¹⁰ The Internet has contributed to the incentivisation of individuals who take an active role in discussing and distributing alternative, transformational or derivative works, based on root-texts; for instance, *fanfic* (short for fan fiction), is a form of fan labour that has been rarely commissioned or authorised. According to Jenkins, all participatory fanfiction works, such as the book I will explore in this article, involve some form of critical commentary. These works are generally construed by reader-writers as a response to the consensual and normative ethos of the industrial mainstream, especially by readerships who have felt under-represented due to gender, sexuality or ethnicity. While these contributions are made with a degree of loyalty that fans feel towards the original creators, they still largely depend for their valorisation on the power/knowledge nexus put forward by mainstream comics publishers. Nevertheless, individual makers become increasingly independent from centralised channels and gain substantial control over the promotion of their content, and are able to address their audience with limited need for mediators. The traditional importance of gatekeepers such as publishers, critics, and the specialised press is certainly under reconfiguration, if not seriously eroded.

While access to online content through the emergence of media aggregators, subscription-based access and RSS feeds has undoubtedly contributed to a certain diffusionism in the online distribution of media content and is partly responsible for further deconstructing well-established criteria of high and low brow in cultural

8. Aaron Kashtan, ‘The End of Comic Geeks?’, *The Hooded Utilitarian* (May 2015), <https://www.hoodedutilitarian.com/2015/05/the-end-of-comic-geeks/>. Accessed on January 15, 2021.

9. Roger Sabin, *Adult Comics: An Introduction*, (London: Routledge, 1993), 68.

10. Henry Jenkins, *Fans, Bloggers, and Gamers: Exploring Participatory Culture* (New York: NYU Press, 2006), 1.

stratification, one has to acknowledge at the same time the synchronous effects of an inverse and somewhat balkanizing force that is manifested in various forms within the comics industry. At a time when contemporary media art is conceptualised in terms of ‘media convergence’, ‘partial remediation’, ‘embodied cognition’, ‘transitional’ and ‘hybrid textualities’, comics stubbornly look, feel and read the same. Despite the growing sophistication of the multiple, mostly digital ways of experiencing art in the twenty-first century, the comics industry is tentative in imagining new forms of perceptual and sensual engagement in the constitution of a work or a practice. Concepts, tools and terms that are assumed to be constructive for defining and situating contemporary artistic practices and trends seem to have little currency in helping us theorise and practise comics. An important reason is that for much of the twentieth century, a classbound, traditionalist literary industry and an academised avant-garde have persistently denigrated the extra-literary and artistic significance of the comics field. On the other hand, one could argue from the standpoint of professional craftsmanship,¹¹ specialised presses, and the various programs in comics education, that there is limited use in framing comics praxeology within tools and concepts coming from other disciplines, some of which are artistic (contemporary art, design, choreography), and others less so (financial technologies, machine learning, systems theory).

Language is a terrain of constant negotiation, and its use and misuse has to be thought in relation to hegemony and how it foregrounds issues of legitimation, domination or resistance. Jean-Christophe Menu, the ex-publisher of the Association, in an interview that inversely resonates with Gysin’s introductory quote, celebrates the importance of comics belatedness in its maturity as an art form, and asks the question: ‘puisque la bande dessinée est un art qui s’est développé en retard, est-ce qu’elle ne serait pas encore une avant-garde ? est-ce qu’on ne serait pas encore dans la modernité plutôt que dans le post-moderne rampant, gluant, qui est partout ailleurs?’ [Since comics is an art that developed late, does that mean it’s still an avant-garde? Are we not still be in modernity rather than the rampant, clingy post-modernism that is everywhere else?].¹²

11. ‘Craft’, following Martha Rosler, should not be understood in its medieval sense, where associations of merchants were controlling the deployment of knowledge related to their practice, but as ‘reinserted into the context of individualized, bravura production- commodity production in particular’. Martha Rosler, ‘Take the Money and Run? Can Political and Socio-critical Art “Survive”?’ , *e-flux*, (January 2010).

12. Jean-Christophe Menu and Xavier Guilbert, ‘JC Menu’, *du9* (11 March 2009), <https://www.du9.org/entretien/jc-menu/>. Accessed on January 15, 2021.

The terminological insularity of comics, and a certain resistance to transdisciplinarity could after all be a modernist fiction; the reverse side of an on-going institutional crisis brought by the combined effects of the hybridisation of media and maker/user empowerment to the detriment of traditional dissemination channels. It is symptomatic of a microclimatic attitude that accrues around comics and crystallises its conflicting relation with cultural institutions and academia, often characterised, as literary scholar Marc Singer observes in his book *Breaking the Frames*, by a certain defensiveness and anti-intellectualism.¹³ According to Philip Troutman, the position comics occupies today in research is very fragile due to its interdisciplinary attributes¹⁴ and when not ‘scattered across disciplines’,¹⁵ its presence, as a research subfield, is largely due ‘to the largesse of English departments’.¹⁶ Artistic research in comics seems to be in a precarious position vis-a-vis the recent boom of theoretical and analytical studies in art education expressed by the profusion of MA programmes in art praxis,¹⁷ as opposed to the more conventional, technical, skill-oriented curricula of MFAs that are still popular in comics education.

A history that would trace the industry’s long and conflictual journey to cultural and institutional legitimacy would start from comics workers coming to terms with a legacy of a former popular entertainment, and here Bart Beaty’s *Comics Versus Art* is an important contribution.¹⁸ A lexicon along these lines would include key cultural exhibitions, events, funding programs, conferences, public policies and art press that have addressed comics communities with a media-agnostic agenda or have expressly argued, as Jean-Marc Thévenet, the Director of the Havre Biennale in 2010, for a ‘new scene of equality between comics and contemporary art’.¹⁹ Another section of this imaginary lexicon could focus on a long list of more or less successful attempts from comics artists, publishers and trendcasters to hack institutional legitimacy by

13. Marc Singer, *Breaking the frames: Populism and prestige in comics studies* (Austin: University of Texas Press, 2019).

14. Philip Troutman, ‘Interdisciplinary Teaching: Comics Studies and Research Writing Pedagogy’, in *Graphic Novels and Comics in the Classroom: Essays on the Educational Power of Sequential Art*, eds. Carrye Kay Syma and Robert G. Weiner (Jefferson: Macfarland and Co, 2013), 120-32.

15. Gregory Steirer, (2011). ‘The State of Comics Scholarship: Comics Studies and Disciplinarity’, *International Journal of Comic Art*, 13, no. (2) (2011);, 263-85.

16. Bart Beaty and Benjamin Woo, *The Greatest Comic Book of All Time: Symbolic Capital and the Field of American Comic Books*, (London: Palgrave, 2016), 29.

17. Simon Grennan, ‘Arts practice and research: locating alterity and expertise’, *International Journal of Art & Design Education*, 34, no. (2) (015): 249-259.

18. Bart Beaty, *Comics Versus Art* (Toronto: University of Toronto Press, 2012).

19. Thierry Lemaire, ‘Havre de légitimation pour la BD’, *ActuaBD* (October 2010), <https://www.actuabd.com/Havre-de-legitimation-pour-la-BD>. Accessed on July 29, 2021.

experimenting and appropriating canonical, certainly recognisable, often outdated forms of artistic expression. The narrative of the upward mobility of comics in cultural stratification is somehow coterminous with the diminishing importance of market share assessment as the single metric of a comics work's cultural relevance, an achievement by comics workers. A similar challenge for poetry has been expressed in the words of conceptual poet Kenneth Goldsmith as a 'readership over thinkership' question.²⁰ Suffice to say that a symptom of this legacy might be a 'performance of marginality'²¹ and the display of 'intimacy, shame, and masculine melancholia [...] as a mode of readerly participation'²² that have become a predominant mode of address in many acclaimed works of contemporary comics. This list would also certainly include unsophisticated and 'file under' terms such as *graphic novel*, 'heralded as literature due to their "serious" non-fiction storylines'²³ but also subtler ones such as *nouvelle bande dessinée* (after the *nouveau-roman*, an acclaimed form of experimentation in literature that coalesced around Les Éditions de Minuit, a visionary publishing house), *OuBaPo* (after OuLiPo, a lab of writers-mathematicians who reflected on the multiple ways constraint-based writing can be directed towards generative processes in the making of a novel or poem) and 'conceptual', 'serialist', and 'minimalist' comics (following established traditions in contemporary art).

There is a need for a more complete understanding of the shifting role of institutions in the comics industry and how they can respond to these new challenges. How, for instance, does the historic, international comics festival such as the Angoulême festival, with its selective focus on globalised mainstream media culture, account for the increasing diversity of audiences, genres and industries? Or, in a different line of inquiry, how can the CNL [The National Book Centre], established under the aegis of the French Ministry of Culture and Communication to support the creation, research and promotion of experimental comics within the francophone publishing industry, respond to an increasing number of synergies, forms, nationalities, some of which are not based in France or do not use French, without becoming a tool of linguistic chauvinism? In

20. Kenny Goldsmith, 'Conceptual poetics', *Poetry Foundation* (June 9, 2008), <https://www.poetryfoundation.org/harriet/2008/06/conceptual-poetics-kenneth-goldsmith>. Accessed on January 15, 2021.

21. Hillary Chute and Patrick Jagoda, 'Special Issue: Comics & Media', *Critical Inquiry* 40, no. 3 (2014): 1-10. <https://doi.org/10.1086/677316>. Accessed on January 15, 2021.

22. Daniel Worden, 'The Shameful Art: McSweeney's *Quarterly Concern*, Comics, and the Politics of Affect', *MFS Modern Fiction Studies*, 52, no.4 (2006): 891-917. <https://doi.org/10.1353/mfs.2007.0014>.

23. Erin La Cour, 'Comics as a Minor Literature', *Image & Narrative* 17, no. 4 (2016).

short, how can older institutions adapt to an increasingly interconnected, globalised and financialised industry and how can conceptual comics, as an artistic practice, map the social, economic, racial and gendered forces that shape the industry's commercial and production routines?

Nested institutions

In his celebrated book *Towards a Philosophy of Photography*, Vilém Flusser discusses how photography has redefined the world of image-making.²⁴ Photography, in contrast with other modes of inscription such as text and painting, is fully programmed, post-industrial, post-historical and informational. It operates within a higher degree of abstraction; it produces information in a highly codified manner, following a program that is written in its very structure. Flusser goes on to expand on the idea of the camera as an obscure box, an informative empirical tool that 'simulates thought' and extends the human brain and eye by intentionally rearranging and inscribing symbolic meaning to cultural objects.²⁵ By acknowledging photography as something that extends beyond the camera's internal mechanical and photo-chemical operations, Flusser reveals the power interests that are materialised by photography through conspicuous chains of nested apparatuses. Rather than representing the world, photography represents and fulfils the program of these apparatuses themselves, be they corporate, political or military. The idea of content in photography is thus displaced and every single photograph becomes an artefact that needs to be decoded as an expression of these very interests.

Flusser shows photography to be a powerful metaphor. Because of its apparent transparency and immediacy of operation, photography has the capacity to establish a natural taken-for-grantedness. Not only is the camera the apparatus *par excellence*, it is also a veritable *mise en abyme* of black boxes, of *cameras obscuras* governed by functionaries, from the shareholders of a photographic empire to the military-industrial complex who impose their inscription on each and every photograph. With the advent of digital photography and its dependence on impenetrable algorithms and scripts, things become more obscure. Flusser introduces the concept of 'decoding' as a key feature of a new, radical discourse, an endless process that deciphers all photographic elements as discourse, as sets of programmed concepts and ambiguous combinations of

24. Vilém Flusser, *Towards a Philosophy of Photography*, trans. Anthony Mathews (London: Reaktion Books, 1983).

25. *Ibid.*, Flusser, 83.

symbols revealing ‘a descent into infinite regression’ towards the true significance of the photograph.²⁶ The photographer’s mediating role has therefore to be thought anew: more as a functionary, at best a networked performer who reconstructs the world into information. From *Homo Faber* to *Homo Ludens*, the photographer becomes a playful functionary operating as an integral part of a succession of social institutions that produce their own type of discourse, knowledge(s) and histories.

Flusser’s double definition of the apparatus, as both an ‘organisation or system that enables something to function’²⁷ and a ‘plaything or game that simulates thought’,²⁸ provides a starting point that can inform a conceptual approach to comics. The term ‘conceptual comics’ points to the works that thematise the industrial aspects of their production. They often embrace ‘the messy state of media after the disruption occurred through the digitisation of their production, distribution and communication channels’,²⁹ and they can be thought as post-digital variants of older industrial forms of completion. Conceptual comics are an attempt to deconstruct and rethink the fundamental elements of the comics industry. What are the methodologies and the social situations of the comics industry that sustain the ‘apparatus-support-procedure’,³⁰ beyond the industry’s apparent serial diffuseness?

A similar emphasis on the affordances of media in networked environments, and on the ways material histories shape the very conceptions of literary forms and formats can be found in Craig Dworkin’s book, *No Medium*.³¹ In this book, the author traces a genealogy of conceptual poetic objects, practices and literary interventions that usually resist the conventional tools of textual analysis, such as blank CDs, texts consisting solely of paratextual minutiae, silent feedback loops or asemic poetry. Dworkin does not reify these works as operations that did not occur as expected, or as incomplete gestures and involuntary inscriptions. These works point instead to their own material properties, and to the way they are constituted by acts of inscriptions, informing artistic practices

26. Vilém Flusser, ‘Photo Production’ (lecture given at the École Nationale de la Photographie, Arles, February 23, 1984) printed in *Christopher Williams: The Production Line of Happiness* (The Art Institute of Chicago, The Museum of Modern Art and Yale University Press, 2014), 120-123.

27. Flusser, *Towards a Philosophy of Photography*, 83.

28. Ibid, Flusser, 27.

29. Florian Cramer, ‘What is ‘Post-digital’?’, in *Postdigital Aesthetics – Art, Computation and Design*, eds. David M. Berry and Michael Dieter (London: Palgrave Macmillan, 2013), 12-26.

30. Régis Debray, *Media Manifestos: on the technological transmission of cultural forms*, trans. Eric Rauth (London: Verso Books, 1996), 13.

31. Craig Dworkin, *No Medium* (Cambridge: MIT Press, 2013).

that are divorced from any transparent or ‘natural’ considerations. In *No Medium*’s appendix, previously published under the name *Unheard Music*,³² the writer focuses on works that explore the materiality of the substrate in music and sound art. Dworkin cites Christian Marclay’s *Record Without a Cover*, which opens with a ten-minute silence. Sold without protective packaging, the album makes audible the wear-and-tear marks, as the different exchanges and handling of each copy are materialised as inscriptions on its surface. Every single one of the albums is thus individualised, characterised by its own historical trajectory, suffused with a layer of distinctly different degenerative noise. The substrate, what Dworkin calls ‘the inescapable residuum of recalcitrant physical matter’,³³ like Flusser’s uncoated, desensitised, overexposed or undeveloped hypothetical photographic plate, readdresses the medium as a set of nodes in a distributed system of relationships and dependencies, some of which (over)determine the information of the content layer of each work.

Whereas conceptual poetry argues for paratextual operations (whose inventory would include the activation/signification of epigraphs, prefaces, etc., which, according to Gérard Genette, occupy the threshold of the literary work),³⁴ conceptual comics would argue for a topographic consideration of the comics industry. Conceptual comics insist upon the medium’s affordances within localised nodes of articulation and the performative dimensions of the industry. They highlight the fact that ‘what something *is* has to be understood in terms of what it *does*, how it works within machinic, systemic, and cultural domains’.³⁵ Conceptual comics accomplish a journey from the drawing table to the dumpster, along a signifying chain of productive contexts, entanglements of relationships between authors, readers, publishers, production routines, and the book economy. The works of Zou Luoyang, whose fascinating distribution of his zine is informed by discard studies and rudology [the systemic study of waste management] and Inès Chuquet’s idiosyncratic collectordom practice are just two examples of a radical topographic transformation in the constitution of an artwork. Both of these works are now part of the Ubuweb archive.

32. Craig Dworkin, *Unheard Music* (London: Information as Material, 2010).

33. Craig Dworkin, *No Medium*, 9.

34. Gerard Genette, *Seuils* (Paris: Seuil, 1987).

35. Johanna Drucker, ‘Performative Materiality and Theoretical Approaches to Interface’, *Digital Humanities Quarterly*, 7, no. (1 2003): paragraph 4. Emphasis in original. <http://www.digitalhumanities.org/dhq/vol/7/1/000143/000143.html>. Accessed on January 15, 2021.

In this respect, conceptual comics propose to shed some light on the Flusserian black box and examine the materiality of the comic book industry and its inscriptions within a network of signs and significations. What are the material conditions that inform cultural artefacts and how are these physically manifested with historical evidence ready to be deciphered within and beyond the space of the page, the format of a book or the taste of a readership? How does the substrate of a comic book, rather than being a fixed, transparent receiver of content, turn out to be a dynamic form that can be artistically resignified throughout the entire chain of operations in the infrastructural backend of the comics industry?

Sequential procedures

According to W.J.T. Mitchell, the term *imagetext* ‘designates composite, synthetic works (or concepts) that combine image and text’³⁶ that mutually determine and reinforce each other, inviting the reader/viewer to process the two elements simultaneously. In *imagetext* there lies the fundamental crisis in the belief in ‘unique modes of operation’³⁷ as the term designates a multimodal construction implying a certain operability between text and image, that shortcircuits any claim for a comics medium-specificity at the level of content information. There are many ways for two signifying systems to be set in motion within a single work. *Imagetext* productions and other integrated mixed modes of text and images have disrupted traditional entrenched figures associated with the labour of production of discourse such as the poet or the painter, and have forged new ones. They have contributed to the reinvention of technologies and the shaping of tools to respond to that need. Rather than indulging in a pre-Raphaelite nostalgia where the artist supervised and was responsible for the entire production process of a making of a book, conceptual comics propose to trace a materially oriented genealogy of the comics industry.

An interesting example of *imagetext* can be found in the work of eighteenth-century artist and poet William Blake, who sparked Mitchell’s investigation into the multimodal

36. W.J.T. Mitchell, *Picture Theory: Essays on Verbal and Visual Representation* (Chicago: University of Chicago Press, 1994), 89.

37. George L. Dillon, ‘Writing With Images. Introduction: *Imagetext*, Multiples, and Other Mixed Modes’, Washington University Courses, paragraph 6. <https://courses.washington.edu/hypertext/cgi-bin/book/wordsimages/wordsimages.html>. Accessed on January 15, 2021.

interactions that were explored in his first book, *Blake's Composite Art*.³⁸ Blake's work has naturally been reclaimed by comics studies, for the interest of its integrated modes of graphic and textual elements. Over and above the formal interest of its content, Blake's multidisciplinary approach is a historically unprecedented example of the signifying potentialities of the available technologies that can inform an industrial, labour-oriented historical understanding of imagetext or comics. Indeed, William Blake was driven by two separate aspirations: on the one hand as a poet, on the other as a painter. His workshop was equipped with both a letterpress for printing text and a copper-plate rolling press for his etchings. In order to allow decisions to be made at the moment of production, Blake needed to devise a technical process in order to organically compose his entanglements of illustrations and words on the same plate. His relief etching method involved writing the text of the poems with the very same tools of image making, a set of pens and brushes that used an acid-resistant medium. He referred to the revelatory aspect of the untreated copper dissolving in acid as 'illuminated printing'. In his *Marriage of Heaven and Hell*, he describes it as 'printing in the infernal method by corrosives, which in Hell are salutary and medicinal, melting apparent surfaces away, and displaying the infinite which was hid'.³⁹ Blake's 'hidden infinite' and his 'infernal method' are the graphic expression of a multimodal discipline that can help us examine how the reconfiguration, transformation and mutation of the workspace and its production and (pre)industrial routines can inform a conceptual practice in comics.

Sequentiality, in literary theories of form, and more recently in the field of conceptual writing, is often defined as the deliberate (or not) juxtaposition of pictorial and other elements, whose general meaning depends on the value of each element at each moment of the sequence. Sequentiality is a mode of distributing and interlinking information blocks, through ideographic, mnemonic symbols or other proto-writing devices. In early manifestations, predating the advent of writing, it can be found in the form of pictorial narratives encountered in cave paintings, Egyptian friezes or early Christian codices and tapestries. In formalist literary terms, sequentiality describes the succession of events as they are narrated. Although the popularity of the concept often led many scholars into 'dubiously categorising diverse, historically distant artefacts as comics

38. W.J.T. Mitchell, *Blake's Composite Art: A Study of the Illuminated Poetry* (New Jersey: Princeton University Press, 1978).

39. William Blake, *The Marriage of Heaven and Hell* (Oxford: Oxford University Press, 1854).

for reason of their sequentiality’,⁴⁰ sequential ordering is a recurrent feature of graphic storytelling and contemporary comics. I would like to argue that the sequential layout in comics that can be found since its early industrial period is more than an eloquent expression of narrative time. Instead of simply anchoring meaning through a linear, unidirectional succession of elements or events, sequentiality is the very same blueprint for a contemporary understanding of the multiple distributed levels and dimensions of comics production, such as the one that can be found in Blake’s own production routine customisations. The concept of sequentiality makes it possible to anticipate and exemplify the industrial conditions and persistent Taylorisms (and the aftermath of Taylor in sequentialist traces) that increasingly define the production, distribution and communication of mainstream contemporary comics. Here, one is reminded of Karl Marx’s dictum: ‘human anatomy contains a key to the anatomy of the ape’⁴¹, which asserts the importance of embryonic traces in a teleological becoming. The simultaneous revelatory appeal of text and image in Blake’s work is a rhetorical figure that ‘subliminally’ points to the industrial conditions of comics becoming. It is an industry that from its early beginnings has been symbiotically expanding with the development of printing, distribution, communication and media technologies and an array of industrial processes of completion based on generalised automation, standardisation practices and an orchestrated division of labour that are so embedded in the ways we understand and consume comics that they have become an essential feature for the conceptualisation of artistic practices in the medium. Comics is an industrial form of artistic expression.

Conceptual comics

Sequentiality is more than a formal device or a compositional matrix that unlocks the narrative structure of the printed page. Sequentiality is the crystallisation of a signifying process that is expressed through the specifics, mechanics and production routines of the comics industry. A typical production line of manga comics for example involves dozens of people handling specialised roles in a sequential ordering and in a quasi-Taylorist conveyor belt, often in ways that have been criticised for resembling a sweat shop. Similarly, distribution has increasingly involved massively digitised operations

40. Hannah Miodrag, *Comics and Language: Reimagining Critical Discourse on the Form* (Mississippi: University Press of Mississippi, 2013), 108.

41. Karl Marx, *Grundrisse: Introduction to the Critique of Political Economy*, Martin Nicolaus (trans.), (Harmondsworth: Penguin, 1973, original work published in 1858), 105.

of logistics and global supply chains. The comics industry and its often coercive workflow and ‘just-in-time’ management, Blake’s own ‘hidden infinite’, are reified therefore in a second order sequentiality that stands for compositional, narratological relationships. The narratological instrumentalisation of sequentiality is one among other translational manoeuvres with similarly obfuscating results: ‘spatio-topia’,⁴² defined as the distribution of narrative and semantic elements in the comic page and their relation to the whole, ‘arthrology’⁴³ designating the set of relations inherent in iconic solidarity, ‘closure’⁴⁴ the phenomenon of observing the parts but perceiving the whole, or the ‘infinite canvas’⁴⁵ defining the design strategy based on treating the screen as a window rather than a page. Here is not the place to argue that compelling perspectives can or cannot be generated by transversal readings. Nor that a formal and content oriented understanding of comics in their literary dimensions cannot be productive given the fact that Comics Studies, as a general field of enquiry, is slow in responding to or often unable to account for radical forms of experimentation in the medium. Far from highlighting the medium’s signifying potential and providing an understanding to its mechanics, these operations evacuate into the unconscious all representations that cannot be reconciled with the celebration of an authorial genius, the fictional construction of the comics artist, whose status is differentiated from the structurally collectively organized labour that is found in comics. At best they are a tacit form of compliant cryptomnesia that undermines the surfacing of repressed chains of signification in motion. Conceptual comics seek procedures for unveiling these operations and draws attention to the very same conditions of possibility of meaning, which are often taken for granted.

Apart from a pithy mention of the printer’s locality, typically placed in the end pages of the book, there is no space given to documenting the particular trajectory of a comic book through the different departments involved in the production process. What are the names of the offset operator, the second shift production supervisor, the controller of the lamination machine, the night porter and the fork-lifter? This ‘second-order’ labour in the making of a book is acknowledged only when it stops being operational; from the semi-automated calibration routines for offset printing to the manual operation of shrink-wrapping with a hand-held heat gun, the book functions as a device that conceals

42. Thierry Groensteen, *Système de la bande dessinée*, (Paris: Presses Universitaires de France, 1999), 26-28.

43. *Ibid.*, 25.

44. Scott McCloud, *Understanding Comics* (New York: HarperCollins, 1993), 63.

45. Scott McCloud, *Reinventing Comics* (New York: HarperCollins, 2000), 220-229.

the ever-concentrated, underrepresented labour related to the comics industry.

The development of social, artistic and academic networks that have encouraged the production and preservation of specific discursive and labour economies in comics has often resulted in transforming comics practices into an insulated, experimental cultural laboratory with controlled and simplified inputs. In the relative absence of critical inquiry on the deployment of affective labour in the comics industry, how can one reflect, for instance, on the productivity-driven, hyper-caffeinated 24-hour comics sessions that have become a global form of mediatised community engagement? Can we do so without the critical tools from contemporary art's understanding of affective labour, a situationist critique of the spectacularisation of artistic productivity or the subaltern politics of representation coming from postcolonial theory?

Without actually embarking on an argument but only suggesting a line of inquiry, it might be useful to consider the concept of perlaboration (work-through) referring to the repetitive labour that deals with unacknowledged, repressed histories.⁴⁶ In Freudian analysis 'working through' means returning to the same scenes until repression disappears and the patient achieves conscious knowledge of the history of his or her symptoms.⁴⁷ A caveat: only a few conceptual comics artists would claim that their work is a form of perlaboration with the conscious goal of exploring and thematising in their work the inhibited production strata and the industrial labour constituting the comic book industry. While most of these comic works coalesce through dry and formal experimentation, they implicitly acknowledge the industrialisation of the medium by exposing its systems of production. Works from artists such as Stephanie Leinhos, Alexis Beauclair, Sammy Stein or Jochen Gerner saturate the narrative space with a particular cognitive structure by creating a hypnotic spectacle. They provide a narrative equivalent calibrated on production routines, portrayed by simple geometric pictorial elements, unburdened by unnecessary narratives. Through the use of recurrences, expansions, contractions, and other sets of operational permutations, these works provide the blueprint for the visualisation of the industrial forces of production shaped by essenceless, mirrorlike repetitions.

46. The term 'perlaboration' is a neologism created in 1967 by Jean Laplanche and Jean-Bertrand Pontalis in order to translate the Freudian term *Ducharbeitung*. Elisabeth Roudinesco, Michel Plon, *Dictionnaire de la psychanalyse*, (Paris: Fayard, 2011), 1165.

47. Louis Althusser, *Writings on Psychoanalysis: Freud and Lacan*, trans. Jeffrey Mehlman (New York: Columbia University Press, 1993), 181.

Conceptual comics are works that diverge from established conventions of comics as a medium and mobilise the aesthetic and political legacy of conceptual and post-conceptual art. They are produced by an international community of artists whose work is often under-represented in comics history and comics criticism. Their works operate on the margins of distribution and reception; they have a low visibility in academia, comics festivals and exhibitions and are rarely reported by specialised press, blogs or even included in reading lists. Conceptual comics artists are often uncomfortable with the entrenched roles of production in the comics industry and often perform under multiple identities and capacities. They are usually present and partly responsible for the entire production and distribution chain of the book: self or crowd-funding, self-publishing, printing in a collectively owned risograph press in exchange for a lower print-run, doing their own distribution to book stores and following up with payments, renting a table and travelling to specialised book fairs, book swapping with fellow artists from other countries, distributing their fellow artists' books in their local networks and reviewing them for blogs and online reading lists. Given the scarcity of critical discourse, readers engage with conceptual comics in forensic, sometimes non-specified and exceptional ways. I argue that these conditions are not merely a minor drawback of an industry seeking legitimacy through established and canonical forms and that despite the fragility of their communities and the generalised precarity experienced by artists, they induce forms of social relationships that are industry-specific and need to be documented, archived and to occupy some part of institutional memory in comics. I consider their conservation an important matter.

Conceptual comics propose to examine how social and economic forces and their established commercial and communication routines affect the medium's modes of signifying, meaning and signification. The rainforest of pulp production, the printer's studio, the readers' column and the landfill do not simply represent geographies of the comics industry but are technologies of inscription in their own right. They are integral elements of a material language that actively shapes comics and challenges the reader to negotiate meaning through different distributions of transparency in its products.

***Noirs*, a conceptual comic book**

An impressive representation of the politics of labour and how it informs the structures of collectivities can be found in the *Smurfs* series. The Smurf village hosts a community

that is organised in the form of a cooperative that has all the features of the totalitarian utopia of a work camp, at best a kibbutz: it consists quasi-exclusively of male figures, wearing uniforms, living in identical houses and addressing each other as ‘comrade’. They are the subjects of a benevolent patriarchal figure and show no traces whatsoever of alienation or exploitation: they own the means of production and operate in a money-free economy. However, no narrative, situated in an agrarian, conflict-free society constituted of barely identifiable characters communicating through an unambiguous Newspeak, could ever be engaging without the archetypal figures of discord. First, regarding the evil Gargamel; the greedy ‘capitalist’ figure, whose malevolent powers are directed towards the goal of capturing the Smurfs and turning them into gold. While it is debatable whether Gargamel’s name parodically implies a Jewish, biblical provenance, the fact that he is ‘old, balding with unkempt hair, big-nosed, hump-backed, and wears raggedy black clothes’⁴⁸ and is drawn in the style of most antisemitic propaganda, should rest the case. Then there is Smurfette, the only female character, concocted by Gargamel for the purpose of bringing disorder, envy, and jealousy to the Smurf village. It is interesting to read the Smurfette recipe⁴⁹ from the words of Gargamel and to align these words with Peyo’s own comments on what Smurfette represents to the creator’s sensibility.⁵⁰ It seems likely that praise of the Smurfs series for its foundational moral qualities pertaining to children’s literature was bestowed because of and not in spite of

48. Roi Ben-Yehuda, ‘Smurfs: Cute Little Blue Creatures Or Jew-hating Misogynistic Communists?’, *The Forward* (June 24, 2011), <https://forward.com/culture/139107/are-the-smurfs-anti-semitic-misogynists/>. Accessed on January 15, 2021.

49. The original recipe for the concoction of the only female character in the Smurfs series went as follows: ‘Sugar and spice but nothing nice...A dram of crocodile tears...A peck of bird brain...The tip of an adder’s tongue...Half a pack of lies, white, of course...The slyness of a cat...The vanity of a peacock...The chatter of a magpie...The guile of a vixen and the disposition of a shrew...And of course the hardest stone for her heart.’ Curiously, the text of the recipe is accompanied with a footnote: ‘The authors will not be help responsible for this formula which is the sole property of MCPW INC (Male Chauvinist Pig Wizards, EST 1066)’. This happens to be a rather loose translation from the considerably less self-reflexive french credit: ‘Ce texte engage la seule responsabilité de l’auteur du grimoire ‘*Magicae Formulae*’, Editions Belzebut’. Yvan Delporte and Peyo, *The Smurfette* (London: Hodder & Stoughton, 1978), 8.

50. In his Peyo biography, Hugues Dayez relates a story from the negotiations with NBC for the upcoming Smurf animated series. Peyo apparently spoke little or no English. When the discussion turned to Smurfette, Peyo’s interpreter explains: ‘Peyo began by saying that she was “very feminine.” They asked him to be more specific, so he went on to say: “She is pretty, blonde, she has all the characteristics of women...” Knowing the feminist spirit in the U.S.A., I diplomatically translated this as “all the qualities.” I was banking on the fact that Peyo did not understand what I was saying (in English) and the others did not understand what he was trying to say. So naturally, they asked him to expand. So he kept on going with: “She seduces, she uses trickery rather than force to get results. She is incapable of telling a joke without blowing the punch line. She is a blabbermouth but only makes superficial comments. She is constantly creating enormous problems for the Smurfs but always manages to blame it on someone else.” I did my best to minimise the sexist nature of this description, but one of the participants at the meeting asked: “Would she at least be able, when the Smurfs are in danger, to take a decision that can save them?” When I translated this to Peyo, he looked astounded. “Come on now, do they expect me to make her a (female) gym teacher?” I obviously did not translate this remark.’ [Translation by Valteron], in Hugues Dayez, *Peyo l’enchanteur: biographie*, (Brussels: Niffle, 2003), p.163.

its naturalisation of sexist and antisemitic values. Rather than lingering on the content of a preindustrial patriarchal community myth, we could examine how labour has been redistributed towards the production and dissemination of a cultural product, which has expanded beyond any commercial expectations. It would be possible to append a history of the industrial-entertainment industry complex of postwar Europe by solely examining comics and their derivatives.

During the 1970's, Renault, National Benzole and BP garages gave away a PVC Smurf figurine with every full tank; this promotional strategy ignited a merchandising craze, historically unprecedented in comics collectibles. To the craze for figurines, produced in hundreds of millions,⁵¹ there came a late and somewhat sour response, from a scare story, which revealed that the products, made in Hong Kong, did not align to Western quality and safety standards; the figurines were deemed unsafe on account of the toxicity of leaded pigment that they contained.⁵² A safety marking was introduced at a later stage in order to differentiate the figurines that contained lead-free pigments and passed quality control from the rest: paint dots located on the Smurfs' feet were a pre-ISO sign of quality. These dots are more than a gimmick that can cause the price of a collector's item to fluctuate, which they certainly do. They are evidence that testifies to the different production stages and elements of a collectability frenzy; from the industrial procedures and corporate strategies to local business promotion routines, from cross-continental treaties and national safety standards, to families and hygiene practices, these dots are elements of a material history of comics and its derivatives and an example of a conceptual approach to comics artefacts.

Les Schtroumpfs noirs by Peyo collects the first three stories of the acclaimed series of the *Smurfs*.⁵³ The Smurfs, by the Belgian artist Peyo, were initially featured as extras in the series *Johan et Pirlouit* as early as 1958 but their own first story, *Les Schtroumpfs noirs*, was published in July 1959. Since its original publication, the book has been translated and published in different languages. In the United States, Random House, which was initially responsible for the translation and publication in English of the

51. Leo Cendrowicz, 'The Smurfs Are Off to Conquer the World- Again', *Time Magazine*, (14 January, 2008), <http://content.time.com/time/world/article/0,8599,1703303,00.html>. Accessed on January 15, 2021.

52. The lead scare story motivated Jonathan King to release the song 'Lick a Smurf for Christmas (All Fall Down)' under the alias Father Abraphart and the Smurfs, a parody of the worldwide hit single, 'The Smurf Song' by Father Abraham and the Smurfs.

53. Peyo and Yvan Delporte, *Les Schtroumpfs noirs*, *Spirou Magazine*, 107, 1963.

entire series throughout the 1970s and the 1980s, excluded this title. It only became available much later, in 2010, through a different publisher, Papercutz, and under a new title, *The Purple Smurfs*⁵⁴. The reason for this title change and delayed appearance of an otherwise multi-million best-seller, lies in the plot of one of the stories that is contained in the volume. The story synopsis goes like this: one day in the small mushroom village, one of the Smurfs is stung by a fly, causing his skin to turn black, and reducing him to the state of an inarticulate, primitive, evil attacker. Bouncing around, he gets to bite other Smurfs on the tail, propagating what seems to be an out-of-control epidemic that infects the entire community. One remaining Smurf, the Papa Smurf, still unharmed, and the only blue creature of an entire village turned black, discovers by chance that the cure is found in the pollen of a flower, which has to be inhaled by the contaminated Smurfs in order to revert to their original colour, and condition. In his effort to save the village from widespread contamination, Papa Smurf takes refuge in the lab and lets the large pollen jar fall into the fire, causing an explosion and the formation of a pollen cloud that descends, and gradually brings normality back to the village. Papercutz, the publisher of *The Purple Smurfs*, released a self-censored version where the evil Smurfs were recoloured (from black to purple). The publisher was aware that this book might be perceived as showcasing real-life attitudes with clear reference to the African-American population. The use of the colour black, beyond its endemic qualities standing for death, evil or sickness, would have denoted a quite tangible demographic among the Papercutz readership that might feel directly addressed (see Figure 2).

The conceptual comic book, *Noirs*, that engages with the cultural industrial production and decision-making of the original *Les Schtroumpfs noirs* is a facsimile of the original edition: the same cover, the same number of pages and the same format. *Noirs* comes as close as one can get to the original edition, except for one single difference, its colour. Offset colour separation is the industrial standard for printing comic books, based on the act of breaking down a composite colour graphic into basic single-colour layers (cyan, magenta, yellow and black) that are printed separately, one on top of the other. In *Noirs*, the four different colour plates have been uniformly replaced by four plates of cyan, resulting in one single monochromatic composition. *Noirs* suspends the reading process for a moment. The book blurs the different stages of contamination of the characters of the original making the difference barely legible. By deprogramming

54. Peyo and Yvan Delporte, *The Purple Smurfs*, (New York: Papercutz, 2010).

the expedient efficiency of colour-coding, this facsimile edition argues for a state in which the distinctive category of ‘contamination’ and the fiction of normalcy become moot. In *Noirs*, reading and decoding mechanisms rely instead on features related to a contextual reading. The book follows Lennard Davis’s concept of the ‘deafened moment’ in disability studies,⁵⁵ construing deafness, not as an essence but as a dynamic modality (contextualised) that occurs to everyone, in time; the author gives the example of the reader as someone that expresses this dynamic tension, stating that ‘all readers are deaf because they are defined by a process that does not require hearing or speaking’ (Davis 1995: p.4). Similarly, *Noirs* produces such a moment; a moment that transcends categories of health and sickness, not with the goal to rebuff or iron out the specifics of different conditions, but instead to reveal how many of our assumptions about what is normal are embedded with assumptions about attributes related to colour, race and other majority identitarian features (see Figure 3).

Noirs sheds light on the industrial fabrication of a book through the lenses of offset printing technology. Offset, a supposedly transparent and mechanical process, is revealed as a meaningful signifying device. By bottlenecking the different colours into one monochromatic composition, *Noirs* claims that the mere act of intervening in the printing process, exercising the most minimal amount of intervention possible, constitutes a craft in itself, not unlike the institution of deskilling practices in conceptual art. The goal of this endeavour, apart from reaffirming the toxicity of comics as traditionally addressing the lowest common denominator, is to problematise the apparently innocuous naturalisation of the ideological potential of colour through a formal experiment into a language (offset technology) that acts upon another language (the book’s content). *Noirs* performs what Flusser has described as forcing ‘the apparatus to somehow invert its program like a glove, and have it produce that which is unexpected from the point of view of the program’.⁵⁶

An institutional memory for conceptual comics

Our increasing dependence on networked technologies and the abundance of digital online media content has contributed to a shift in the importance of existing institutions and channels in the distribution and production of comics. The Internet has helped to

55. Lennard J. Davis, *Enforcing Normalcy: Disability, Deafness, and the Body* (London: Verso Books, 1995), 100.

56. Flusser, ‘Photo Production’, (Arles: Ecole Nationale de la Photographie, February 23, 1984), 5.

give visibility to a new global and diverse class of individual makers, connected them and empowered them to create new works or to repurpose and resample existing works, and has provided them with unmediated access to their audience. The Internet has also transformed the conventional stratification of the arts and media and has provided an echo chamber for works that can leverage the new possibilities of its attention economy, independently from their media-specific ecologies. Traditional institutions and the education establishment have to respond to these new challenges and account for works, as in the case of *Noirs*, that reflect and express the industrial and technological affordances of comics through their form and content.

Works of conceptual comics occupy a very fragile position in institutional memory and, in general, they are usually little known outside of their communities. A new form of institution that might provide a springboard for establishing the conditions for an affective lineage among similarly minded practitioners could be structured as a library or an archive. It would need to reflect the ways in which these communities interact, share and experience comics artefacts. This archive would extend beyond existing comics genres, practices and markets and would have to highlight the non-uniform consistency that makes room for a perpetual becoming of comics due to its industrial and technological affordances, always in flux. The archive would need to reflect the constituency of this global community in its diversity and emphasise how these different works, alternating between material self-reflexivity and critical exhaustion, share common issues and urgencies.

In October 2020, I was invited to curate a selection of conceptual comics for the online media collections Ubuweb⁵⁷ and Monoskop,⁵⁸ popularly known as ‘shadow libraries’. Monoskop is an online ‘wiki for arts, media and humanities’ where editors upload, maintain and discuss media collections with a focus on books and printed matter. Ubuweb is a web-based educational archive that was founded by conceptual poet Kenneth Goldsmith in 1996. It provides free and unrestricted access to a remarkable, idiosyncratic collection of film and video art, critical documents and essays, sound poetry and art recordings, among many other unclassifiable strands of the historical avant-garde. In both Monoskop and Ubuweb, comics occupy a very marginal position and no systematic attempt has been made to form a comics archive. Nevertheless

57. <https://ubu.com/cc/index.html>.

58. https://monoskop.org/Conceptual_comics.

these relatively marginal forms of institutional memory are a productive context for marginal practices such as conceptual comics. Ubuweb, for instance, was designed using very basic HTML templates and its media collection involved various degrees of compression and pixelation in order to respond to the low-bandwidth connections of the early Internet. It highlighted, through its spartan, resilient and hardcoded web design, important questions regarding the relevance of the periphery in a soon-to-be-interconnected globalised world, a notion that is still very potent for the global communities of comics.

These two conceptual comics collections feature books and other printed formats that have been documented, and photographed from cover to cover, highlighting the materiality of the artefacts. Each book is presented along with metadata and a text from the publisher's press release or a small critical introduction to the work written in order to provide background information for the needs of the collection. The collection proposes to embrace equally real, unclaimed, anticipated and fictional practices in their perpetual materialisation. As a whole, it reflects on the specific sites of production and their potential to register meaning and organise discourse based on inscriptions of the material language of the industry. The materiality of their language challenges the reader to negotiate meaning through different distributions of transparency over opacity. Each element that expands in the material set-up around the comics industry, from the inaccessible stereotypes and industrial standards of printing technologies, such as in the production of *Noirs*, and their obsolescence, to legal minor injunctions and abusive contracts, can be activated to inform a conceptual practice in comics. In an age where public libraries are an endangered institution, media collections run by amateur librarians emerge as new, vital topographies of sharing and a possible direction for an alternative to institutional reconfiguration in the comics industry.

Illustrations

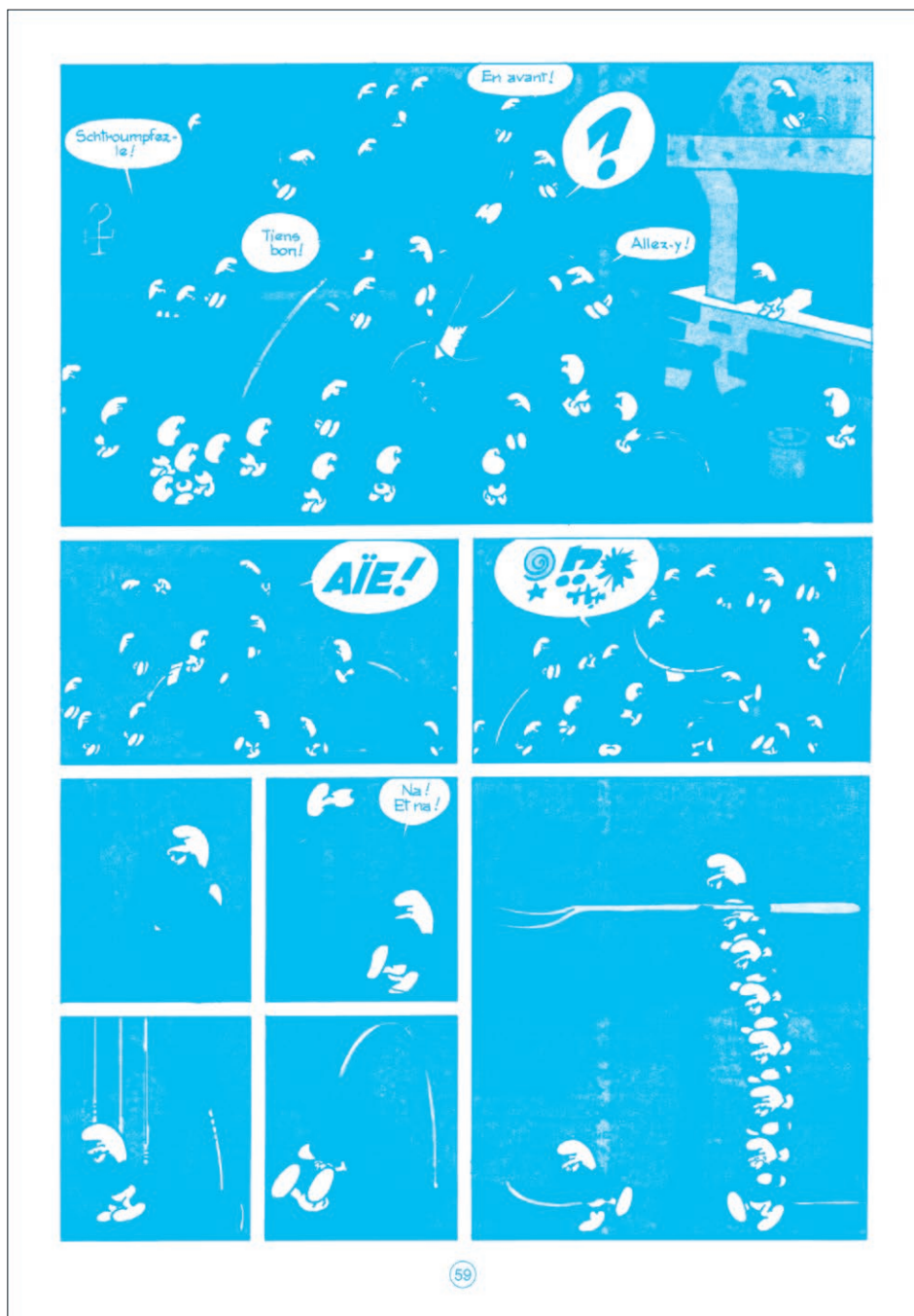
fig.1, *Noirs* (page 59)



fig.2, *Noirs* (page 54)

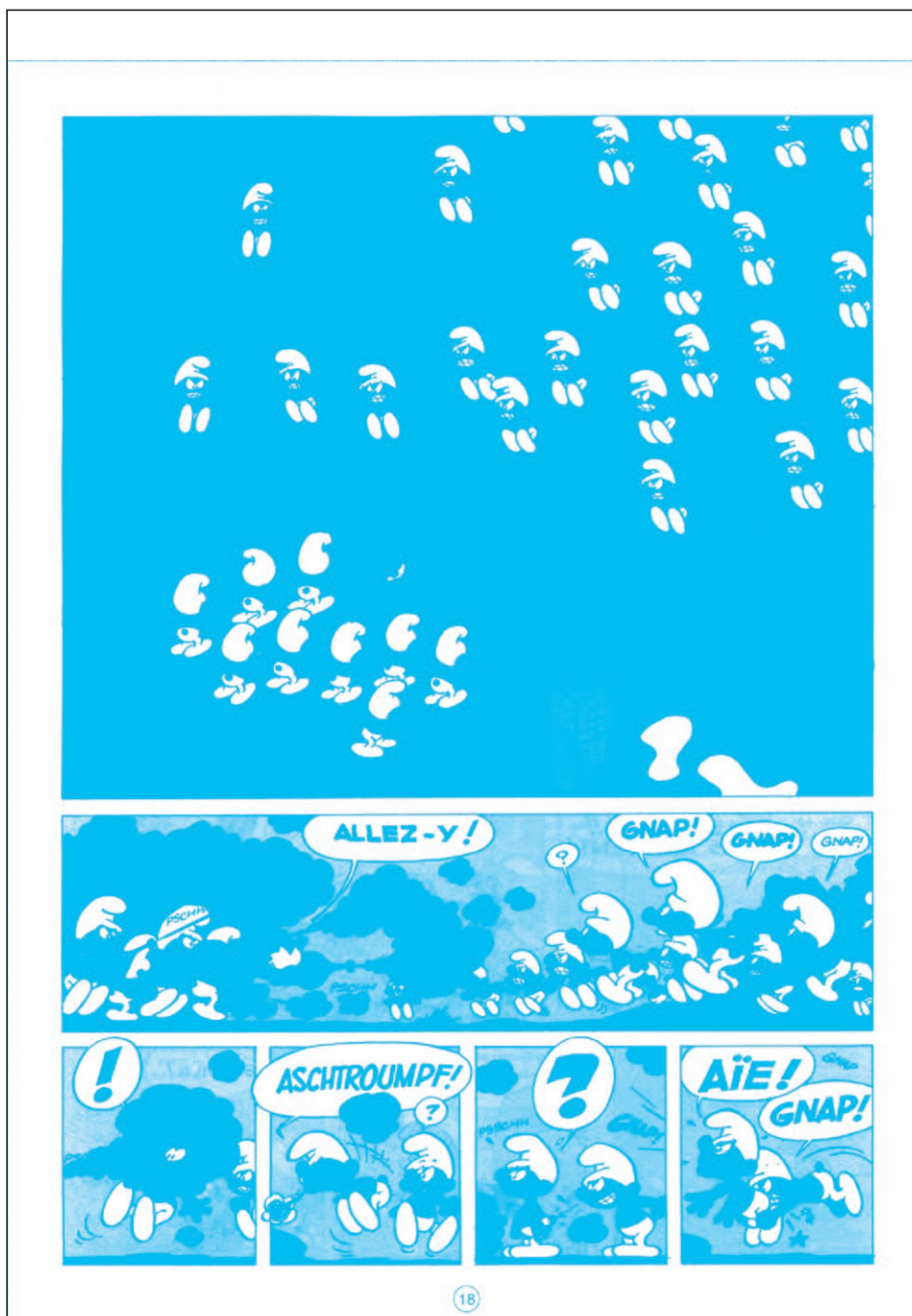


fig.3, *Noirs* (page 18)

Chapter 2

Comic books as Ontographs: The composition process of *Abrégé de Bande Dessinée* *Franco-Belge*

- Published in *Cuadernos del Centro de Estudios de Diseño y Comunicación*, No 125, "La Historieta Desbordada y Estallada. Un Lenguaje Mutante", University of Palermo, Argentina (03/2021)
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- Presented at the *Coloquio Artes Dibujadas*, University of Palermo, (07/2021)

Abstract

In this paper I examine the composition process of my book *Abrégé de bande dessinée franco-belge*, published in 2018 under the book catalog of eight publishers in Europe and elsewhere. *Abrégé* was built following the precepts of ontography, a model of conceptual representation for objects theorized by video game designer and Object Oriented Ontology philosopher Ian Bogost. *Abrégé* presents a visual a personal typology of graphemes drawn from a shared reservoir of the Franco-Belgian bande dessinée tradition, where one can find a variety of comics proto-memes, metanarrative devices, paratextual elements and building blocks of the European BD. The discussed book appeared under the following titles: *Abrégé de bande dessinée franco-belge* (Belgium: La Cinquieme Couche, France: L'Endroit, Switzerland: Helice Helas), *Compendium of Franco-Belgian Comics* (Greece: Topovoros, Israel: Gnat, Italy: Fortepressa, Brazil: Antilope) and *Visuelt kompendium over konventionelle genretræk i den fransk-belgiske tegneserielitteratur* (Denmark: Forlaens).

The ontograph

“...neutrons, rabbits, radar dishes, the Jesuit Order, the Free City of Bremen, and Superman.”

In his book *Alien Phenomenology*, video game designer and philosopher Ian Bogost, rediscovers the concept of the ontograph. The term consists etymologically in the determinative “onto” that refers to being or reality and the determinatum “graph” denoting forms or processes of writing, representing, recording, etc. Ontography is therefore a catalogue of being and an elegant representation for Bogost’s complex philosophical program of flat ontology. In this paper I examine my book *Abrégé de bande dessinée franco-belge* and how its composition process was informed by the ontograph’s operational clarity.

The term ontography has been used in many different research fields ranging from geography (Davis, 1902), to Gothic literature (James, 2014) and Kantian metaphysics (Harms, 1941). The first occurrence of the term *ontography* and the one I would like to bring here is found nevertheless much earlier (Stadler, 2015), in a short article from Karl Christian Friedrich Krause published in 1822. In this text, the philosopher argued in favour of an *essential language* (ontoglossa) consisting of primitive sounds (ontolaly) and signs (ontography) that allow for a seamless interoperability and a flawless translation between different expression modalities. The essential language and its proto-alphabet could form, according to the author, a universal system of signification that can perfectly account for and express the common essence of human cognition and cognizable reality. Based on a self-explaining dictionary, this essential language is independent from the natural languages or any other systems of communications that have been developed through use and without conscious planning or explicit premeditation, and whose limitations ultimately were thought to hamper the development of scientific research. Besides the text's historical fiction for a signification system that can reflect the potentialities of human cognition without the distortions of culture, Krause's speculative constructed language with its objects that can be distributed in a multimodal fashion was an inspiring example for controlled language environments that favor reduced ambiguity like in the context of technical documentation. This paper argues that as an inscriptive strategy, it can be inspiring for comics and for the book description that follows.

Following Bogost's intuition, the ontograph is a graphical or diagrammatic representation that provides concise and detailed information about the units and the ways they relate with each other in a particular situation. Ontographic information is organized in ways that not only appeal to multiple sensual modalities, as Krause intuited, but can also take multiple forms. Examples of ontographs would include shopping lists, the "exploded views" of technical drawings (McLellan, 2019), the cross-section diagrams of manuals revealing the inner function of products (Warren & Woddward, 2018), Bogost's own generator of random wikipedia API queries aptly named *Latour Litanizer*¹, or just any assortment or compendium where, without any additional need of interpretation, the objects' mere belonging to the same group reveals "the repleteness of units and their interobjectivity" (Bogost, 2012, p.38).

1. An example generated by the API and listed on the o-matic blog is the following: "The branched palmyra tree, Claude-François Lysarde de Radonvilliers, Albert Sala, William Walker (engraver born 1791), FK Železničar, WGPL, Lexington." The *Latour Litanizer* is "temporarily down for maintenance" since December 2009.

There is a rich variety of models of visual thinking and exceptional expressions of visual cognition coming from diverse cultural fields and in the Humanities. Ontography is an elegant representation of what Bogost calls flat ontology; a system where “the abandonment of anthropocentric narrative coherence in favor of worldly detail” (Bogost, 2012, pp. 41-42) allows unusual associations between singular objects to emerge. Objects can be described according to philosopher Graham Harman as “anything that has a surplus beyond its constituent pieces and beneath its sum of total effects on the world” (Harman, 2018, p. 51). An ontograph would function as an exercise in the “democracy of objects” where every object, small and large, real or fictional, will be displayed bare, claiming equal ontological footprint. The list’s structural non-hierarchical juxtaposition would therefore allow singular and unpredictable objects to be contemplated *as such*: without being reducible, in infinite regress, as aggregations of smaller bits, an operation Graham Harman calls *undermining*, or on the other hand *overmined*, trapped in a sort of pre-individual state and entirely existing as parts of a larger system or a meaningful arrangement. Both of these operations exemplify the negation for a plurality of being; they withhold the emergent realities that can happen in all levels of experience by the enforcement of a supplementary existence in the life of an object.

Published in 2018 under the catalogs of eight different comic book publishers, *Abrégé de bande dessinée franco-belge* is an attempt to investigate the Franco-Belgian tradition of bande dessinée through the lenses of its objects. Presented as an ontograph, the book reads as a multi-layered, multivoiced piece. It is a reflection on the particularities of a local comics industry that has been seminal in the evolution of the comics medium, but whose national and linguistic gravitational pull, in the midst of globalized industrial flows, has been gradually diminishing. Franco-Belgian comics have many distinctive marks including their signature humor, the graphic style and modes of address, but also their format, which has been a constitutive factor for this project.

The book’s format

In 2005, Jean-Christophe Menu, the publisher of L’Association publishes a biting manifesto, *Plates Bandes*. In the book, he explicitly positions l’Association as an avant-garde, a group of dissident authors, whose work could not be contained in France’s publishing market-driven landscape of their times. These artists wanted instead to use comics as an expressive medium. In his manifest, Menu was attempting to insulate the

Association's book catalog from the sensibilities of the Franco-Belgian mainstream comics industry. While words such as "avant-garde" rely on sets of cultural appreciation criteria that assume distinctions between high and low form of artistic engagement (Beaty, 2007), and might seem dated to the contemporary reader, Menu's claim to belong in a counter-institutional *movance* with a certain modernist ethos, thematizes the conflicting relations of the comics industry with contemporary art. His infectious negativity has been rarely expressed in the comics world, or in the counter-cultural comics scene of the french speaking underground. *Plates Bandes* departs from the prevailing assumptions according to which the format of a book is a transparent signifier whose sole function is to frame the content. Now seen as a premonitory call, in the twilight of massive remediation towards the digital, *Plates Bandes* posits the question of the format as the most salient aspect of the French comic book industry. Menu christens the national industrial standard for comic books in the french-speaking market: 48CC, is the abbreviation for a forty-eight-page hardbound full-color printed album, whose predecessor can be found in children's books from the 1950s and that has been largely adopted by mainstream publishers Dupuis, Dargaud, Lombard and Casterman for their serialized narratives. By this coinage, Menu attempts a performative utterance; he reveals how comics rather than being the aspiration of an artist and a publisher, have to be thought as products defined by an industrial and a commercial ordeal: the complicities and conflicting interests of workflow management, format standardization, economies of scale, paper bulk orders, reader attention spans, shelf space and collectors' best practices. In the center of the book standardization process in the publishing microcosm, Menu blames the corporate ethos of publishers, and the retailers who did not have much use for Association's extra-ordinary formats. He barely absolves the role of the reader, receptive in participating in what the author disdainfully calls "La culture BD". Readers and fans alike, accumulate entire series and comics derivatives (Menu, 2005, p.20). They are prone to follow the mindset of speculative philately. The ubiquity of the format, and the various camp practices organized around its collections and discussions, can be seen both as an impoverishment compared to previous publishing practices, where a multitude of different formats, layouts, technical features constituted a much more varied publishing landscape against the uniform landscape of a "monoculture" (Löwenthal, 2006), but also as an insulation from the larger book industry. Purposely comics in french are not described as books but as *albums*. The standardization of the comics album that took place in the 80s comes, according to Menu, as a natural step of the withdrawal of the Author. These comics are no longer described so much as author

productions but as situated in a constellation of descriptives and production categories, such as Genres, Heroes, Series and album Formats (Menu, 2005, p.18). Menu capitalizes all those terms, ironically conferring them equal value as the Author's name. Nonetheless, he historicizes the consolidation of the mainstream, as an important step towards the creation of the authorial ethos and the rediscovery of the avant-garde in comics. These terms might produce the counter-effect of further confining comics to the status of a paraliterary medium (Baetens, 2012), buffering any meaningful exchange with other book arts and publishing practices.

Plates Bandes doesn't have only the merit to be a rare materialist analysis of the comic book format coming from a celebrated publisher, and an art worker. Menu articulates a reflection on the particularities of a dominant national market and the challenges it faces in the midst of increasingly globalizing flows in the production and appreciation of comics. This situation is naturally not specific to the comics industry. Already in 1982, Robert Darnton in a seminal essay argued that book history cannot easily be satisfied by narrowly defined disciplinary research and analyses based on national economies. It had to take the form of an intersectional, transdisciplinary scholarship, mapping consistent patterns and intersections along global economic, social, legal and political forces and processes. He went to describe the book industry and its global dimensions as a "communication circuit" (Darnton, 1982), a transnational industrial network shaped by an international "republic of letters" consisting of book professionals such as authors, publishers, printers, shippers, booksellers but also readers, critics and scholars, that aggressively compete for the products of cognitive labour. Often situated at the forefront of semicapitalism, these operators and professional of the book industry, but one could also think of comics professionals, speak many different languages, come from different cultures and often their practices cross linguistic, national and market boundaries. The standardization of the 48CC, and its national appeal, whose relevance was rather limited in other markets such as in US or Japan has been a short-term solution for a market who soon was to be globalized. The products of global market increasingly exhibit "an enormous variety in production, distribution, consumption, and formal and thematic characteristics" (Lefèvre, 2010). These cultural products gain international popularity, and are progressively competing with local industries for a market share (Suzuki, 2010). This begs the question: what is the future for national standards and formats in a globalized book industry? In *Plates Bandes*, Menu uses the example of the manga industry to substantiate his point: contrary to the massive standardized national paperback newsprint books produced in Japan, only author-

based manga works are imported in Europe. Standards don't travel, authors do². *Abrégé* addresses this question by producing a quasi-archaeological artifact that accounts for the Franco-Belgian industry's format dominance.

The Selection Process

In one single day, I visited a dozen second-hand bookstores in Brussels, where I acquired forty-eight *albums*, of 48CC standard format. The choice to address the second-hand book market was a strategic one. In Belgium, the spontaneous small town conventions and the seasonal book fairs with their *bouquinistes*, play an important part in extending the economic cycle of a comic book. Used books are also richer in inscriptions than new ones. They usually carry an assortment of additional marks that indicate the social and economic activities, and the commercial routines that composed the book's meaning-signifying trajectory. These inscriptions are bookseller's price marks, the various book dedications, the ownership signature, the library stigmata with their date slips, card pockets, catalogue information and inventory control strips but also the signs that manifest of the social life cycle of the book such as page corner doodles, the tear and wear marks, mildew traces, coffee stains, cover degradation and others. For an ontographic understanding of bande dessinée, the distinction between textual and pictorial elements that conventionally account for comics craftsmanship, and the inscriptions of the social-economical life of book here collapses; each inscription is part of a material language that is expressed on the same informational level of the artifact's substrate.

Once the books were collected I carefully scanned them from cover to cover. A total of 2400 digital files were stored locally and were named according to a simple classification rule: files carried the book's title followed by the page number, i.e. **Gil Jourdan (29)**. The files coming from different books but carrying the same page number, were grouped together in a single folder (named after that number), i.e. in the folder "29", one can find all the twenty-ninth pages of the forty-eight collected books. The content of each page of the final book *Abrégé*, will be an edited version of all the pages carrying that same page number from all the different books.

2. "De même les mangas qui nous arrivent sont ceux que l'on peut qualifier de 'mangas d'Auteur', et non les mangas de base jetables pour étudiantes ou pour cadres" (Menu, p. 25).

The database

Following the principles of ontography, I started by establishing a list that indexed all the elements that I personally considered to characterize the tradition of the Franco-Belgian comics school: This was a non-exhaustive list, a sort of a partial knowledge, an intuitive subjective repertoire of what Belgian comic books feel like to me. The database grouped elements of visual language that became popular through these very same works (line movements, hovering dark clouds and sweat droplets), iconic running jokes and graphic material from the comics “genome” (digesting snakes, falling pianos, shark wings and body-shaped holes), discursive representational forms (racial and sexist stereotypes, historical, architectural and geographical references, product advertisements), textual devices (all different sorts of bubbles, and rhetorical utterances such as constructed language, rebus, misspellings, references to song lyrics and graphic obscenities), meta-narrative devices (directional arrows, black panels, asterisks and self-referential marks). Following the precepts of flat ontology this list could not limit itself in the graphic content but should also engage with the material properties of the book as an object. Inspired by Bogost’s description of the ontograph as “a crowd, not a cellular automaton [...], [a] landfill, not a Japanese garden” (Bogost, 2012, p.59), the database included a variety of features that I would expect to specifically locate in the second-hand book market; a variety of paratextual information such as author signings, collector’s insignia, paper discolouration, laid-in documents, mildew degradation, torn pages, shelf wear, general marginalia, etc. All the elements were eventually attributed a numerical index. Wherever I felt it necessary, I added a footnote for further elaboration or disambiguation, related for example to an element defined too roughly, or to a categorical overlap, which I didn’t necessarily mind. While there is an arts pedigree of humorous quasi-scientific repertoires of vernacular collections, my only goal was to produce a clear taxonomy that would allow me to lay bare all the elements that I personally considered to belong in the Franco-Belgian tradition of bande dessinée.

The score

Once I established the taxonomy indexing the elements of the Franco-Belgian bande dessinée, I produced a two-axis diagrammatic score³ that would eventually allow me to

Interestingly, the format of this large score has the same proportions with “the Highly Interactive Parallelized Display

visualize how the elements of my typology were distributed in the pages of the books I bought. The score's horizontal axis, listed the source books, grouped by vague affinity, not unlike the instrument families in the multi-staved sheet for orchestral music (strings, percussion, woodwind, etc). Some book titles contained in their stories recurrent graphic leitmotifs that could establish a sense of visual continuity in the production of the final *Abrégé* book. Other books were deemed to provide the equivalent of a musical drone or a sheet of sound with their uniform colorfieds, while others, like percussion instruments could only be used as sparks, in order to accentuate specific events. The vertical axis represented comics' expression of time. It contained 48 *parent* columns (each accounting for every single page of a 48CC album) that was further subdivided in *child columns* that referred to the individual panels. The objects that made the initial index and that could be harvested from the collected books were to be cited in the score according to their origin (book) and their placement in the book volume (page and panel number). Although the score in its present state was an empty structure, it could already bring certain aspects of the operation in selective focus: the score certainly defined the overall duration (the length of the narrative) with its discreet subdivisions of time and through the layering of the different books, the score was already setting the conditions for an interplay that delineated the field of all the possible narratives that could unfold once the different books were percolated through the database of my ontograph.

The composition

During this stage, I proceeded to what Kirchenbaum defined in a personal exchange with Katherine Hayles as *rapid shuttling*: I repeatedly switched between an interpretation of the collected books based on close reading, and how they responded quantitatively in terms of the ontograph's database I previously created. I carefully located the elements and, taking in account their page and panel number, I registered their particular instantiation by marking their attributed index number in the empty score. At that stage the composition graphed all the elements that could be mined from the specific list of second hand 48CC comics that were bought. I now only had to retrieve from the folder the digital file and isolate the element by erasing all the surrounding information with the use of a digital photo editor. The isolated elements were marshaled into the empty panel structure of

Space" that was used for one of the first big data visualizations in comics history outlined in Douglass, J., Huber, W., & Manovich, L. (2011). Understanding scanlation: How to read one million fan-translated manga pages. *Image & Narrative*, 12(1), 190-227.

one of the books that were purchased, Giraud's *Arizona Love*. The book was expressly selected for its varied panel composition. As for the uniform background color I had to turn once again to music in order to make an informed choice: space is a determinant factor for sound production and some works, such as chamber music require specific locations in order to be performed. I decided that the equivalent backdrop feature for the purposes of my experiment will be a uniform cyan of 30% saturation that will allow the graphic qualities of this experiment to emerge.

Indexation and other related forms of data visualization like the exploded diagram of a technical manual, run counter to the temporal sequencing of the narrative, conventionally intuited to be a crucial feature of the comics medium. Although big data accumulation might ultimately collapse the difference between the narrative and the database as opposed forms of knowledge production, the discussion that culminates in the uses and abuses of data as a self-descriptive form of information aggregation has deep political implications that go beyond the purposes of this paper. Although comics, like poetry, is slowly moving in the world of big data visualization, procedural artistic practices that involve indexation are very marginal in contemporary comics.

Abrégé was composed following a typology of pictorial-narrative units drawn from a shared reservoir of the bande dessinée tradition. Although it utilizes the form of the database, the selection of the entries explicitly embodies the values and structures of my own understanding and experience of the bande dessinée tradition, a genre that I came to know in an adult age. Paul Stephens has argued in his article on conceptual writing, that indexical appropriation as a popular procedural strategy in contemporary practices in poetry, “demonstrates considerable self-reflexivity with respect to the conditions of its own existence” (Stephens, 2013) by enmeshing the writer in the very same processes of informatization and financialization of global media production flows they are indexing. *Abrégé* claims therefore the position of both a book and an archive in motion that expresses my understanding of this tradition. *Abrégé* mimics the 48CC by collapsing the distinction between “primary” artifacts (the original book product multiples of an industrial fabrication) and second-order commentary, except for one important feature; the book, as if overdetermined by the abundance of its own content, is bigger in size than the collected books.

Abrégé invites the readers to forensically parse the cited works by putting on display the heterogeneous objects of a local comics industry, to be contemplated as such. It points

towards the constitution of new practices of indexation. It uses the concept of the ontograph as a way to present comics as objects, without requiring an interpretation that comes from the elucidation of the original narrative functionalities, or having to demonstrate the referential significance of distinct narrative units and building blocks. By merely charting the networks among reading experiences, *Abrégé* provides a virtually present construct of relational juxtapositions and claims the irreducibility of objects to their effects or compounds. *Abrégé* argues for the necessity of different modes of reading in relation to comics by exemplifying how combined modes of an approach to a text can allow new works to develop. Its objects are freed from the imperatives of the specific narrative in which they were initially implemented, and from the correlations implied by storytelling functionalities. Similar to an autopsy, the distinct narrative units and the building blocks of Franco-Belgian comics tradition are laying bare, emerging and imposing themselves as dense singularities.

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Illustrations



fig.1, Abrégé (page 11)



fig.2, Abrégé (page 22)



fig.3, Abrégé (page 30)



fig.4, Abrégé (page 34)



fig.5, Abrégé (page 37)



fig.6, Abrégé (page 38)

Chapter 3a

The tactile comics of Shapereader

- Published in *Leonardo Journal*, for the "Transcreation" thematic issue, (passed peer-review, to be published in Q4 2021)
- Presented at the *International Comics Art Forum (ICAF)*. St. Ambrose University, Davenport, Iowa, (04/2019)
- Presented at the SAIC - School of the Art Institute of Chicago (04/2019)
- Presented at the *Normal Now. A Symposium on Art and Dis/ability in a Digital World*. Stockholm University (10/2020)
- Presented at *Adapting Comics for Blind and Low Vision Readers*. San Francisco State University. (08/2021)

Abstract

Shapereader was specifically designed for users with visual impairment in regards to the production and consumption of tactile comics. Its interface is built on an expanding repertoire of free floating tactile ideograms (tactigrams) intended to provide haptic translations for all the semantic features, the conceptual functions and attributes of a textual expression. Both theoretical and practice based, the different Shapereader works challenge able-body assumptions and exclusionary access within the visual predominance ethos of graphic literature and explore the conditions for synthesizing language through embodied notions of materiality and performativity. Shapereader situates touch in the general sensibility as a conduit for vibrant artistic exploration and demonstrates that comics can address a diverse readership. It is a speculative, trans-disciplinary project that promotes an embodied, non-retinal, narrative experience with an ongoing outreach plan that since 2015 in Helsinki, has been unfolding worldwide in a variety of formats, contexts and collaborations. In the present paper, the focus is brought on Shapereader's early implementation and the first systematic attempt to address the sense of touch in the production of comics. *Arctic Circle* is a tactile novel, presented as a museum installation including several work-specific communication boards designed both for sighted and visually impaired visitors. I will walk through some of the strategies used to translate concepts and elementary semantic features into haptic formations and explore how meaning signification proceeds through clustering and the use of productive chains of signifiers that ultimately propel the text of *Arctic Circle* to a structural instability.

Introduction

Presented for the first time in 2015, Shapereader is a non-alphabetic system of communication for the production of tactile narrative works that I initially designed

and developed for communities of visually impaired readers. Shapereader consists of an expanding repertoire of tactile ideograms (tactigrams) that are intended to provide haptic equivalents for all the semantic features, the conceptual functions and the textual attributes of a narrative. Unbound by the particularities of ethnic and native alphabets, Shapereader has a language-like capacity for connecting tactile symbols with meanings. Its design is based on criteria of simplicity, easiness of memorization and distinguishability and addresses users, regardless of their nationality, language, educational level, or subsistence under any visual handicap. Shapereader transposes semantic and syntactical structure cognizance to the reader's fingertips and promotes an embodied textual experience. Since its inception, an ongoing outreach plan for raising awareness for the necessities of readership diversification in comics has been unfolding in a variety of formats, contexts and collaborations: contemporary art shows in museums, (MUSAC, Castilla), community workshops (Tel Aviv, Helsinki, Madrid), artists talks (School of the Art Institute of Chicago, MIS Sao Paulo) and literature fairs (Shapereader was the official representation of Belgium at the Frankfurter Buchmesse).

In the present paper I explore *Arctic Circle*, the first tactile comics narrative produced using the Shapereader repertoire. I argue that *Arctic Circle* pledges for an experience that activates the reader's body and displaces assumptions about the visual primacy in comics and comics scholarship. The work demonstrates that a tactile equivalent of the comics medium that specifically addresses an audience of visual disabilities that has been historically excluded by comics culture, is an experiential translation, a highly transformative recreation in the experience of graphic narratives.

Ocularcentrism

Tactility occupies an important position in recent technological innovations and the ways humans communicate around the world. More than a considerable factor of economic growth in the majority of business sectors (Fettweis 2014), such as the promising tactile internet in the seamless integration of IoT, tactility has challenged important distinctions between analog and digital media and has contributed to the making of new social and political subjectivities (Imrie 2015). In times where contemporary media art is conceptualized in terms of media convergence, partial remediation or one that embraces processes of embodied cognition of transitional and hybrid textualities, comics are still understood as contingent on the medium's unquestioned visual primacy. This understanding has been

materialized in the related scholar work through an undisputed use of a lexicon of spectatorial epistemology; expressions such as “perspective”, “insight”, “point of view”, and terms such as “eye”, “vision” and “sight”, when not used in their conventional sense, have been utilized in comics theory to generally account for processes of empirical cognition. Scott McCloud, an influential comics scholar, went as far as to announce comics as a “mono-sensory medium” (McCloud 1993: 89). In his visual essay *Understanding Comics*, a centrally positioned eye of providence illustrates his understanding of the experience of reading comics. Notwithstanding the eye’s theological overtones of a world of knowledge open to the comics reader, McCloud, as a large majority of comics scholars, assumes the reader to be a detached, contemplative, disinterested, disembodied, or able-bodied entity. As Ian Hague states in his response in *Comics and the Senses, a Multisensory Approach to Comics and Graphic Novels*, comics are still predominantly conceptualized within an ocularcentric understanding of “a disembodied interaction between ideas” (Hague 2014:144), where physicality is only contingent or contributes minimally to the reading experience, if at all.

Counter to the major part of comics scholarship, researchers such as Marco Pellitteri or John A. Bateman have been positioned against the reductionist ocularcentric approach. They argue for a performative definition that treats comics as three-dimensional, multi-modal objects that exist in time and appeal to the five senses. Likewise, the research group Graphic Medicine is exploring the application of comics in medical education and patient care demonstrating that comics are increasingly framed as embodied experiences that appeal to a diversification of reading and making subjectivities thus further challenging able-bodied assumptions about the “disembodied” reader. The medium’s visual primacy can no longer be considered a requisite mode of address and, broadly speaking, visibility’s role as the undisputed conduit of graphic narrative, is gradually eroded expressing a need to rehabilitate an embodied sensibility towards a more inclusive understanding of comics.

Arctic Circle

a. Content

Arctic Circle is an original tactile novel and the first work built with the Shapereader repertoire. It has been originally presented at the International Comics Festival of Angoulême in 2016 and since, the installation has been accessible on multiple occasions in a long-term attendance setting that invites the readers to spend time with the works.

(Fig.1) *Arctic Circle* is laser-engraved on fifty-seven, high-pressure laminate plates that carry a large assortment of carved, tactile ideograms (tactigrams) that stand for the different features of the story along with information in Unified English Braille. The installation includes additional custom designed scenographic devices, a set of iron pupiters, archival racks and multiple communication boards allowing the reader to get acquainted with the story's index. *Arctic Circle* narrates the story of two climatologists in the North Pole that struggle to pursue their field research in the middle of conflicting interests from traders, human rights activists and Inuit communities. Their mission is to drill and extract an ice-column that carries layers of climate change records on its ice core. By forensically deciphering these surface patterns, the story's characters hope to form a better historical understanding of global warming. Similarly, the readers of *Arctic Circle* are invited to identify by touch the different shapes of the narrative, making *Arctic Circle* a work that signposts its own affordance on tactile sensorial inputs. (Fig.2)

b. Index

In the *Nature of the Linguistic Sign*, the linguist Ferdinand de Saussure defines the sign as a structure where arbitrary signifiers are linked to equally arbitrary signifieds, and are both negatively defined by their relations with other parts of the system. The linguist stresses that arbitrariness is a key feature not just of language but of any system of signification that can be studied under the general science of signs, semiology. Researchers Klatzky et al., in a highly-cited paper that transposes Saussure's principle of semiotic arbitrariness in object identification related to tangible graphics for visually impaired subjects, demote the importance of resemblance between the drawing (signifier) and the model (signified). They suggest that "effective graphic aids should eschew simple mimicry of two-dimensional visual displays" (Klatzky et al. 1985); one such example can be found for instance in Blissymbolics, a system of "visualiconic" raised graphics where the concept "house" is represented by the simplified, proverbial depiction of a triangular roof. The tactile pictogrammatic language of *Arctic Circle* is not based in iconicity and is not undergirded by a conspicuous relationship between the signifier and the signified. Instead, it uses a non-representational system of signification where the meaning of tactigrams can only be intuited through the available index.

In *Arctic Circle*, the index consists of six hand-held tablets, three large exhibition format communication boards and multiple laminated dibond prints. (Fig.3) These are available

in various languages, both in Braille and printed text, and provide visual and tactile information for the elementary semantic features specific to the narrative. In order to be easily traced by beginner readers, the communication boards contextualize and arrange tactigrams, according to their semantic content and narrative function, sorting them in the following categories: *settings*, *characters*, *elements*, *actions* and *affects*. Two additional categories, *graphic* and *textual devices*, provide tactile equivalents for different pictorial conventions such as modes of locution (speech, thought balloons, radio emissions) and popular tropes of comics iconography (sweat droplets, movement lines, puffs of smoke). For instance, the *affects* category provides classification and translates twenty-one different emotional states experienced by the characters in the narrative such as *joy*, *fear*, *coercion* or *remorse*. The tactigrams design for *affects* consists of the repetition of a basic geometric unit as a core pattern, such as a dot, a line, a triangle, etc. (Fig.4) Each affect is introduced in three incremental intensities semiotically translated through the thickening of the core pattern. This results in a total of sixty-three affections that can be synergetically combined, allowing for a rich description of the emotional states of the plot's characters. (Fig.5)

In *Arctic Circle*, tactigrams are distributed in semantic clusters according to an intuitive assumption of contiguity and proximity. Tactigrams are thus connected to an array of qualities and concepts and when compounded together they make use of what in cognitive psychology is defined as *combinatorial productivity*; “our ability to recombine words or syllables in new ways to derive entirely new meanings” (Miller 1967). Like in conventional linear syntactical structures, the *Arctic Circle* clusters determine the shapes belonging to the same semantic group: i.e. the tactigram that stands for a specific character is more likely surrounded by others that describe the same character's emotional state, their action and the element(s) they interact with. This configuration allows for a diffused, context-sensitive, open-ended syntactical arrangement where tactigrams can simultaneously belong to different semantic cells.

For a series of educational activities that run parallel to the *Arctic Circle* installation, I decided to thematize the sign's arbitrariness and open up the signification process to the group of participants. The workshop participants are invited to work on collective storytelling assignments and for their experiments, they are provided with a custom-made set of shapes that are similar to *Arctic Circle*'s, with one difference; tactigrams come as empty signifiers and attribution of meaning is entirely arbitrated by the participants

themselves. In the beginning, the empty signifiers represent undetermined qualities of signification; they are void of meaning and thus apt to receive any meaning through collective negotiation. The workshop is an exercise in harnessing Shapereader's potential for a non-representational, free-floating and community-specific system of signification with the goal not to simply reflect the community's expression by a collectively designed story, but to provide the very same genetic material for textual production; a repertoire of empty symbols that can be reiteratively attributed different meanings and functions according to each community's specific needs, preoccupations and desires. The sign's contingency of arbitrariness actualized through the activation of empty signifiers and free-floating chains of signification, propels the "text" to a structural instability that is weaponized here as a productive construction for community binding. (Fig.6) These workshops are an invitation to revalorise tactility and physicality in comics by encouraging a range of intentional exploratory gestures in the reader's engagement with the tactile narrative work.

c. Modes of address

Arctic Circle argues for a complex practice of intentional, manipulated actions of interpretation, situated outside the dominant sensorial mode of visibility. The work invites the reader to develop techniques of what Matthew Fulkerson describes in his philosophical study as *haptic touch*, "an inherently active and exploratory form of perception" (Fulkerson 2011). Lederman and Klatzky, in their research of haptic exploration for 3-D common objects, have studied the various patterns and the degrees in the efficiency and rapidity of eight prototypical hand gestures. Classified under the general title of *exploratory procedures* (EP), these gestures help the subject optimize her apprehension according to given sensory inputs. Each gesture mobilizes an array of distinct sensory receptors in the skin and helps acquire information related to weight, temperature, volume, shape, etc. While exploratory procedures refer mostly to 3-D object identification, four (4) of these EP have applicability in the context of Shapereader and help construe *Arctic Circle* as a productive geography of embodied reading activities. Namely: 1. Pressure: where according to Lederman and Klatzky is "produced by applying torque or normal forces to one part of the object while another part of the object is stabilized". This gesture, not directly connected to the process of shape identification, is linked to a sensuous understanding of the physical properties of the plate. 2. Lateral motion: is when the hand laterally brushes an object in order to determine a general surface texture. This movement

is usually observed to be the reader's initial approach to *Arctic Circle's* tactile plate. It is a gesture that informs the user about the general feel and size of the plate and provides some intuition about the layout, the number of panels, the overall quantity of text, etc. 3. Contour following: is when the fingers follow the edges of tangible shapes. This gesture allows for a more precise method of exploration, a partial shape identification, and when the reader is familiar with the index it help them intuit parts of the narrative. 4. Enclosure: when the fingers are molded closely to the tactigram's surface for a more detailed exploration, i.e. when in need to disambiguate between two contingent shapes.

While an argument for or against intersensory equivalence is beyond the scope of this paper, exploratory procedures resonate with different modes of vision in eye-tracking studies in the reading of comics: the broad hand movements of "lateral motion" resemble the reading subject's global state of attention to the tabularity of a comics page (Mikkonen & Lautenbacher 2019), while the detailed exploration in "enclosure" could be a tactile translation of foveal vision and local attention focus when visual detail is of primary importance.

The aforementioned exploratory procedures can be productively combined. For instance, after activating the entirety of the hand's skin surface in order to intuit general information about a plate's layout (lateral motion), the reader can engage the individual fingers that contain more densely populated receptors (contour following), and accordingly vary their contact approach by simply applying different degrees of pressure (pressure), in order to extract specific information from different microgeometric tangible features (enclosure).

d. Interface

Undergirded by the visual primacy hypothesis, the main argument against non-retinal comics asserts the centrality of conventional craftsmanship (drawing, inking, coloring, etc), as a defining feature of comics as a medium. Craft is undoubtedly a distinctive trait of professional integrity but the argument suffers from a narrow medial perspective; one that frames socially constructed, culturally activated or popular representations of an artform, as being constituent traits of a medium. This conceptualization of comics stems from structures that might have been inherent of constraints from original forms of completion (early printing technologies, newspaper distribution, etc) and although their functionality is not anymore essential, they are still conventionally "required".

Counter to this definitional fixity and following a paradigm coming from contemporary

art praxis theory, scholars in Comics Studies such as Simon Grennan and Benoît Crucifix have defined comics craft in social, evolutionary and dynamic terms, in order to embrace a diverse register of inscription techniques and “deskilling” approaches. Moreover, this is equally contested by a diverse range of counter examples, such as in the recently published collective reader *Comics and Abstractions: Narration by Other Means*, and definitely by a number of multi-sensory experiments in comics. In an increasing number of contemporary comics, drawing is not a constitutive part of a practice such as in narrative works made exclusively from image libraries or commissioned in an industrial manner through the combined work of hundreds unskilled participants, or where the visual is not dominant such as in audiocomics or “augmented” comics with edible and olfactory features.

On another strand of argumentation, the concept of *intersensory equivalence* according to which different sensory modalities can produce, extract and store the same sort of information can inform a non-visual, all-tactile modality in comics. There are indications that salient structural features, usually manifested through raised outlines can, and do stand for the representation of “objective” shapes that are intersensorially equivalent with their visual referent. Experiments with congenitally blind children (D’Angiulli 2007) and subsequent experiments with sighted participants with no prior experience of raised graphics (Kennedy, Bai 2002) have corroborated the hypothesis of a partial overlap according to which there is a structural similarity in the depiction of objects that can be equally perceived through vision and haptics. While comparisons with visual counterparts and more conventional comics are implicit and inevitable, a *native* tactile work such as *Arctic Circle* can deliver a narrative experience in comics that is both similar in intensity and effect, but also different from visual comics.

Arctic Circle, a transcreation of the comics medium

There is little consensus among scholars on whether comics is a language, but it’s relatively agreed on that it is a sequential system of communication that consists of both linguistic and non-linguistic signs (Groensteen). In the anthology *Comics in Translation*, the editor and researcher Federico Zanettin, describes comics as syncretic semiotic environments where multiples systems of signification “are co-present and interplay at different levels and are culturally determined along dimensions of space and time” (Zanettin 2015:13), while researcher Gonçalves de Assis, in his study on comics translation, stresses with multiple illustrations, the negotiational creativity that goes in most processes of adaptation

in mainstream comics (see also Asimakoulas 2018). The multimodal overlap that can be found in comics, makes that “translation” can not easily account “for processes of transfer where verbal and visual language cannot come apart” (Di Giovanni 2008) or for works that are “rather prone to present the two nonsynchronously” (Chute 2008). Similar to comics, textual works that rely on non-verbal communication, such as internationalist concrete poetry, French lettrism, constrained literature in OuLiPo and contemporary traditions of conceptual and uncreative writing where the material substrate contributes entirely to the understanding of the work, intensify the challenges faced to a lesser degree with more conventional types of literary translation.

Some researchers proposed instead to use the term “transcreation” for works that require an extensive adaptation of verbal or visual material when adapted for new target audiences. While the term “transcreation” is also popular in the globalized corporate culture of advertising, it has been originally useful in describing a post-colonial conceptualization of the poetics of translation such as in the works of Haroldo Dos Campos and in the general context of Brazilian concrete poetry (Vieira 1999). If we consider that comics can be understood as different systems of communication that operate through a sequential unfolding of building blocks with their own vocabulary, grammar and syntax, we can imagine a tactile system of communication based on the combination of elementary tactile stimulations that serve the same narrative functions with their visual counterpart. *Arctic Circle*, a work specifically designed for a visually impaired readership, is more than a tactile replacement or a more or less faithful translation of comics in a tactile form. As it has been demonstrated, *Arctic Circle* is a transformative recreation of graphic narratives and established traditions and forms in comics. It emphasizes a sensorial epistemology that takes the body in consideration in its acknowledgment of the sensuous pleasure of cognizance and the particular gratification that derives by the awareness of tactile subtleties and nuances. Informed by physical intentional action, the work expands the possibilities of the comics medium and opens up the concept of graphic narrative in order to encompass “a complex, interactive and multimodal experience, one that relies on both perceptual and memory abilities” (Pring & Eardley 2003). From its design, interface and community engagement, *Arctic Circle transcreates* comics in the tactile sensorial and experiential realm and challenges the medium’s assumptions about how comics should be (printed and flat), how they *typically* address their reader (through vision), and who the reader is assumed to be in order for this exchange to happen (able-bodied and sighted).

Conclusion

Arctic Circle brings in focus certain material aspects of an original medium materiality in comics. It performs a conceptual shift to embodied forms of interactions that is elaborated through the tactile-iconic formation of the project's index, the informational density of its diagrammatic language and the extension of traditional modes of craftsmanship using inscription methods from contemporary printing technologies. In contrast to the majority of Comics Studies literature, the tactile comics narrative of *Arctic Circle* argues for a shift to a model of embodied cognition. Overall, *Shapereader* and *Arctic Circle* displaces the medium's assumptions about the visual primacy in comics and proposes an unconventional mode of address for comics that activates the reader's corporeal sensorium by producing knowledge tied up with the workings of the body through a set of physical and intentional exploratory procedures.

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Illustrations



Fig.1 Shapereader exhibition at MUSAC in 2016, (Photo credits: Imagen MAS).



Fig.3. Communication boards carrying the index (Photo credits: Imagen MAS).

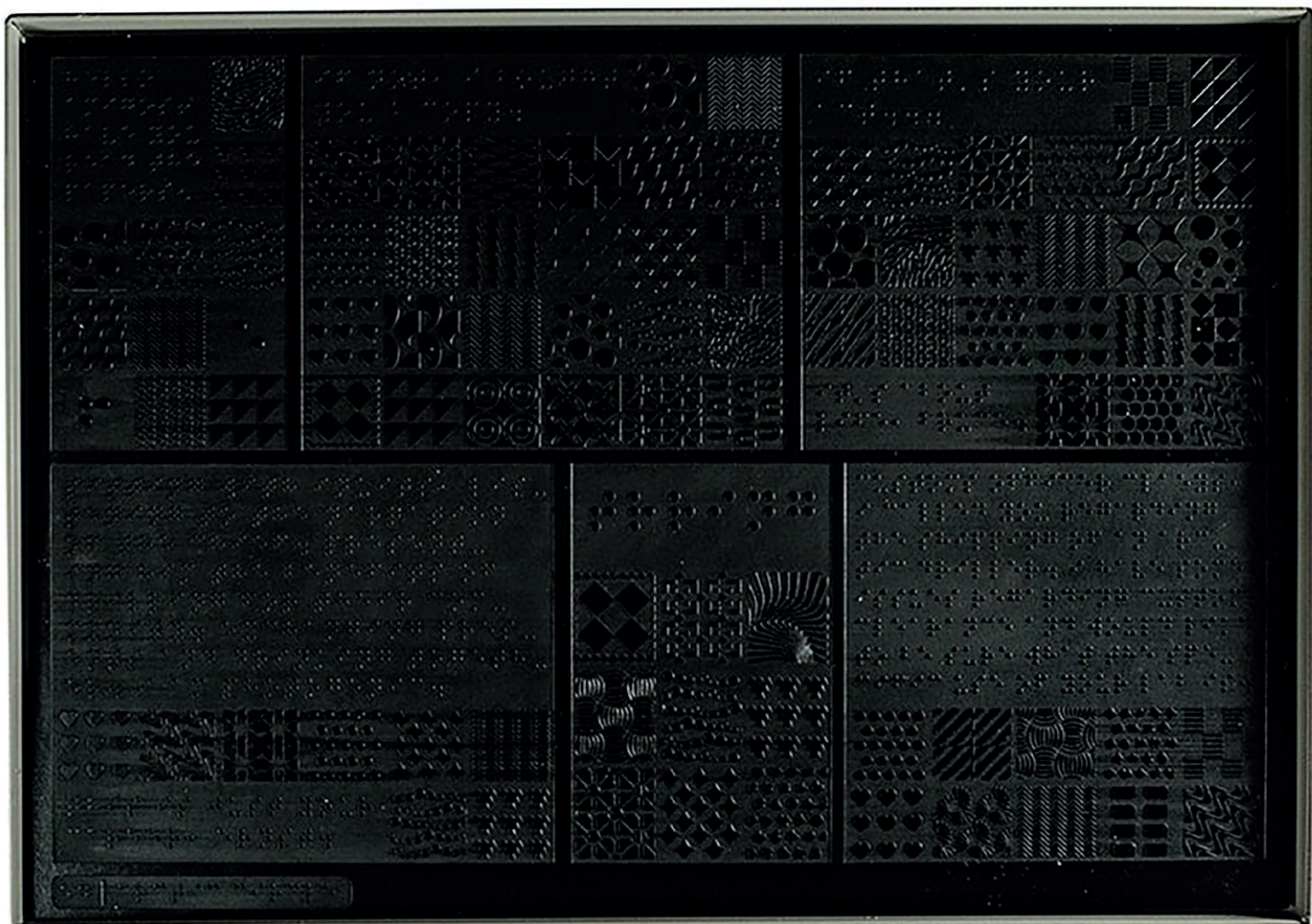


Fig.2 *Arctic Circle*, plate 54, (Photo credits courtesy of the artist).

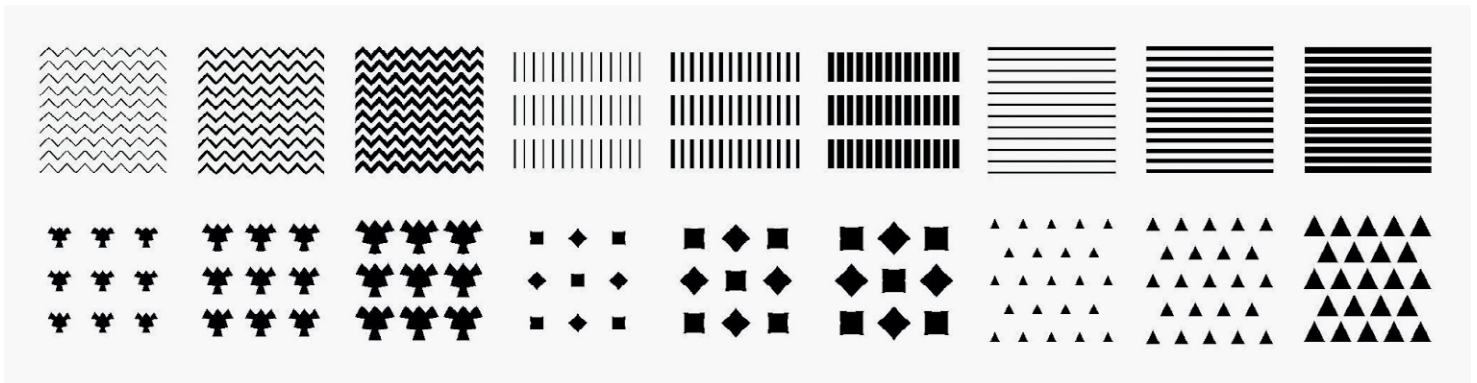


Fig.4 The gradual thickening of the affects tactigram core pattern denotes a change of intensity.

I	J	K	L	M	N
	J 01 BOREDOM +	K 01 PAIN +	L 01 REMORSE +	M 01 DISGUST +	N 01 UNEASE +
	J 02 BOREDOM ++	K 02 PAIN ++	L 02 REMORSE ++	M 02 DISGUST ++	N 02 UNEASE ++
	J 03 SHAME	K 03 JOY	L 03 AGRSSION	M 03 HOPE	N 03 PRIDE
	J 04 SHAME +	K 04 JOY +	L 04 AGRSSION +	M 04 HOPE +	N 04 PRIDE +
	J 05 SHAME ++	K 05 JOY ++	L 05 AGRSSION ++	M 05 HOPE ++	N 05 PRIDE ++
	J 06 CONTEMPT	K 06 DECEPTION	L 06 SUSPICION	M 06 SURPRISE	
	J 07 CONTEMPT +	K 07 DECEPTION +	L 07 SUSPICION +	M 07 SURPRISE +	
	J 08 CONTEMPT ++	K 08 DECEPTION ++	L 08 SUSPICION ++	M 08 SURPRISE ++	
	J 09 FEAR	K 09 ANXIETY	L 09 SADNESS	M 09 CURIOSITY	
	J 10 FEAR +	K 10 ANXIETY +	L 10 SADNESS +	M 10 CURIOSITY +	
	J 11 FEAR ++	K 11 ANXIETY ++	L 11 SADNESS ++	M 11 CURIOSITY ++	
I 12 SERENITY	J 12 COMPASSION	K 12 COERCION	L 12 ANGER	M 12 SUBMISSION	
I 13 SERENITY +	J 13 COMPASSION +	K 13 COERCION +	L 13 ANGER +	M 13 SUBMISSION +	
I 14 SERENITY ++	J 14 COMPASSION ++	K 14 COERCION ++	L 14 ANGER ++	M 14 SUBMISSION ++	
I 15 BOREDOM	J 15 PAIN	K 15 REMORSE	L 15 DISGUST	M 15 UNEASE	

L 07 SUSPICION +

M 05 HOPE ++

J 06 CONTEMPT

L 09 SADNESS

M 08 SURPRISE ++

J 03 SHAME

Fig.5 The sum of all the *Affects* category and two cases of translation of emotional states coming from *Arctic Circle*'s characters.



Fig.6 Community workshop using custom-made sets of tactigrams (Photo credits; Imagen MAS).

Chapter 3b

Shapereader: A further foray to Shapereader (artist notes)

Multiple formats | 2017-2021 |

Presented for the first time in 2016, *Shapereader* is a non-alphabetic system of communication, initially developed for communities of visually impaired. *Shapereader* is built on an expanding repertoire of tactile ideograms (tactigrams) providing haptic equivalents for all the semantic features, the conceptual functions and the textual attributes of a narrative. As an elementary system of signification, *Shapereader* has a syntactical capacity for connecting tactile symbols with meanings. It is unbound from the particularities of ethnic and native alphabets, or Braille code. Its design is based on criteria of simplicity, ease of memorization and tactile distinguishability. *Shapereader* addresses all users, regardless of their nationality, language or educational level; it transposes semantic and syntactical structures cognizance to the reader's fingertips.

The first work produced using *Shapereader*'s repertoire was *Arctic Circle*, a tactile novel presented as a museum installation in MUSAC in 2016 and which catered to the needs of both sighted and visually impaired visitors. Parallel to the installation, a series of workshops open to the general public were conducted in collaboration with ONCE, an organization committed to develop awareness for the social inclusion of people with visual disabilities. While this exhibition format, coupled with educational activities, has been subsequently conducted in many different contexts, *Shapereader* has gradually evolved in an experimental laboratory dedicated to the materialities of embodied signification. The following collected artist notes, as well as the photographic and diagrammatic documentation related to the design and the events organized around *Shapereader* from 2017-2021, explore several conceptual directions that have informed my understanding of conceptual comics in general. As an introduction to this section, I would like to focus on two conceptual vectors that are both in development, and point to new directions in my research related to the *Shapereader* project.

The generative potential of collaborative work in Shapereader

The *Shapereader* workshops provide the genetic material for textual production; a repertoire of empty symbols that can be reiteratively attributed different meanings and functions according to each community's specific needs and preoccupations. The different collaborative settings allow for a bottom-up, semi-structured process of collective creative configuration where "generativity" is a crucial feature. The term

“generativity” first appeared in the works of psychoanalyst Erik Erikson, and it referred to the creation of features in the life of an adult human being that will outlast and benefit the community. Since then, the term has found multiple usage such as in the work of linguist Noam Chomsky when referring to language’s combinatorial productivity (Chomsky 2013), but also in the work of social scientist Kenneth Gergen. In Gergen’s work, “generative capacity” connotes the social constructedness of lived experience and the human capacity to challenge our assumptions and transform our social actions (Gergen 2012). In the field of community and participatory design, researchers Wietske Van Osch and Michel Avital describe the concept of generativity as the sum of a system’s properties and features. According to the writers, a system needs to be open, engaging, adaptive and evocative “in order to elicit and encourage ‘collective generative capacity’, which in turn germinates and fuels collective action and mass innovation” (Van Osch & Avital 2009). The *Shapereader* workshops respond to these four criteria that allow generativity to emerge: the sign’s contingency or arbitrariness (adaptivity) actualized through the activation of empty signifiers and free-floating chains of signification (openness) in a pre-attentive or intellectualized mode (evocativeness), propels the form - the “text”- to a structural instability that is used as a productive construction for community binding (engagement).

Shapereader and tactile cartography

Maps are artifacts composed of signs that materialize a way of experiencing space (Geertz 1976). Maps transform ways of thinking and relating to our surroundings into material realities; they simultaneously reflect the world views and spatial thoughts of a given culture. Maps often highlight and reinforce existing cultural viewpoints, and operate simultaneously according to the values and beliefs that are embedded in a culture. Therefore, when mapping is treated as an institutional practice, maps emerge as material embodiments of fundamental cultural concepts. Cartography is not just embedded in cultural representations, always in flux, but can also be a tool for political empowerment that questions the normativity of conventional notation rules in different genres of inscriptions, such as our daily dependence on the entirely disembodied GPS protocols.

The Shapereader workshop is an experiment on how the resources of a tactile system of communication contribute to a non-hegemonic system of embodied notation, for people

with and without visual disabilities. An important non-western precedent that has been influential in my research about Shapereader and which I would like to explore more thoroughly, can be found in the cartographic traditions of Inuit hunters and the highly-stylized tactile relief maps that allowed tribe hunters to navigate the coasts under harsh conditions. The non-retinal Inuit cartography allows us to imagine the production of a shared system of graphic and tactile notation, that is accurate, resilient and that can record both constant and shifting elements of our community's experience.

Visual disabilities and the Arts

Lately, a general public awareness pointing to the conditions of the discrimination in arts for people subsisting under handicaps is a long overdue response from the part of the art world. For the persons with visual disabilities, access to visual arts is particularly problematic: Despite the museum's efforts in restructuring physical access and reevaluating alternative means to providing information, touch is the only way for the members of this community to complete the mental image of an art object. Museums, galleries, public art spaces, and educational establishments have been progressively reconfiguring their programme, and policies. The redefinition of their curatorial and social approach stems from a general avowal: the role of art as catalyst for the production of new social realities has been progressively met with disbelief and accruing disillusionment, revealing it to be no different than the society that produces it; instead of redistributing the sensible, the visual arts have had their shared part in reproducing the conditions of society's normative privilege structures. The social turn of contemporary curatorial practices, partly motivated by a critical displacement of art's supposed transparency, accounts for much of the recent participatory projects distributed more evenly along demographics. Consequently, and in regards to visual disabilities, museums have slowly integrated alternative visits, educational programs grounded on tactility, touch tours and handling sessions using an array of newcomer objects in the museographical apparatus: replicas, facsimiles, tactile diagrams, relief structures, etc. Broadly speaking, visuality's role as the undisputed conduit of art experience for the generic audience has also been gradually eroded, giving rise to a growing number of works that challenge our sense of touch; the use of soft materials in contemporary sculpture, like fur, felt, foam, fibers and fabric is an evidence for a need to rehabilitate an haptic sensibility towards an embodied understanding of the aesthetic experience.

Photo credit: The Perkins Braille and Talking Book Library



beba coca cola
babe cola
beba coca
babe cola caco
caco
cola
cloaca

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Textual corporeality

A similar assault on the transparency of the construction of meaning, and the reiterated claim to activate the workings of the embodied mind in regards to the art experience, have been formulated by the utopian, pan-international ambitions of Concrete Poetry. Originating in São Paulo in the early 50s, and coalesced around the Noigandres group and including European poets such as Max Bill and Öyving Fahlström, Concrete Poetry was the first international poetical movement that united poetry to the visual arts. Concrete poetry had a utopian agenda for creating a transnational panlinguistic way of writing highlighting its material dimensions. Using verbal and visual cues alike, concrete poetry emphasized the materiality of both the page and the language as an infinitely malleable matter for the creation of visual poems, accessible to anyone, regardless of any language barriers. According to poet and Ubuweb founder Kenneth Goldsmith, concrete poetry through the mobile, instant operativeness of its ideogrammatic configurations "...mirrors the utopian pan-linguistic dreams of cross-platform efforts on today's Internet". I would like, for the purpose of my research, to conduct by means of interviews, field research to art collections and museums, and through the available bibliography, a systematic exploration of the history of Concrete Poetry and its contemporary ramifications. Is it still possible for a language to claim to universality, unbound by the particularities of ethnic and native alphabets? Is it possible to reactualize Concrete Poetry's utopian agenda by bypassing cultural specifics in the understanding of poetry and operate instead through an embodied understanding of language? And in which extent raw tactile sense can be a vector of syntactical cognizance and tactile literacy? In order to understand better the de-emphasizing of vision in regards to tactile productions and the multiple ways that touch can be a vector for extracting signification and circumventing the verbovocovisual apparatus, I would like to study and incorporate in my research the following seminal concepts: Michael Taussig's notion of optical tactility, where the author claims that vision can not be accountable any more for our apprehension of the surrounding reality, due to the extreme proliferation of visual new forms. Inspired by ritual uses of psychedelic drugs and altered states of consciousness, Taussig extends the notion of visual reality, and posits tactility as a catalyst for emphasizing the bodily impact of imaging. Similarly, Alois Riegl's conceptualization of the tactile look might provide a very interesting material for the research. Riegl develops a system of formal analysis, where the Egyptian art's tactile qualities elicited by the bas-relief, stresses the material, contingent properties of the art, and produce in extenso a verifiable and palpable reality that anchors the religious feeling and unlocks the visual experience as well.

Shapereader

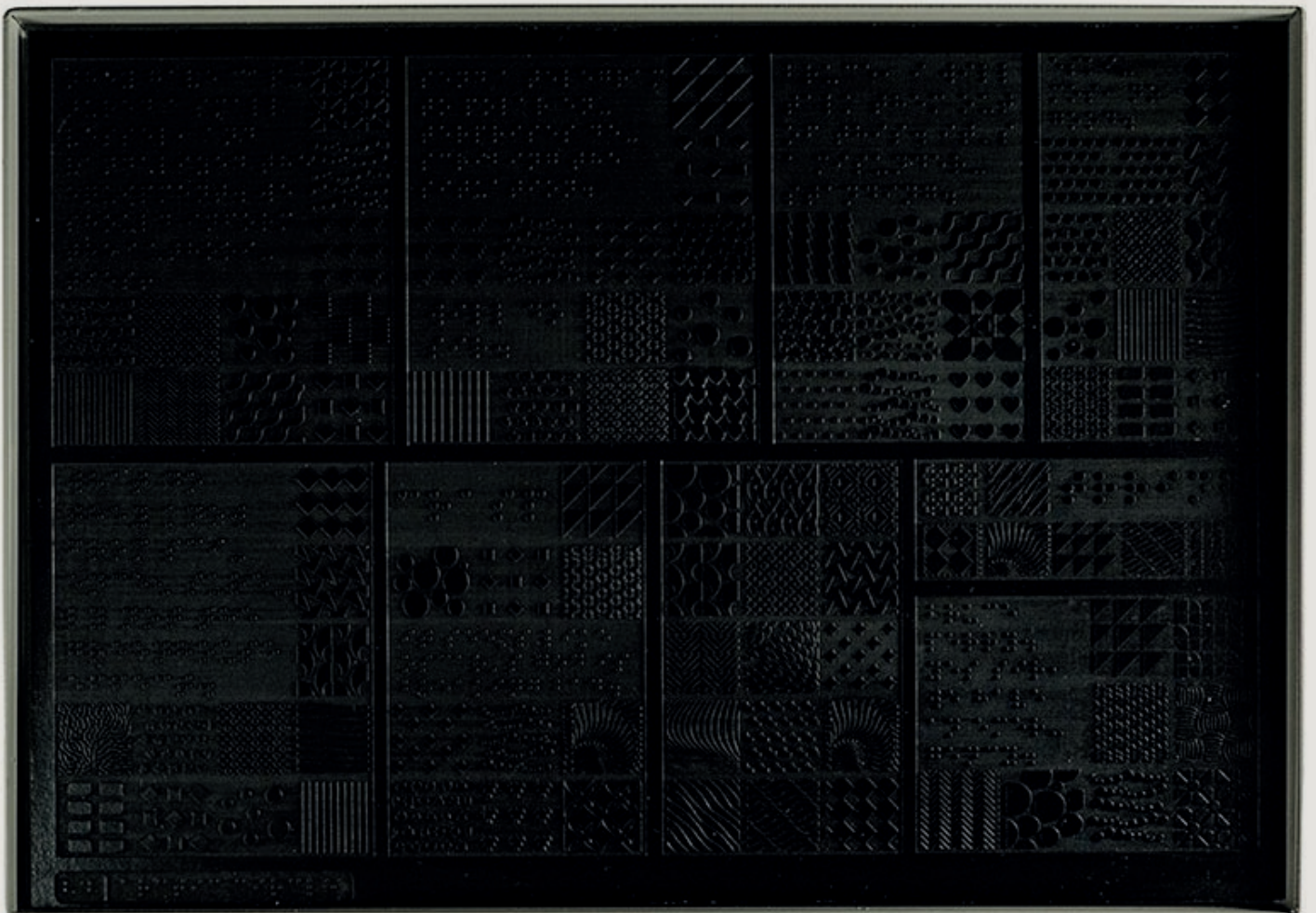
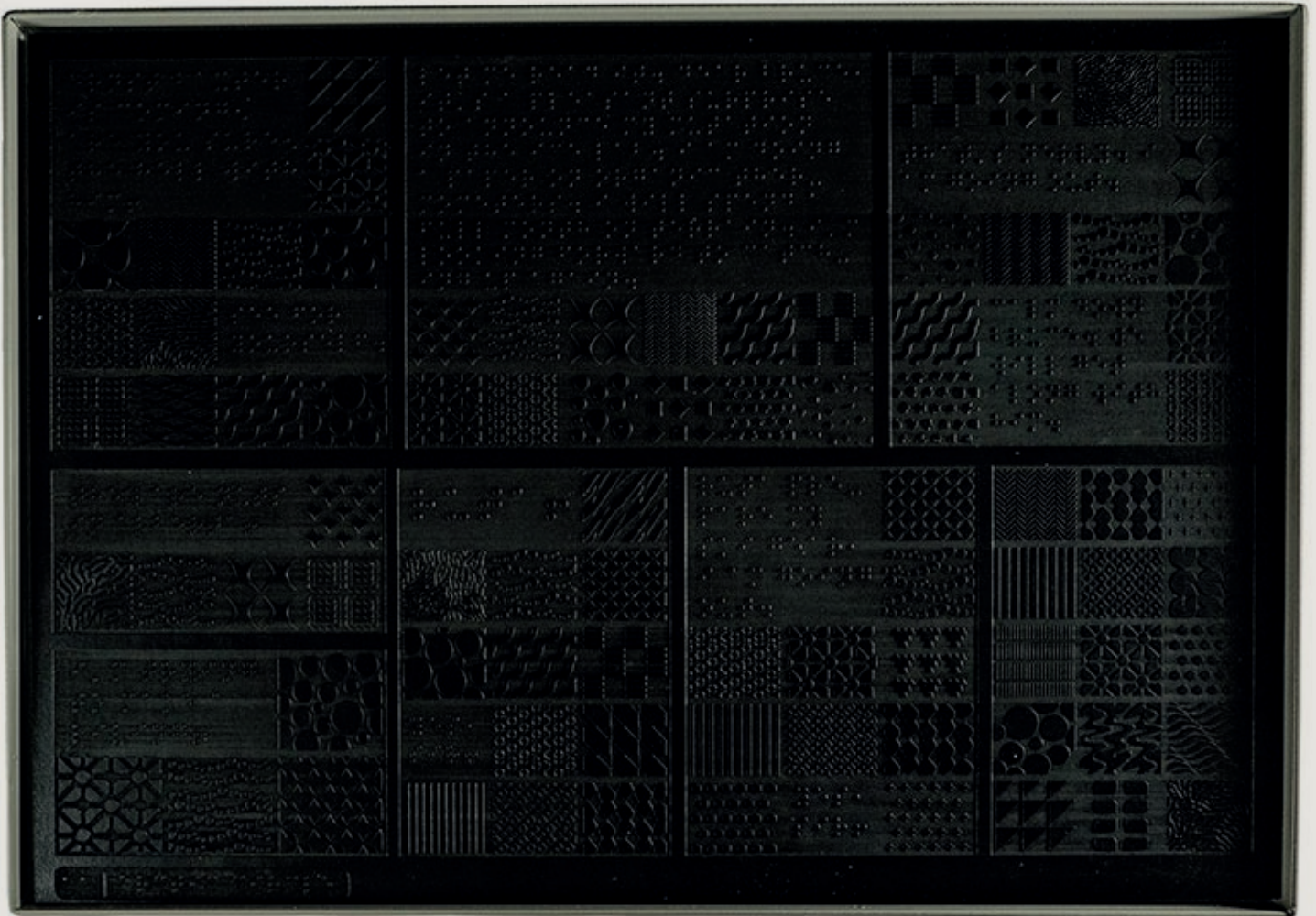
Presented for the first time in 2015, Shapereader is a non-alphabetic system of communication that was initially developed for communities of visually impaired readers in the production of tactile narrative works. Shapereader consists of an expanding repertoire of tactile ideograms (tactigrams) that are intended to provide haptic equivalents for all the semantic features, the conceptual functions and the textual attributes of a narrative. It has a language-like capacity for connecting tactile symbols with meanings and it is unbound by the particularities of ethnic and native alphabets or Braille code. Its design, based on criteria of simplicity, easiness of memorization and distinguishability, addresses all users, regardless of their nationality, language, educational level, or subsistence under any visual handicap. Shapereader transposes semantic and syntactical structures cognizance to the reader's fingertips. It has an ongoing outreach plan for raising awareness for a diversified audience, that has been unfolding in a variety of formats, contexts and collaborations: contemporary art shows in museums (MUSAC, Castilla), community workshops (Tel Aviv, Helsinki, Madrid), artists talks (School of the Art Institute of Chicago, MIS Sao Paulo) and literature fairs (Shapereader was the official representation of Belgium at the Frankfurter Buchmesse). It has been endorsed by disabilities rights organizations (Swiss Handicap, NFB, Iiris Library) and universities (Disabilities Studies, University of Washington), and has been discussed in major international media outlets (e-flux, Hyperallergic, Wired Magazine, World Literature Today, Swiss Prime Time TV News).

How does Shapereader work? *Arctic Circle*, an entirely tactile narrative work

Arctic Circle is an original tactile novel and the first work built with the Shapereader repertoire. It has been originally presented at the International Comics Festival of Angoulême in 2016 and since, the installation has been accessible on multiple occasions in a long-term attendance setting that invites the readers to spend time with the works. *Arctic Circle* is laser-engraved on fifty-seven, high-pressure laminate plates that carry a large assortment of carved, tactile ideograms (tactigrams) that stand for the different features of the story along with information in Unified English Braille. The installation includes additional custom designed scenographic devices, a set of iron puppets, archival racks and multiple communication boards allowing the reader to get acquainted with the story's index. *Arctic Circle* narrates the story of two climatologists in the North Pole that struggle to pursue their field research in the middle of conflicting interests from traders, human rights activists and Inuit communities. Their mission is to drill and extract an ice-column that carries layers of climate change records on its ice core. By forensically deciphering these surface patterns, the story's characters hope to form a better historical understanding of global warming. Similarly, the readers of *Arctic Circle* are invited to identify by touch the different shapes of the narrative, making *Arctic Circle* a work that signposts its own affordance on tactile sensorial inputs.

Iconicity and arbitrariness

In the *Nature of the Linguistic Sign*, the linguist Ferdinand de Saussure defines the sign as a structure where arbitrary signifiers are linked to equally arbitrary signifieds, and are both negatively defined by their relations with other parts of the system. The linguist stresses that arbitrariness is a key feature not just of language but of any system of signification that can be studied under the general science of signs, semiology. Researchers Klatzky et al., in a highly-cited paper that transposes Saussure's principle of semiotic arbitrariness in object identification related to tangible graphics for visually impaired subjects, demote the importance of resemblance between the drawing (signifier) and the model (signified). They suggest that "effective graphic aids should eschew simple mimicry of two-dimensional visual displays" (Klatzky et al. 1985); one such example can be found for instance in *Blissymbolics*, a system of "visualiconic" raised graphics where the concept "house" is represented by the simplified, proverbial depiction of a triangular roof. The tactile pictogrammatic language of *Arctic Circle* is not based in iconicity and is not undergirded by a conspicuous relationship between the signifier and the signified. Instead, it uses a non-representational system of signification where the meaning of tactigrams can only be intuited through the available index.



A tactile index

In *Arctic Circle*, the index consists of six hand-held tablets, three large exhibition format communication boards and multiple laminated dibond prints. These are available in various languages, both in Braille and printed text, and provide visual and tactile information for the elementary semantic features specific to the narrative. In order to be easily traced by beginner readers, the communication boards contextualize and arrange tactigrams, according to their semantic content and narrative function, sorting them in the following categories: settings, characters, elements, actions and affects. Two additional categories, graphic and textual devices, provide tactile equivalents for different pictorial conventions such as modes of locution (speech, thought balloons, radio emissions) and popular tropes of comics iconography (sweat droplets, movement lines, puffs of smoke). For instance, the affects category provides classification and translates twenty-one different emotional states experienced by the characters in the narrative such as joy, fear, coercion or remorse. The tactigrams design for affects consists of the repetition of a basic geometric unit as a core pattern, such as a dot, a line, a triangle, etc. Each affect is introduced in three incremental intensities semiotically translated through the thickening of the core pattern. This results in a total of sixty-three affections that can be synergetically combined, allowing for a rich description of the emotional states of the plot's characters.

In *Arctic Circle*, tactigrams are distributed in semantic clusters according to an intuitive assumption of contiguity and proximity. Tactigrams are thus connected to an array of qualities and concepts and when compounded together they make use of what in cognitive psychology is defined as combinatorial productivity; "our ability to recombine words or syllables in new ways to derive entirely new meanings" (Miller 1967). Like in conventional linear syntactical structures, the *Arctic Circle* clusters determine the shapes belonging to the same semantic group: i.e. the tactigram that stands for a specific character is more likely surrounded by others that describe the same character's emotional state, their action and the element(s) they interact with. This configuration allows for a diffused, context-sensitive, open-ended syntactical arrangement where tactigrams can simultaneously belong to different semantic cells.



More works

Metope Series

Presented for the first time at the IVDE gallery in Dubai, the Metope series is a community board game playing out the fables of seven blind figures from Greek mythology. Four players sit around a board. They start by tactually exploring the board's shapes that are the closest to their bodies. Based on the physical stimuli of these arcane transcriptions, each player is invited to individually infer elements from the fictional biography of the assigned mythical figure. As soon as the players get acquainted with the bordering shapes, they slowly reach towards the middle of the board, eventually meeting the hands of the other players. The group is then expected to join the individual story bits together. By the same token, they mobilize the meaning of the shapes towards a collectively built ad-hoc language made to discuss the life of one of the following blind figures: Phineus, Argos Panoptes, Bellerophon, Orion, Daphnis, Polyphemus, or Tiresias.



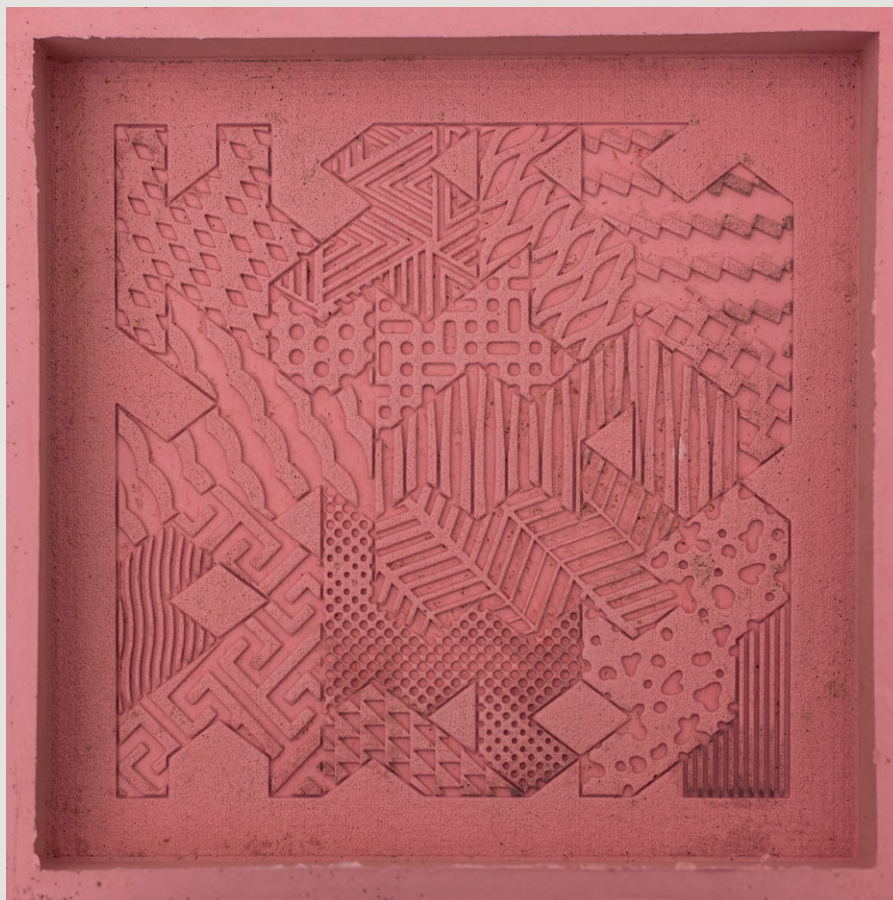
Tactile Haggadah

Judaism is a culture of performative storytelling established through liturgical but also secular discursive rituals of interpretation and argumentation. The Tactile Haggadah workshop was organized at the Binyamin Gallery in Tel Aviv and is a speculative reenactment of the communal reading of the Passover text. During the workshop, the attendants, consisting of conceptual poets and Haggadah scholars, experimented with nonlinear narrative structures driven by the juxtaposition of multiple spaces, times, voices and narratives. The set of Shapereader plates was the vehicle for an unrooted, deterritorialized and community-specific language echoing the multiplicity and constant uprooting of modern Jewish history.



Shapereader Tea Bricks

Originally, tea bricks developed to help preserve tea leaves and facilitate the tea trade throughout China, Tibet and Central Asia. They were issued by the emperor and stamped with a certificate that denoted the quality, value and weight of the brick. Tea bricks were alternatively used as a currency, and like chocolate, they were often pre-cut in squares, in order to allow small payments. By virtue of their curative qualities, they were preferred over the use of metallic coins as they could be eaten in times of starvation or used as a remedy against pulmonary diseases. The Shapereader tea brick print run is situated in this long tradition of edible signifiers. The series highlights how different tea varieties such as oolong, black tea and pu-erh perform the role of textual proto-matter and actively engage the material properties of the substrate as a constituent part of a textual work.





Shapereader Light Booth

The intertwining of vision and tactility has inspired several aesthetic analyses: from Johann Herder's theory of feeling (Gefühl) in architecture and sculpture to Alois Riegl's conceptualisation of a 'tactile look' in ancient Egyptian art, and from Michael Taussig's notion of 'optical tactility', to Merleau-Ponty's concept of vision as a 'palpation' with the eyes. The Light Booth is an implementation of the Shapereader tactile language. It is presented as an idiosyncratic luminous dictionary of discrete shapes, that can function as either nouns, verbs or modifiers. Not unlike other constructed languages, the arbitrariness of a limited list of signifiers highlights the working of a highly speculatively use of a tactile language that operates approximately through ambiguous metaphors.





Shapereader at the Frankfurter Buchmesse (2017)

Shapereader was the official representation of Belgium at the Frankfurter Buchmesse.





Workshops

The Shapereader Workshop is a unique occasion for visually impaired and sighted participants to meet and create side by side a tactile narrative based on an ad-hoc language. The group is given a set of tablets carrying different geometric engravings. The participants learn how to collectively identify the different shapes. By activating tactility as a cognitive tool, they then proceed to attribute meanings to the different shapes. The goal of the workshop is not simply to reflect the community's expression by a collectively-built story, but to provide the very same genetic material for textual production: a repertoire of empty symbols that can be reiteratively attributed different meanings and functions according to each community's specific needs, preoccupations and issues.



Objectives and Methods

1. Observational

An important procedure of this dissertation is nurtured through on-going practice-based workshops conducted with a variety of different partners (museums, galleries, blind communities and schools). Shapereader workshops examine the conditions for synthesizing language through embodied notions of materiality and performativity. Through the different workshops, we test how determinant to spatial distribution are the basic assumptions of contiguity and proximity, explore the ways the gravitational impetus of the shapes are experienced according to a quantifiable, multivariate analysis of their proportion, contrast, position and weight and examine how it is possible to expand the configuration of the semantic clusters with agglutinated and compounded forms of meaning as a first step towards the elaboration of a general syntactical topology for practical use. For instance, shape relational attributes such as isolation, contrast, similarity, dominance, repetition and disruption have proven to be relevant towards structuring and facilitating an intuitive and embodied understanding of textual expressions. The workshops are assessed by a specialized survey. Its objective is to determine how an embodied sign system operates through the inner workings of spatially structured syntactic configurations, and investigate the multivariate, contextual and community-specific uses in regards to linguistically diverse persons, professionals and groups. Four (4) workshops will be conducted during the research period.

2. Experimental-curatorial

Shapereader's approach to text is defined as materialist in many regards: a) in its capacity to activate ad-hoc user communities by putting in motion chains of signification that reflect their own needs, preoccupations and desired uses, b) by addressing the body as the main conduit for textual production and c) by operating through emerging (re) production technologies and substrate sensibilities that, far from being perceived as transparent and neutral sites, they are acknowledged as bearing their own signifying potential. This research is developed in tandem with an historical consideration of the materiality of the visual word in the fields of Concrete Poetry and other resonant materialist practices in contemporary comics. The outcomes of this research will be presented separately as a book anthology, a collective exhibition format and ongoing practical workshops. It will also feature as a separate section in the Ubuweb online avant-garde archive.







Project's Research hypothesis

Both theoretical and practice based, the research vouchers for a diversified participation in graphic narratives and comics that challenges able-body assumptions and exclusionary access within the visual predominance ethos in graphic literature. Shapereader explores the conditions for synthesizing language through embodied notions of materiality and performativity and an important procedure of this research is materialized through practice-based Shapereader workshops. The hypothesis of this research is that touch and the tactile sense can be a vector of syntactical cognizance and tactile expression. More specifically, I argue, and I want to evaluate how Shapereader promotes performative diversity in many regards: **a)** it addresses the body as the main conduit for textual production **b)** it has the capacity to put in motion chains of significations that reflect a community's own needs and desired uses and **c)** it operates through emerging (re)production technologies and substrate sensibilities that bear their own signifying potential. This research aims to demonstrate that Shapereader addresses a diverse readership of visual impairment(s) and situates the sense of touch in the general sensibility as a conduit for a vibrant artistic exploration.

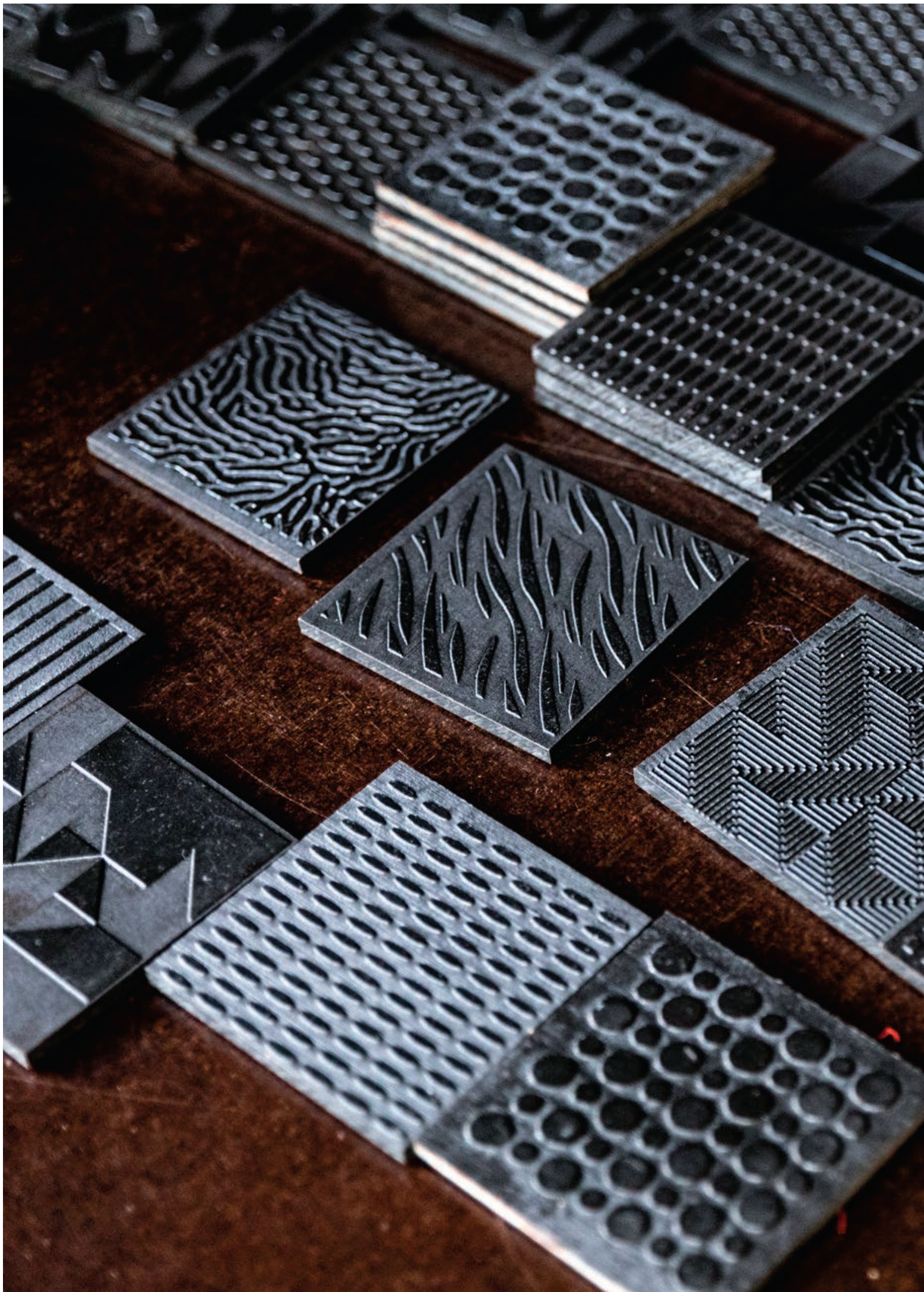
What are the possible uses within, but also outside of comics, for an alternative system of graphic notation that involves embodied activity? To which extent this notational system can pledge for a diversified and non-normative (able-ist) experience that is open to both visually impaired and sighted participants?



Resources for a participatory project

In the arts, participatory projects are usually experienced as exercises in institutional critique demanding the reconfiguration of power relations in certain domain applications (Schäfer 2008). They are often horizontally configured, at least in their premises where roles between makers and participant are porous (Suchman & Suchman 2007), and their self-reflexive community operational ethos is often praised as an alternative to positions of specialists and experts. Participation, according to social scientist Sherry Arnstein, is strongly linked to citizen empowerment and to social progress. It is a transformative process that allows “the redistribution of power that enables the have-not citizens, presently excluded from the political and economic processes, to be deliberately included in the future [...] in determining how information is shared, goals and policies are set, tax resources are allocated, programs are operated, and benefits like contracts and patronage are parcelled out” (Arnstein 1969). While in participatory projects user engagement is usually unevenly distributed across participants (Verba et al.), or comes often in the form of a hierarchical configuration of different levels (Milbrath & Goel 1977) and qualities of commitment (Schäfer 2008), it is relatively agreed on that a civic society improves when more people participate in it. Participation culture has also benefits in the production of content. Recent studies from researchers Yochai Benkler and Clay Shirky have lauded the participatory qualities of Web 2.0 and networked media as a horizontal alternative to traditional hierarchical models, where “new technology enables new kinds of group-forming” (Shirky 2008). In the cultural domains and especially in his reading of fan culture, slash fiction and derivative literature, Henry Jenkins has defined participatory culture as a meaningful, low-barrier entry and meritocratic, community-supported engagement where members feel socially connected to each other and are free to contribute, collectively discuss, value and adapt their contributions.




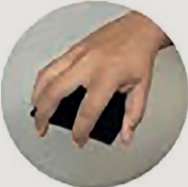






A productive geography of embodied reading activities

The Shapereader workshops argue for a complex practice of intentional, manipulated actions of interpretation that are situated outside the dominant sensorial mode of visibility. The workshops invite the participant to develop techniques of what Matthew Fulkerson describes in his philosophical study as haptic touch, “an inherently active and exploratory form of perception” (Fulkerson 2011). Lederman and Klatzky, in their research of haptic exploration for 3-D common objects, have studied the various patterns and the degrees in the efficiency and rapidity of eight prototypical hand gestures. Classified under the general title of **exploratory procedures (EP)**, these gestures help the subject optimize her apprehension according to given sensory inputs. Each gesture mobilizes an array of distinct sensory receptors in the skin and helps acquire information related to weight, temperature, volume, shape, etc. While exploratory procedures refer mostly to 3-D object identification, four (4) of these EP have applicability in the context of Shapereader and contribute in understanding it as a productive geography of embodied reading activities (see *adjacent figure*). These exploratory procedures can be productively combined. For instance, after activating the entirety of the hand’s skin surface in order to intuit general information about a plate’s layout (lateral motion), the reader can engage the individual fingers that contain more densely populated receptors (contour following) and accordingly vary their contact approach by simply applying different degrees of pressure (pressure) in order to extract specific information from different micro-geometric tangible features (enclosure). While an argument for or against intersensory equivalence is beyond the scope of this research, exploratory procedures resonate with different modes of vision in eye-tracking studies in the reading of comics: the broad hand movements of “lateral motion” resemble the reading subject’s global state of attention to the tabularity of a comics page (Mikkonen & Lautenbacher 2019), while the detailed exploration in “enclosure” could be a tactile translation of foveal vision and local attention focus when visual detail is of primary importance.

	Pressure	<p>According to Lederman and Klatzky, pressure is “produced by applying torque or normal forces to one part of the object while another part of the object is stabilized”. This gesture, not directly connected to the process of shape identification, is linked to a sensuous understanding of the physical properties of the plate.</p>
	Lateral motion	<p><i>Lateral motion</i> is when the hand laterally brushes an object in order to determine a general surface texture. This movement is usually observed to be the reader’s initial approach to the tactile plates. It is a gesture that informs the user about the general feel and size of the plate and provides some intuition about the layout, the number of panels, the overall quantity of text, etc.</p>
	Contour following	<p><i>Contour following</i> is when the fingers follow the edges of tangible shapes. This gesture allows for a more precise method of exploration, a partial shape identification, and when the reader is familiar with the index, it helps them intuit parts of the narrative.</p>
	Enclosure	<p><i>Enclosure</i> is when the fingers are molded closely to the tactigram’s surface for a more detailed exploration, in order to extract specific information from different microgeometric tangible features i.e. when in need to disambiguate between two contingent shapes.</p>

Pivotal concepts

Openness

The unfixity of Shapereader's tactigram meaning and its structural open-endedness has been a conscious decision reflected through the shapes design and through the workshop's assignments. Instead of conditioning the users by proposing specific uses and even best practices that have been successful in the past, I opt for a certain degree of unpredictability occurring from the emergence of the intersection between the groups constituencies, the individual desires and the object (tactigrams) allowing participants to meaningfully attribute the patterns with their desired signifiers. Here it is useful to introduce an interesting theoretical tangent: the concept of **interpretative flexibility** has been put forward by the SCOT methodology (Social Construction of Technology) developed by Bijker et al. is meaningful for the community involved in the Shapereader workshops. The term describes how historical and technological artifacts can have different values for various groups and how these different interpretative acts can coexist and be part of a continuous negotiation. For instance, in a Shapereader group some participants might feel that shapes should get to carry a literal meaning, where for example parallel lines would connote the concept of "rain", while other participants would argue for a more non-representational and preattentive connection between the shape and its signification. This dissonance is a productive one and one that opens the interpretation of the shape up for negotiation. The image of the final composition would be the in-between space, where one can look "for new insights and understandings, and for syntheses of diverse knowledge(s) into ideas for products and work practices" (Muller & Kuhn 1993) where all the different interpretations and negotiations are tangible and are part of a shared ownership.

Modularity

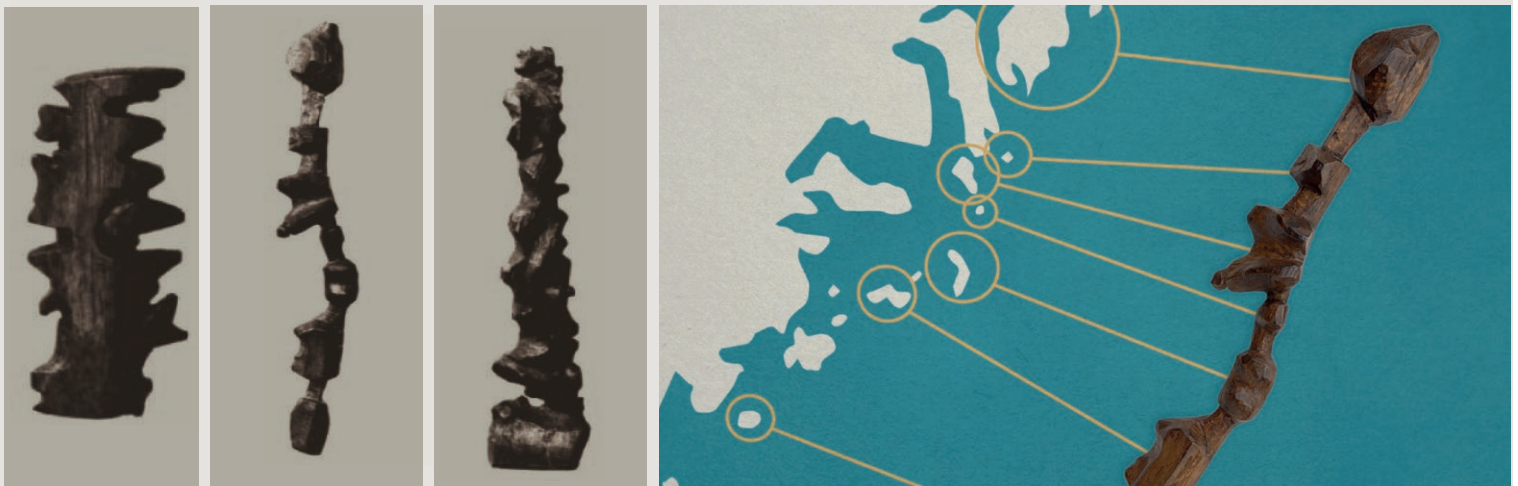
The performance set consists of a small vocabulary of elemental shapes and modules. The scenario I am entertaining to develop with the different participants proposes a kind of modularity based on a priori non-defined vocabulary. For the series of workshop, I decide to thematize the sign's arbitrariness and open up the signification process to the group of participants. The workshop participants are invited to work on collective storytelling assignments and for their experiments, they are provided with a custom-made set of shapes. Tactigrams come as empty signifiers and attribution of meaning is entirely arbitrated by the participants themselves. In the beginning, the empty signifiers represent undetermined qualities of signification; they are void of meaning and thus apt to receive any meaning through collective negotiation. The workshop is an exercise in harnessing Shapereader's potential for a non-representational, free-floating and community-specific system of signification with the goal not to simply reflect the community's expression by a collectively designed story, but to provide the very same genetic material for textual production; a repertoire of empty symbols that can be reiteratively attributed different meanings and functions according to each community's specific needs, preoccupations and desires. These workshops are an invitation to revalorise tactility and physicality in comics by encouraging a range of intentional exploratory gestures in the reader's engagement with the tactile narrative work. By addressing the sense of touch, as a crucial mode of address, Shapereader promotes a much needed slowness of perception and aims in disrupting the rapidity many of us are used in collecting and managing information.





Tactile Cartography Workshop

Tactile knowledge can be described as the accumulation of sensations that is collected through an array of active and passive epidermal contact, varying feelings of vibration, tickling, pressure, and temperature. These sensations provide a cognitive frame for acknowledging the physicality of surfaces, consistencies and form. This knowledge is different from the other senses because it involves reciprocity: one cannot touch without being touched. It has been documented and argued that for people with visual impairment, the perception of space and the perception of things exist simultaneously. Unlike the other senses that can represent distal objects without requiring physical connection, touch is a teleosense and operates through a succession of muscular sensations and that can have various applications in representations of space and navigation. An important non-western precedent that has been influential in my research and which I would like to explore with a class, can be found in a **non-western tradition of physical cartography**, that of Inuit hunters. Maps are artifacts composed of signs that materialize a way of experiencing (Geertz 1976) and by transforming a given way of thinking into material reality, maps simultaneously reflect the world view or spatial thought of a culture. When mapping is treated as an institution and related to other institutions in a culture, maps emerge as an embodiment of fundamental cultural concepts. During the workshop we will do an overview of the highly-stylized tactile relief maps of Inuit people that have traditionally allowed tribe hunters to navigate the coasts under harsh conditions. We will discuss how cartography is not just embedded in cultural representations that are always in flux, but can also be a tool of political empowerment that questions the normativity of conventional notation tools in different genres of (visual) inscriptions and we will get inspiration from the non-retinal Inuit cartography in the collaboration and the production of a shared, imagined system of graphic and tactile notation, that is accurate, resilient and that can record both constant and shifting elements of our community's experience.



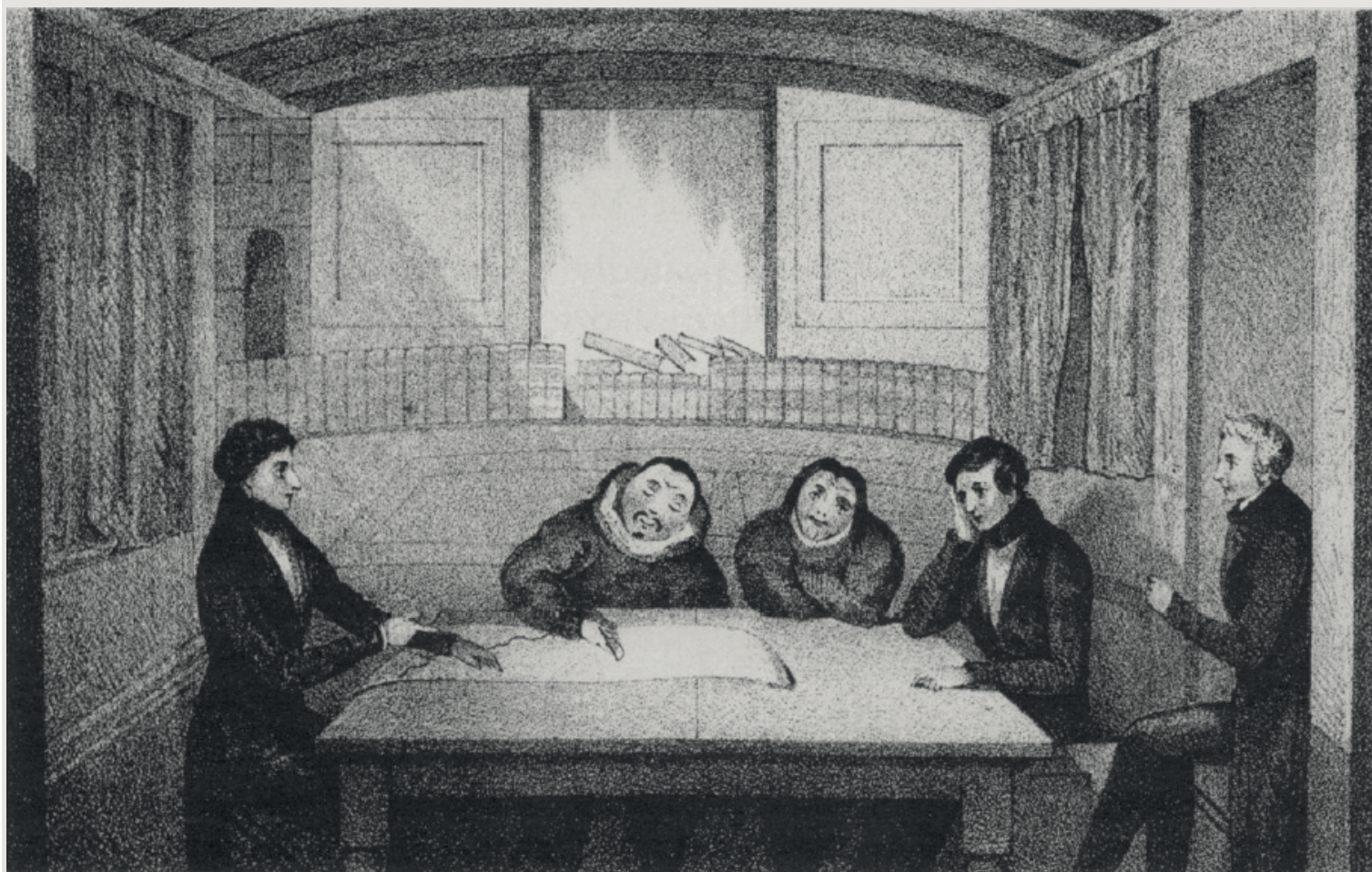


FIG. 1—Ikmalick and Apelagliu. Two Inuit cartographers add information to a British chart for explorer John Ross in 1830. *Source: Ross 1835, opposite 260.*

Reading notes

Wayfinding The world is a strange and dangerous place and wayfinding demands a great deal of effort, mental and physical effort. History is a record of the ingenious ways that can be found to cross territories without getting lost, roughed up or eaten. Technologies were invented (sextant, astrolabes, compasses, telescopes, GPS), landmarks have been erected (lighthouses, buoys), roads were paved, bridges were built and signs were posted.

Maps Maps may be considered artifacts composed of signs that materialize a way of experiencing (Geertz 1976). By transforming a given way of thinking into material reality, maps simultaneously reflect and reinforce the world view or spatial thought of a culture. If maps both reflect and reinforce a given cultural viewpoint, the values and beliefs important in the culture and implicit in its maps must operate similarly. When mapping is treated as an institution and related to other institutions in a culture, maps emerge as an embodiment of fundamental cultural concepts.

Institutional analysis (Hanson 1975) is a type of explanation that deals with the structure of values, symbols, and beliefs as manifested in social behavior. For example, it asks how the religious beliefs of a society relate to prevailing spatial concepts. Institutional analysis is valuable because basic beliefs and values in a culture find expression in its various institutions. Example: An example comes from American cartography. The intentional meaning behind the application of the distinctive federal public-land-survey grid to the official topographic series published by the U.S. Geological Survey is straightforward: to assist in locating areas and to assign exclusive coordinates to them. The implicational meaning lies elsewhere in the related concepts of resource inventory; identification, allocation, and purchase of private property; property protection and access through thousands of miles of barbed-wire fencing and pavement; manifest destiny; and the geometry of American society. The act of designing and producing such a map is an action of subjugation and appropriation of nature, a basic value of American society, not merely the reification of an idle curiosity in recording dimensions (Wood and Fels 1986, 70-72).

Inuit Territories descriptions Average temperature hovers around -20 degrees. Thick sheets of ice cover the surrounding waters. The sun is absent. Landmarks are few. Snow formations are in constant flux and trails disappear overnight. The Inuit hunters have been venturing for centuries traversing sometimes thousand of miles in search of tundra and caribou. **Inuit navigation techniques** Natural features used for navigation : Snow-crusted snow (sastrugi) carved by wind (slide). Big hills, rivers, boulders, iceformations, nunataks (slide), glaciers and other unusual land formations.

Celestial bodies: The sun to tell the time of day and for orientation (shadows cast by the sun), Fluorescent light bands of the Northern lights (Arsaniit) (slide), reflections of landform upon clouds (Tunguniq), Stars

Constructed markers: Inuksuit, Sticks in the snow, Discarded oil drums, Lights emitted from townships at night, Plane wreckages, Knowledge of caribou migration paths, Weather stations, Trading posts.





Inuit relief maps properties:

1. Buoyancy and resilience Made of driftwood, the wooden maps had the added advantage of being able to float if they were inadvertently dropped overboard. Materially advantageous, the carvings could withstand frost, ice and other harsh climatic conditions.

2. Tactility Maps carved in wood that would could be read in the dark by feeling their specifically exaggerated properties.

3. Cartographic Conventions Native maps have surprisingly constant characteristics, even though they were drawn in places very distant from each other and over a period of centuries. Indeed, this consistency strongly argues for consideration of Amerindian cartography as a fully developed convention: these maps are highly stylized, highly standardized geographical indicators. They are easily recognized by their depiction of geographic features: round lakes, rivers drawn as straight or curved (not wavy) lines, slashes across the river lines to indicate portages, dots to show campsites and hunting areas, commemorative signs for raids and battles. The most striking and important characteristic of Native maps is that their network of lines is unframed, hence independent of a spatial grid or ground. The coast map represents the rugged coastline in a continuous line on either side of the wood piece. The islands map represents a sequence of offshore islands, the wooden intervals between the individual islands serve no other purpose than that of preventing the islands from falling apart. <ref> Most peoples possess some cartographical skill and can represent a locality on a plane surface, i.e. trace it on a piece of birch-bark, a slab, on sand or on a sheet of paper which the explorer gives them. The Greenlander is not content with this and also seeks to figure the elevations and depressions of a given area. Beechey(') relates that at his request the western Eskimos of the Kotzebue Sound made on sand a map of the littoral. (Create facsimile maps for class demonstrations)

Uses Boat navigation : Spink and Moodie suggest the carvings may have been useful in small boat navigation and perhaps are more beneficial than a drawn map because of its true three-dimensional nature. In relation to the carved board, Holm comments that "Not only the contours of the country, but also its appearance and relief of the mountains. All the places where there are old ruins of houses (excellent boat beaching sites) are marked on the wood map; the map likewise indicates where a kayak can be carried over (the inter-valley ridge) between the bottom of two fjords, when the way round the naze (headland) between the fjords is blocked by the sea-ice."

History Discovered by Gustav Holm in 1880 during his expedition to Ammassalik coast of Eastern Greenland. He bought them from Kunit a Tunumiut (plural Tunumiit), the Greenlandic Inuit from Tunu communities, that had no prior contact with Europeans. They were later donated by Holm to the National Museum of Denmark in Copenhagen. Map accuracy : The historical record and modern cartographic research both agree that most Inuit maps, extensively tested through a century of use by non-Inuit explorers and field scientists, were extraordinarily accurate renderings of the landscape as sen-

sually perceived (William E. Parry said that they were of astonishing precision). There is very little information about the Inuit tactile maps but the three maps that have been brought by Holm represent the coast between Sermiligak and Kangerdluarsikajik. Holm described these maps as very exact and notes their extensive use by the eastern Eskimos. The area is rugged, intersected by fjords, nunataks and glaciers and therefore relief maps help the nomadic Eskimo more readily to survey and identify a given locality. One conclusion is that Inuit mapping was an aspect of life removed from the shroud of mystique because it was done without regard for age, gender, or social status. Mapping was elemental, occupying a distinctive niche in the broad context of Inuit culture and none of it appears to have been gender based; it was not unusual for both Inuit women and men to make maps and to navigate long distances as part of traditional hunting and migration cycles. The Inuit skillfully rendered spatial information in preservable graphic form, as in sand, snow, and other ephemeral media. The accuracy with which they did so was widely recognized and tested. Why were the Inuit so accomplished, and why did they so freely communicate geographical information to foreigners during more than a century for which a historical record exists?

Three possible answers:

1. The unforgiving nature of their environment. Although it has been asserted that, throughout cartographic history, native peoples have tried to conceal geographical information from aliens, especially Europeans (Thrower 1972, 8), this was not the case among the Inuit, who enjoyed geographical inquiry and typically gave accurate answers. An environmentalist might contend that the Inuit complied with alien requests for maps because of the unforgiving nature of their environment. Deception involves risk, and risk in the Arctic frequently carries the possibility of death. If this line of reasoning is true, risk and deception would not be encouraged in Inuit culture, an assertion that is not supported by available ethnographic data and oral-history tapes. In fact, the Inuit frequently take risks, sometimes daily. (slide)

2. Inuit awareness of location. A similar argument holds that accurate naming and mapping are end products of a natural human reaction to environmental stimuli. Inuit awareness of location, under this theory, is automatically heightened to the point that every cliff, coastal indentation, or river bend was observed, named, and memorized, and this remarkable ability stemmed from the Inuit quest of nomadic survival in a harsh environment. Environment as stimulus is surely fundamental, but it is difficult to argue that a harsh environment determines mapping abilities—that a passive receiver reacts and seemingly automatically generates an end product. Such an assertion denies any intermediate factors, including the existence of a cultural filter through which geographical information is sorted, organized, and made meaningful.

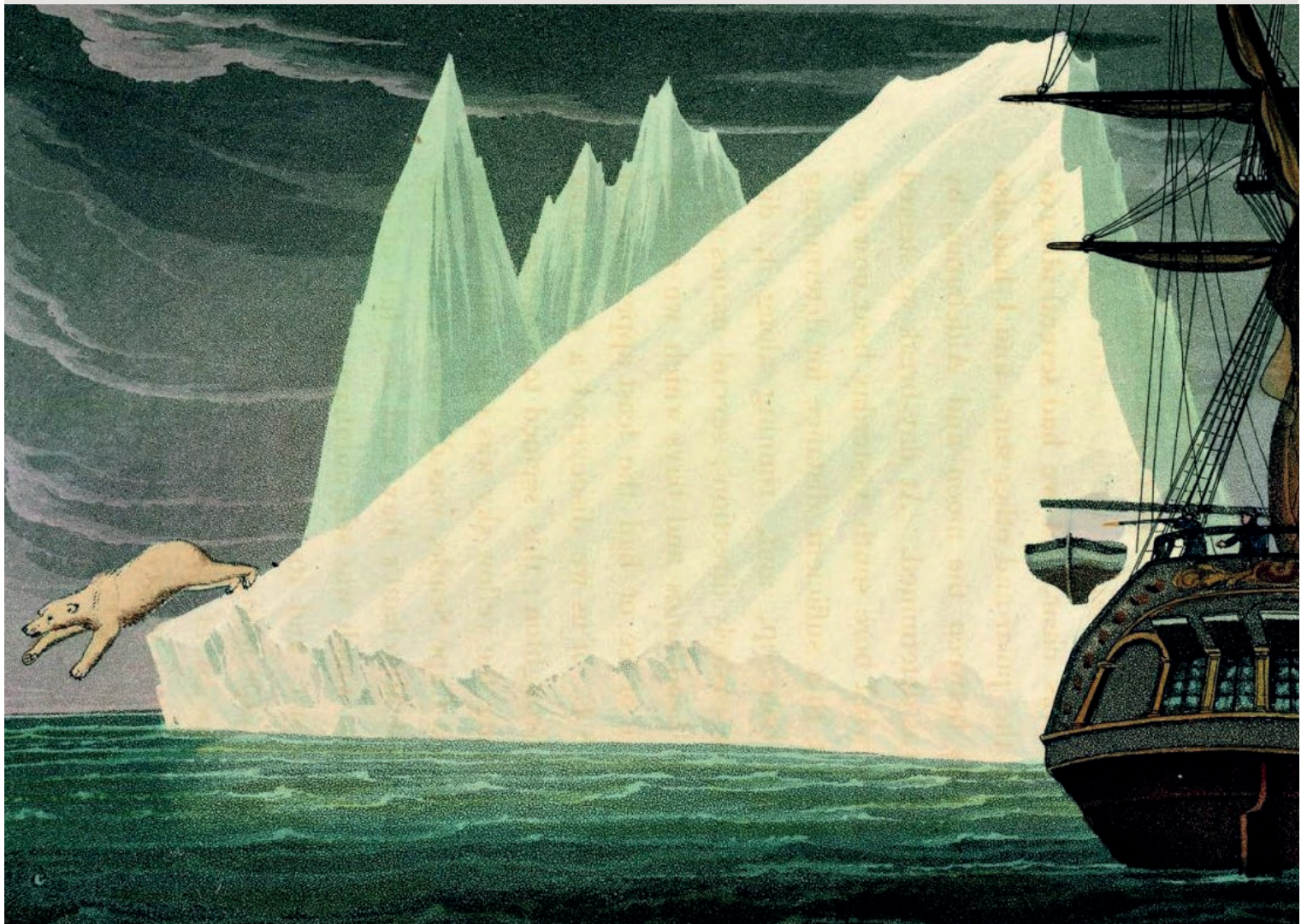
3. The importance of travel in Inuit cultures. A third possible explanation might lie in the importance of travel adventure and in the free sharing of gathered environmental information in everyday Inuit life. That Inuit were inveterate travelers is perhaps the most typical image of this migratory people. Throughout their culture history they have traveled extensively over the Arctic region, not simply as an adaptation for survival, but as a way of uni-

fyng themselves with each other and with their environment. In The importance of travel in gaining environmental knowledge and unifying themselves with the everyday world created a kind of restlessness among many Inuit. Hunting might be the main goal of a journey, but it did not entirely supersede the desire for adventure, the need to face risks and dangers that the environment would undoubtedly present. Many Inuit seemingly sought drama and risk to avoid boredom and complacency fostered by in one place. When it came to assisting expeditions led Westerners, staying by the prospect of adventure and unforeseen encounter could be as exciting and stimulating as whatever cash compensation they were promised (Maurie 1985).

Mimicry in Inuit representation The historical persistence and flourishing of traditional Inuit culture in the Arctic environment were assisted by the development of extraordinary abilities to mime aspects of that environment. Mimicry was institutionalized not merely as an artistic ability; it was a practical tool in everyday life and was manifest in myriad pan-Inuit cultural institutions, including mapping. Inuit ability to memorize extensive tracts of seemingly indistinguishable territory with a high degree of accuracy and then to communicate that image cross-culturally with unfamiliar tools was an act of mimicry performed similarly in other daily enterprises. To guard against the often violent force of nature, Inuit enveloped themselves in it. This approach took literal form in the wearing of animal skins and the construction of iglus (slide) or sealskin qayaqs.

Hunting (slide): According to traditional Inuit environmental thought, men and animals were more closely related in the distant past, a time when they could actually speak to each other. Good hunters still knew the sounds to which seals, walrus, polar bears, and caribou would respond and frequently engaged them in conversation as they approached (find recordings). Kinesic or gestural mimicry frequently accompanied oral communication with anticipated prey. To hunt caribou in the pre-firearms era, Inuit men often approached the animals within arrowshot by behaving as one of the herd. Pretending to feed, the men bent at the waist, bobbed their heads, imitated the ambling gait, and extended one arm to the ground and the other overhead to simulate forelegs and antlers. Stalking caribou successfully in this manner in an environment that offered little cover or camouflage required an excellent mimic. Coastal Inuit often engaged in spring sealing on the sea ice by mimicking the movements of the ringed seal or the bearded seal. As the high-sun period approaches, seals haul out onto the ice near their breathing holes to bask in the rays of the emerging sun. (slide) The slightest suspicious noise or movement sends them instantly into the water. An Inuk hunter may have spent the better part of a day in such hunting. Totally exposed on the ice, a hunter crawling slowly toward the seal would wave a flipper, roll over with characteristic seal awkwardness, and generally assume seal postures and manners. (slide)

Landscape architecture (slide): The most distinctive feature of Inuit mimicry was the use of inuksuit, statues of humans made of piled stones and sod erected in long lines, some times V-shaped. The caribou, duped by these inuksuit into recognizing the human visual pattern, would run between the rows



toward a body of water where armed hunters waited in qayaqs. Sometimes called caribou fences, these lines of stones were an intended act of self-mimicry, and they differed in height and shape from the stone cairns used for meat caches. In a sense, these durable stone images may have even humanized lonely Arctic landscapes in a comforting and reassuring manner for traveling Inuit. Inuksuit are frequently among the few visible material artifacts on vast tracts of the contemporary Arctic cultural landscape. Many Inuit games involved physically imitating. (slide)

Art (slide): Inuit art, especially ivory and soapstone carving, was particularly imitative in its physical form. The traditional predilection for mimicry has extended into the modern period, according to one study of contemporary Inuit art. Small ivory carvings of animals (slide) and other objects are called pinguak, which means imitation thing. Carvings must pass a critical test of replication to be evaluated positively. They are examined very closely by Inuit artists to determine if the copy is exact, if every nuance of shape, feather, and hair is precisely rendered. A pinguak passing the test is said to be mik-siqaktuk or to have realistic sense (slide).

Institutional Memory Mapping as an innately intracultural action thus became a significant means of constructing accurate map artifacts for intercultural communication. In 2000, Post Greenland issued a stamp designed by Anne-Birthe Hove featuring the coastal map, as part of its "Greenland's Cultural Heritage" series. Primitive The treatment accorded such maps in more than one respected history of cartography is to relegate them to the "primitive" category and to focus on the development of European cartography from its roots in Greek theory to its status as a scientific record based on empirical observation.

Translation Cartographic convention is only partially communicable from one culture to another, and from one period to another: "translation" is possible only in a superficial, limited sense. To recognize the distinctiveness of Amerindian maps and to understand their role in the scientific mapping of North America, we must resist this temptation to translate, and accept that these maps constitute a complete and valid cartographic convention without recourse to "accuracy" or explanations in scientific terms. No fixed positions, no frames We need to look again at the defining characteristics of Native cartography, and instead of reading them as distorted spatial indicators, see them as consistently derived from a principle of local coherence. Users of transport maps are unconcerned that junctions are not "actually" at right angles, or that the distances between stops and choice points are not "really" equal. Such concerns are not part of these maps' information or function. Grid maps operate by locating positions along axes of latitude and longitude. Amerindian maps rely not on fixed positions in space but on a pattern of interconnected lines.

Accuracy as a cultural bias There is thus no measure of "accuracy" or basis of comparison between ways of seeing. There is no direct, unmediated perception of the world that can confirm or correct cartographic images. The empirical argument that we align the pattern of the map with the pattern

on our retinas and can thus determine cartographic error is simplistic. The notion of error, like that of scale, is conventional and culture-specific. We do not see with the naked eye; instead, we see what we are trained to look for. The map's connection with landforms out there is arbitrary, tenuous, and culturally imposed. All we can tell for sure is that Amerindian maps "lack" many of the characteristics we assume maps must have, yet they apparently satisfied the cartographic needs of many indigenous North American cultures for hundreds of years.

Ethical Approach The best we can do is to initiate a dialogue with Native cultures as they have survived, keeping in mind the dangers of upstreaming. The pause "dans l'entre-deux" could be salutary: by considering such very different maps and cultures, we could learn more about our own. C'est le moment de l'épreuve: je veux dire le moment où le savoir se retire. Là, un monde doit céder pour qu'en advienne un autre. Là, dans l'entre-deux, une chance surgit qui est celle du contact et-s-par-delà ce que cela comporte de desarroi, d'opacité, de silence-celle d'un échange peut-être. Cela, la meilleure ethnologie le contient, et un tremblement de la parole en elle garde la trace de cette approche. (Gilbert Vaudet). Explore the ways the cognitive and the material are jointly co-produced with the social, that is, how knowledge, in the world.

Technology and change In 2000, the US government lifted the restriction of civilian use of GPS technologies. GPS accuracy improved and prices dropped. Many Igloolik hunters have swapped dogsleds for snowmobiles (slide). By purchasing a cheap GPS receiver, Inuit can hunt even in conditions that were previously impossible. The ease, convenience and precision of automated navigation made traditional techniques seem antiquated and cumbersome.

Death by GPS Overreliance on satellites, Accidents, GPS routes are so meticulously plotted that give the user a tunnel vision. Trusting GPS snowmobiles might be speeding into thin ice, over cliffs and other environmental perils. When you are navigated by GPS you don't need to know where you are exactly, attend the physical landmarks or ask locals. Automated navigation might inhibit the process of physical experiencing the world through the navigation. Or, better it might just be an evolutionary symbiotic phase with GPS technologies.

Collaboration with expeditors It was often the case that Inuit will assist explorers in their expeditions (slide). For example, Powon was a Caribou Inuit who met geologist Joseph B. Tyrrell (slide) at Churchill in October 1894. Powon drew a map for geological investigations on the Canadian Shield in the Keewatin District (slide). Knud Rasmussen and other members of the Fifth Thule Expedition were "astonished" at the ability of the Caribou Inuit to draw accurate maps without previous experience with the instruments or media with which they were supplied. Second example: On the first expedition of American Charles Francis Hall (slide), from 1860 to 1862, mapping of Frobisher Bay at Baffin Island was actually done by an Inuk, Koojesse, who sat alone in the front of the and ship charted the coast. Hall was unacquaint-

ed with many places in the bay and used the Inuk cartographer to avoid mistaking islands for mainland and to get proper depths of inlets, in lieu of spending what he felt would be an inordinate amount of time field-checking all of the sites himself. He planned to corroborate the Inuit information on return to the United States, but a significant portion of the geographical knowledge acquired during that expedition was entirely of Inuit origin. But why was this so? Or, specifically, what did it mean within the native culture itself for an Inuk to make an accurate map?

Representation is an affair of political allies A story from Bruno Latour about western and non western cartographies. One example will illustrate what I mean. La Perouse travels through the Pacific for Louis XVI with the explicit mission of bringing back a better map. One day, landing on what he calls Sakhalin he meets with Chinese and tries to learn from them whether Sakhalin is an island or a peninsula. To his great surprise the Chinese understand geography quite well. An older man stands up and draws a map of his island on the sand with the scale and the details needed by La Perouse. Another, who is younger, sees that the rising tide will soon erase the map and picks up one of La Perouse's notebooks to draw the map again with a pencil... What are the differences between the savage geography and the civilized one? There is no need to bring a prescientific mind into the picture, nor any distinction between the close and open predicaments (Horton, 1977), nor primary and secondary theories (Horton, 1982), nor divisions between implicit and explicit, or concrete and abstract geography. The Chinese are quite able to think in terms of a map but also to talk about navigation on an equal footing with La Perouse. Strictly speaking, the ability to draw and to visualize does not really make a difference either, since they all draw maps more or less based on the same principle of projection, first on sand, then on paper. So perhaps there is no difference after all and, geographies being equal, relativism is right? This, however, cannot be, because La Perouse does something that is going to create an enormous difference between the Chinese and the European. What is, for the former, a drawing of no importance that the tide may erase, is for the latter the single object of his mission. What should be brought into the picture is how the picture is brought back. The Chinese does not have to keep track, since he can generate many maps at will, being born on this island and fated to die on it. La Perouse is not going to stay for more than a night; he is not born here and will die far away. What is he doing, then? He is passing through all these places, in order to take something back to Versailles where many people expect his map to determine who was right and wrong about whether Sakhalin was an island, who will own this and that part of the world, and along which routes the next ships should sail.

Commercial interests, capitalist spirit, imperialism, thirst for knowledge, are empty terms as long as one does not take into account Mercator's projection, marine clocks and their markers, copper engraving of maps, rutters, the keeping of "log books," and the many printed editions of Cook's voyages that La Perouse carries with him. This is where the deflating strategy I outlined above is so powerful. But, on the other hand, no innovation in the way longitude and latitudes are calculated, clocks are built, log books are compiled,

copper plates are printed, would make any difference whatsoever if they did not help to muster, align, and win over new and unexpected allies, far away, in Versailles. Who will win in an agonistic encounter between two authors, and between them and all the others they need to build up a statement? Answer: the one able to muster on the spot the largest number of well aligned and faithful allies. This definition of victory is common to war, politics, law, and, I shall now show, to science and technology. My contention is that writing and imaging cannot by themselves explain the changes in our scientific societies, except insofar as they help to make this agonistic situation more favorable.

From Latour again "Optical consistency" is obtained in geology, as Rudwick has shown by inventing a new visual language. Without it, the layers of the earth stay hidden, no matter how many travellers and diggers. The Copernican revolution, dear to Kant's heart, is an idealist rendering of a very simple mechanism: if we cannot go to the earth, let the earth come to us, or, more accurately, let us all get to many places on the earth, and come back with the same, but different pictures, that can be gathered, compared, superimposed and redrawn in a few places, together with the carefully labelled specimens of rocks and fossils.

Map-in-the-head metaphor The Map-in-the-head metaphor states that knowledge of large-scale space is isomorphic to the information stored in a graphical map. There are limits of applicability (it's useful to capture some of the behavior of the cognitive spatial description) to this metaphor for the following reasons: a) spatial knowledge can fall into disconnected components, with little or no relation between them, b) knowledge of routes might be represented asymmetrically so that a route can be followed in one direction but not another. The map in the head metaphor states that information is added and retrieved in the cognitive map using the same operation in a graphical map. **1** A large-scale environment is one whose structure is revealed by integrating local observations over time, rather than being perceived from one single vantage point. Within a given visual image, a large number of landmarks are simultaneously visible so relative distances and directions are easy to judge. **2** A sequential series of landmarks, in which one detail calls up anticipation of the next and key details trigger specific moves of the observer appears to be a standard way in which people travel through the city. These connections are often one-way links -the key landmarks might be obscured when traveling in the reverse direction. The irreversibility of the routes reflects fundamental properties of the way humans access stored information. **3** Some jargon: Sensorimotor primitives, states of partial knowledge, graceful degradation of performance under resource limitations, aggregating descriptions and associations. **4** I could take you there but I could not tell you how. **5** Navigation is thought to provide procedural knowledge, which is stored as verbal coding, and map reading is thought to provide survey knowledge, which is stored as imagery coding. **6** absolute space embodies the notion of a framework or container within which material objects can be located but which is conceived as existing independently of particular objects or objects in general. Objects are located relative to

the places of the framework and only indirectly, via the framework, to other objects. Movement of a body (including the observer) changes its position within the framework but does not alter the framework or relationship of other objects to the framework. In contrast, relative space designates a set of relations among objects or sensory inputs which in themselves are inherently non-spatial. Objects are located relative to other objects and relative space does not exist independent of the existence of objects. To us, these spaces [absolute versus relative] divide rather naturally into those which are felt to emanate from the observer and those which are independent of the observer. **7** Spatial products to be "external products that represents space in some way. For a city this representation might take the form of a sketch map, a miniature model, verbal descriptions of locations, or numerical coordinates representing the locations of landmarks in the city. **8** Spatial thought "refers to thinking that concerns or makes use of space in some way. For a city, remembering the verbal directions to follow to get to a friend's house, a map-like mental image of the entire city, or a three-dimensional image of a landmark to be aware of to mark your destination might serve as examples. This knowledge is also referred as "explicit knowledge." **9** The third type of representation, spatial storage "refers to any information about space contained 'in the head' (and hence necessarily 'represented' in some way, as in neurophysiological structures)". This information may be stored in any format and be isolated or integrated.

New technologies and traditions

Paninuit Trails maps (Claudio Aporta) How important mobility was and still is for inuit people. i mean, inuit moved to permanent settlements in the fifties and sixties, but before that they moved, they were seminomadic. what it tells us is they even travelled randomly in the arctic. they actually followed precise layouts at precise times of the year, year after year. and these trails that actually are ephemeral in the sense that they are basically broken on fresh snow and then they disappear after snowfall when the snow melts, but the routes themselves are actually permanent. they have been used for centuries. sHow inuit understand the ocean. the sea ice, you know, that we have usually seen -- non-inuits have really perceived as an obstacle for navigation, for the Inuit the sea ice is an extension of the territory. so it basically attaches to the shores and it stays there for up to 8 months in some places. so the sea ice itself (inaudible) that happens every year more or less in the same location. so inuit rather features from the sea ice and they can obviously lay out their trails following those features. Sea and Earth do change every season but the general patterns remain. every year you would have the ice regions and the ice plates and the open water located approximately on the same area, so they can actually remember even being born on the ice, places they named.

Epistemic questions

Workshop Questions At what point we decide the carvings are complete in describing landscape? How do we define boundaries? How and when do we develop a code of interpretation for the maps? Are ourselves only able to read and translate the information contained within the maps?

Ethical Considerations

For the series of workshops and the performance we have relied entirely in the generous help of a network of Disabilities partners both in Flanders (Zicht Op Cultuur, Licht en Liefde) and Wallonia (La Lumière) to bring their experience in catering for the visual disabled. Preliminary sessions with our partners focused on providing organizers, participants and O&M (Orientation and Mobility) specialists with accurate information about the purpose, methods, demands, possible inconveniences and discomforts due to the health situation. We took certified sanitary measures for small gatherings, in relation to the pandemic and were sure to obtain written consent for a possible circulation of the documentation of the workshops and the performance.

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Chapter 4

Distributed Labor as a Compositional Practice

- Published in *Comics Grid* Open Scholarship Journal (09/2019)

Abstract

The paper reflects on the future of comics in an interconnected globalized world where digital technologies both accelerate change in partly uncharted territories, and redefine the contemporary disenchantment with information flows. I use as a case study my project *Peanuts minus Schulz* and discuss the ethos of post-digital conceptual comics and how distributed digital labor is used as an opaque, material and possibly disruptive compositional practice. *PmS* is a doubling-over Charles Schulz's work. It is a massive appropriation of the Peanuts comics strip series, commissioned through digital labor services and outsourced to more than a thousand artists in twenty countries. Through a long, ongoing process, *PmS* is an experiment with the digital ramifications of distributed labor as a compositional practice and the manifold ways Schulz's work has been interpreted, notated, performed, improvised and rearranged ad libitum, towards different or conflicting goals from those intended by its author. I will use *PmS* as a way to comment the expansion of the possible ways to produce content and organize labor in comics and will define what I understand as a post-digital and conceptual practice in the publishing industry of comics.

Introduction

My earliest recollection as a child of an encounter with a counterfeit product, was when my father returning from a business trip to Vietnam, brought with him three large lacquer reproductions of Tintin book covers. These heavy boards were drawn, lettered and painted manually and their format was twice as big and much heavier than the book. Their price was closer to the price of a Casterman Tintin retail edition than to any original artwork.

Artistic practice as an embodied skill is intimately involved with conceptualization. This practice-based research paper takes as a starting point the concept of *distance*, described in the above example certainly as a formal one: Casterman Tintin covers, themselves

distanced from the original Hergé artworks, are repeatedly doubled-over through largely manual, non-automated reproduction methods. This distance is also defined as geopolitical: miles away from the Franco-Belgian Moulinsart epicenter in Brussels, a class of networked, globalized and precarious art workers operate and nurture a secondary, unregulated market of derivatives, that, suffice to say, naturally appeals to Western tourists. However, the distance I am more interested in, is epistemological and one that largely defines the specificity of the interdisciplinary practical turn in research. The praxeology I am following deflects any disciplinary identity and establishes distance as a *sine qua non* condition for knowledge. According to Franco Moretti, distant reading (in contrast to the prevailing, text-centric literary analysis of close reading) establishes the text as a middle ground and focuses instead on the text's micro-level specifics (such as in the field of textual forensics) or macro-level ensembles (such as in the study of the book industry's distribution systems). Distant reading evades a direct confrontation with the text and can materialize 'as a synthetic activity that takes as its raw material the "readings" of others' (Hayles 2012: 28).

It's the 'readings of others' that I am proposing to explore here, in regards to the book project *Peanuts Minus Schulz*. *PmS*¹ is a doubling-over Charles Schulz's work. It is a massive appropriation of the *Peanuts* comics strip series, commissioned through digital labor services and outsourced to more than a thousand artists in twenty countries. Through a long, ongoing process, *PmS* is an experiment with the digital ramifications of distributed labor as a compositional practice. Moretti's textual tools and scope are materialized in this book through the manifold ways Schulz's work has been interpreted, annotated, performed, improvised and rearranged *ad libitum*, towards different or conflicting goals from those intended by its author. I will use *PmS* as a way to comment the expansion of the possible ways to produce content and organize labor in comics and will define what I understand as a post-digital and conceptual practice in the publishing industry of comics.

Comics Is a Networked Activity

According to Michael Bhaskar, the understanding of publishing as abstracted from its technological affordance is a rhetorical, ahistorical simplification (Bhaskar 2013). Publishing can be described as a hybrid object-human networked activity that develops around compound technologies of inscription and activates an entanglement of legal,

1. *PmS* will come out in spring 2020 by the French publisher Jean Boîte.

institutional, economic, political and personal bodies. Through a series of industrial innovations and various modes of production routine optimizations, that have also benefited other segments of the creative industry, the publishing world has always been in the vanguard of capitalism. Through the book market, it has contributed in the shaping of intellectual property regimes, helped foreshadow the significance of cognitive labor (and its demise) and has been an active and often disruptive force in regards to government censorship, labor and union organizations, as well as the copyright establishment and the application of the copyright and patent laws (Vaidhyathan 2001). While pioneering markets and professions, from web retail to tracking, monitoring and archiving technologies, the publishing industry has been able to reinvent itself by setting aside and overruling an array of professionals that once were key agents of the industry.

Much of today's comics criticism in relation to the digital presents the same malaise one experiences with early 'new media' writing: a sort of passé techno-positivist innovationism, where the drawing desk, the offset print and the library space are seamlessly replaced with iPad apps, print-on-demand services and Kindle unlimited subscription plans. An uncritical shift to digital potentialities that does not take account the medium's industrial affordances and its precarious labor regimes is anachronistic: it sustains the myth of the solitary genius through the glorification of craftsmanship and fictions of artistic ethos and integrity. Furthermore, it perpetrates a vision of disembodied nature of the digital information within a largely unacknowledged military-industrial-entertainment, FAMGA-driven internet space.

"The most common response to what is called the digital revolution, might be the impulse to *not* change, no matter how 'different' the world out there seems to be", writes Marjorie Perloff in her study of modern, avant-garde poetry through the lenses and challenges of pop culture and advertisement (Perloff 1994: 3). Away from the ultimately conservative celebration of the advent of formal medium possibilities such as augmented storytelling and non-linear p2p narrative (think of how dated Scott McCloud's *Reinventing Comics* sounds already today), the point is to document how 'new communications technologies increasingly require subjectivities that are rich in knowledge' (Lazzarato 1996) and how specifically comics reflect the massive shifts that occur in the reconfiguration of labor for a globally, interconnected precariat of comics artists and readers alike. What are the soft forms of disruptive innovation that have shaped the comics industry?

Through the use of new interfaces of labor management, automation, machine learning,

library digitization (such as scanlation and p2p), digital comics are shaking existing readerships, markets, and technologies. They ultimately contribute to the formation of a new reader's sensibility and (anti) authorial ethos. The reconfiguration of global production logistics related to printing, distribution and communication force a radical realignment for the practitioners' artistic ethos and whatever privileged terrain of craftsmanship and outdated notions of authorial genius and artistic exception has been left intact. *PmS* explores a set of operations that do not conventionally account for the production of comic books such as web-scraping, indexation, scripting, database building, moderation and spam filtering. None of the aforementioned routines, had they had an equivalent before digitization, could be performed in sensible time spans. *PmS* acknowledges therefore the matter-of-factness of the available technological tools and certainly not in terms of a reified glorification based on questions of progress or innovation. Rather as an acceleration of the dissolution of industry's entrenched roles and their old-fashioned values of artistic integrity.

Obviously digital technologies will not destroy comics as we know them, but they may change their underlying decorum. In reality, these changes have continuously shaped the lives of the industry's amateurs and semi-professionals, who have to organize their time around a bricolage of fragmented schedules and poorly paid work (Woo 2015): from daily feeding a Patreon account while filling a scanlation request, to selling a print in Deviantart while reviewing the latest Doujinshi on a not-so-free-of-ads-blog are some of the patchwork tasks of the comics networked precariat in the age of semio-capitalism.

Comics, for the most part, is an industrial form of art that counts on the orchestrated work of different professionals hired on a freelance basis. Its manufacturing processes depend on divisions of labor, where fragmentation, repeatability, homogeneity, and domination are essential features of any sequential industrial process. The production belt of mainstream comics often involves dozens of people handling specialized roles, making the comic book business 'a shoddy, ephemeral diversion, a form of anonymous, relatively diluted, and industrialised pabulum' (Hatfield 2005): pencillers, inkers, colorists, letterers, editors but also printers, binders, advertisers and marketing specialists, all the way to distribution services, newsstand vendors, retailers, journalists, etc. R.C. Harvey, states that *Garfield* creator, Jim Davis, 'employed a staff of forty to produce the strip and merchandise the character (mercilessly- through some four hundred licensees that produce the paunchy feline's face and form on everything from lunchboxes to Christmas tree ornaments)

(Harvey 1994). The sites of the comics industry have been variably labeled ‘shops’ (Harvey 1994), ‘sweatshops’ (Goulart 2002: 71-81) or whose studio system is ‘nearly an *assembly line* affair’ (Hatfield 2005: 9). The workflow, designed to improve economic efficiency and labor productivity is generally based on rationality, effectiveness and elimination of waste. The large scale of these operations accounts for a market that is structured by a standardization of best practices for the transformation of craft production into mass production. Comics, therefore, are by default a multimodal text construction, that does not fit the narrow auteurist vision of humanities and literary scholarship (Brienza 2013). Their distributed labor, under these criteria, makes the valorization of work highly problematic (Clarke & Wilkins 2016). Comics production is riddled with the formal subjectivities and the conflicting personal interests and ambitions of several operators distributed throughout the chain of signification-production.

Additionally, the comics industry depends on a variety of social formats of engagement, most of which are hardly recognized as labor. Through readers’ columns, corporate-led fan-clubs, alternative conventions, mimeographed zines, specialized fora, price guides and academic conferences, readers and fans have occupied a constitutive part of the comics industry. To some considerable degree, their activities opened doorways for the market favoring the emergence of new forms of content. How should one account for the labor and the precarious underemployment that has expanded beyond the formal loci and the traditional time schedules (Woo 2015), to encompass other forms of *self-exploited* labor, a mixture of market-driven incentives and gift economy elements? How has the Internet, as a site of disintermediation, contributed in not only reducing the distance between producers and consumers but also provided the backdrop for a flexible, collective intelligence to organize these new forms of playbor (the portmanteau term coined by Scholz 2013 to designate activities that fit neither traditional definitions of work nor play)?

Readers and fans have used the Internet as a technology, ‘enabling average consumers to archive, appropriate, annotate and recirculate media content’ (Jenkins 2006: 1). The Internet has contributed to the incentivization of the individuals that take an active role in discussing and distributing alternative, transformational or derivative works, based on root-texts. These secondary works largely depend for the valorization on the power/knowledge nexus put forward by the mainstream comics publishers. They can be understood in what Geoff Stahl calls the *winning space*: ‘a negotiated version of the dominant culture’s values that the working-class has appropriated as an alternate moral system permitting

legitimization of their means of expression'. More interestingly, comics fandom reveals the potential of an art form, whose language-like *modus operandi*, dismisses claims of clear-cut roles in the production chain. Fan fiction and all the related productions passionately argue for the importance of an idiosyncratic 'reader's space', and the fictions associated with it, beyond imposed meanings coming from the author or the prevailing readings of certain works. A variety of appropriation practices has structured the winning space: Take, for example, 'intentional communication' (Hebdige 1979), defined as an ironic gesture that operates through obviously fabricated 'complex articulations of specific codes and practices' that reveal dominant culture's normative forms of display. Or 'bricolage' (Levi-Strauss 1966: 21), a term borrowed from Claude Levi-Strauss to describe the skills of using whatever is at hand and recombining it to create something new. Lately, however, 'détournement', a concept coming from the Situationists, has been particularly helpful to understand appropriation practices in comics. It describes the process of repurposing works through the reuse of preexisting artistic elements in a new ensemble in order to subvert the conventional discourses produced with, and around, these works. Comics history is replete with cases instantiating the reader's space, where fans reclaim storylines and characters by retaliating upon the exact same format; the most banal slash fiction reveals the nature of the text in its instability, situates the artifact in the midst of seemingly horizontal forces, dependent on multiple productive and generative contexts, always in flux. These works highlight the insufficiency of the entrenched roles of production, claiming instead for an expanded agency: the collapsing of the reader, the writer, the critic, the historian, the distributor and the archivist.

Comics in the Age of Playbor

A few prominent net evangelists such as Yochai Benkler or Clay Shirky will argue that the game changer of digital and internet-enabled technologies is that they allow people to connect and collaborate in novel ways by fostering projects of unprecedented collaborative production that favors regimes of increased worker autonomy and individual expression. A major shift in the reconfiguration of labor towards a gig economy and the expenditure of cognitive surplus comes within digital labor markets and specifically from what is called artificial intelligence (Barr & Cabrera 2006: 24-29).

Amazon Mechanical Turk (AMT) is a digital labor market conceptualized and designed by Amazon in 2007. It responded to the need to expand computing infrastructure services

in order to overcome the ‘insurmountable’ (Harinarayan et al. 2007, cited in Irani 2013) technical drawbacks related to the task of merging duplicate product listings on the retail website. Since its inception, an array of different microtasking platforms and online labor markets burgeoned, providing the ‘leverage of the abilities of an unprecedented number of people via the web to perform complex computation’ (Law 2011). These services allow users to search, select and complete a variety of human intelligence tasks (HITs) designed by third party contractors looking for a freelance, flexible and often unskilled labor force. The labor activity for online workers (called *turks*) can be fulfilled at home without any direct management. These tasks can be developing databases, filtering images, subscribing to YouTube channels or writing ‘honest’ reviews for Aliexpress.

Instead of receiving a salary, or an hourly wage and the benefits and protections their work entails, turks are paid for every small, atomized task they complete. In exchange, companies (but also individual researchers, universities and institutes) enjoy, through platform mediation, absolute circumvention of applicable minimum wage laws; they benefit of all the perks for an unregulated assembly line of cognitive workers with minimal transactional frictions. According to a survey, the main selection criteria for turks in picking HITs is the task’s complexity, the maximal duration of completion, the remuneration and, according to some self-reports, how fun these tasks can be (Irani, Silberman, Zaldivar, Tomlinson 2010). If such self-reports should be nuanced in a general background of precariousness and hyper-exploitation, they nevertheless suggest that workers do not merely seek monetary rewards (Paolacci & Chandler 2014: 184-188).

The fragmentation of professional activities is also increasingly the status quo for persons in the cultural industries and the arts. Most of these individuals engage in a patchwork of different forms of immaterial labor defined as the activity that produces the informational and cultural content of the commodity (Lazzarato 1996). In regards to the cultural economy in advanced capitalist societies, it is exactly the excessive deployment of the activities of an overqualified, underpaid cognitive workforce that makes, from the perspective of any digital contractor ‘the Internet a thriving and hyperactive medium’ (Terranova 2004). The precariat, or, better, the information economy version of an insecure, underpaid, self-employed and zero-hour contract mobile workforce, the *unnecessariat* (Amnesia 2016), is construed here, from the perspective of the venture capitalist as a potentially large-scale, connected, computing infrastructure waiting for its networked value to be extracted. The

flip side of Jeff Bezos's human-as-service ethos² is the reality of the human-as-wasted-resource: a sense of unfulfilled potential with the pathos of an empty apartment in an overcrowded city, or a set of golf-clubs gathering dust in the closet.

The notion of free labor, and its uneasy declination of *playbor*, is based on the gradual dissolving of modalities that have conventionally defined most of the professional activities, and separated them from the rest: the slippages between conception and execution, between labor and creativity, between work and free time, and between author and audience have been, according to Lazzarato, 'simultaneously transcended within the 'labor process' and reimposed as political command within the process of valorization'. Not only labor activity is increasingly harder to define, consequently protect and valorize. The very same spaces that have generally contained and supplied labor have radically changed and for some, they have dematerialized: from the office desk to the cubicle, and from the decentralized workspace and the coffee shop table to the apartment couch (Saval 2014), work for 'creatives' is *always* and *everywhere*.

Abusive and (not always so) immaterial labor formulae have been around in the creative industries for quite a while (Ross 2013). However, technology magnifies power configurations with 'deep changes in the composition, management and regulation of the workforce' (Lazzarato 1996). Free labor occupies a central position in the digital economies and the digital labor market, can now be in antagonistic relationship with the comics industry's various reading communities, small businesses and publishers. What are the challenges for the increasingly networked comics industry in times where cognitive labor deploys in postindustrial regimes of work management and, more importantly, how artists and readers can still defend fixed subject positions in a constantly shifting world that increasingly questions the validity of such conventions and practices?

Conceptual Comics

These questions have tilted my understanding of comics towards the medium's industrial affordances and have radically shaped my own artistic practice. As an artist and a researcher, I am interested in the unexpected ways the comics industry's generative forces inherent to distributed and specialized working routines are being reshaped in the age of digital

2. 'You've heard of software-as-a-service; well, this is human-as-a-service.' Jeff Bezos announcing Amazon Mechanical Turk in 2006 during an MIT lecture.

networking. What happens to the comics industry in the advent of media convergence and its auxiliary operations of rapid digitization, immediacy of consumption and broadband distribution? How the diversification of access to content contributes to ‘ever more complex relations between top-down corporate media and bottom-up participatory culture’ (Jenkins 2006: 243)? And finally, how artistic practices and discourses, as well as the historically contingent roles that constitute the publishing world, position themselves vis-a-vis these powerful new environments?

I came up with the term *conceptual comics* (CoCo)³ to point to the works that thematize the industrial aspects of their medium. They often embrace ‘the messy state of media after the disruption occurred through the digitization of their production, distribution and communication channels’ (Cramer 2015) and they can be thought as post-digital declinations of older industrial forms of production. Their form and modes of engagements are complex and polyvalent. CoCos distance themselves from works that celebrate artistic expression or champion unique artistic and storytelling skills. They are equally critical of the various deployments of craftsmanship in their fabrication, from the fashionable risograph to the fetishized woodblock printing. Far from being originary acts, CoCos are immersed in (and survive from) information-intensive contexts. They are always constituted as subsequent acts of inflection, inversion and dissension. Their singularity is an access to otherness and their endurance originates from the way they are persistently unraveling and reshaped. Semantically elastic, stretched by a growing web of cross-references, often to the point of unrecognizability, a CoCo work cannot and will not remain forever the same object. CoCos are even less focused in the formal technological innovations of the narrative medium. They focus instead on the new patterns and modalities of the comics industry in the age of the disenchantment and the given-ness of electronic and networked affordances.

In 2017, I outsourced the commission of a book to the resources of an online labor market. In *Harvested*, a selected group of microworkers was asked to filter a huge database of JPG screenshots of adult films according to a consciously vague instruction: whether or not they displayed contemporary art. As read in the press release, the goal of the book was to underline the importance for a contextual, industry-specific art history, while by the same token playfully highlight the need to activate peripheral vision in regard to scopophilic practices. While IKEA paintings were pervasively dominant, *Harvested* burgeons with

3. Conceptual Comics and its playful acronym (CoCo) originate from the librarian collection I initiated at the art archive Ubuweb and the shadow library Monoskop. https://monoskop.org/Conceptual_comics

works from modern masters such as a rip-off from Fernand Léger, an unknown Joan Miró, *Castle and Sun* from Paul Klee but also contemporary works such as *Quote, 1964*, a print from Robert Rauschenberg, a series of paintings from Mark Rothko, *School of Fontainebleau* from Cy Twombly and even some mass market replicas from Frank Stella and Lucio Fontana (Manouach 2017).

Peanuts

From 2016, I have been working on PmS involving the re-make of *Peanuts*, possibly the most popular and influential comic strip of all times. Published on an almost daily basis from 1950 to 2000, Charles Schulz produced a total of 17,897 *Peanuts* comic strips which, at their peak of popularity, were translated into 21 languages, syndicated to 2,600 newspapers and reached an audience of 355 million readers in 75 countries. Through its ubiquitous popularity and continuous run, the longest in the history of dailies, *Peanuts* outdid any business considerations that were the given industrial standards. While *Peanuts* was not the first strip that was heavily marketed, pervasive licensing and blank corporate marketing that quickly mushroomed around Schulz's work forced comics into capitalist media expansion and market saturation (Beaty 2012: 93). Led into uncharted territory, Schulz reinvented his craft and profession. He released the pressure of the punchline, dug deeper and expanded his storytelling palette. He increasingly dealt with existential themes and moods such as inactivity, lethargy, emptiness and vanity. They were eloquently materialized through the storyline's suspended actions, empty spaces, minute changes and unavoidable recurrences. Apart from the wu-wei, the principle of inaction, *Peanuts* has a zen-like quality that is characterized by its less-is-more aesthetics. The series consistently explores themes such as the appreciation of time passing, the felicity in the discovery of wisdom, the manifestation of concrete suchness of everyday life and nature's and compassion's mishaps, among others. But most of all, *Peanuts* deals with the conundrum of transcending ego-consciousness in an experiential dimension, exemplified through the presence of one of the main characters, Snoopy. The dog, a favorite animal in various zen koans, constitutes the series' displaced center and personifies its opaque nothingness: a meditational state in which the no-ego is posited as the passive agent in constituting things of experience.

Peanuts is certainly a masterpiece of style in its ability to engage and sustain its readership. Its readers experience and embody fictional events and create emotional ties by sharing

the human condition with the story's characters. Through the multiple forms that move beyond the pages of the newspaper and the book, Peanuts characters are immaterial energy storehouses built on an ever-growing capital of emotional and affective investment. Just think of Snoopy and the pervasive instantiations in retail merchandising such as T-shirts, stickers, coffee-mugs, but also video games, themed music albums, TV shows, theatrical productions, amusement parks and other market derivatives. *Peanuts* is an industry on its own, where publishers and licensing specialists compete across the entire spectrum of media production. In an interview, Charles Schulz is at pains to stress and defend the role of craftsmanship in the corporate empire built around Snoopy and emphasizes the predominance of the comics strip over all auxiliary products, activities and satellite businesses blossoming 'outside' his own work. He says,

'We have covered the world with licensed products – everything from sweatshirts to lunchboxes to toothbrushes – and have been criticized many times for this, although for reasons that I cannot accept. My best answer to such critics is always that the feature itself has not suffered because of our extracurricular activities. I have drawn every one of the 10,000 strips that have appeared and I have thought of every idea. Not once did I ever let our other activities interfere with our main product – the comic strip.' (Schulz 1975: 181).

Is the comics strip really the main product and all the rest 'extracurricular activities'? And what is the value of a statement that buys into the fiction of the economically disinterested artist stuck to his drawing table, unfettered by mercantile calculations?

Peanuts Minus Schulz **Distributed Labor as a Compositional Practice**

PmS is a conceptual comic book project that consists in the reproduction of Schulz's work by commissioned artists, using digital tools and mediated by a digital labor management platform.⁴ The percolation of the comic strip units through the reader swarm of the digital factory calls into question the primacy of storytelling and drawing as *the* defining factors of the image-text medium. Indeed, *PmS* labors silently through the products of an extremely deskilled workforce. The deployment of home-brewed versions of Schulz's work, and their response to the different instructions is both intentional and unpredictable. There

4. The scarcity of information related to the fabrication of the book is not only symptomatic of platform mediation. Certainly, a digital labor platform operates like a black box, in many respects. The choice to preserve the project's procedural opacity comes as a conscious decision for the non-disclosure of sensitive information that might collide with some academic standards.

is an obstructive contextual materiality, for instance in Anika's translation in Benghali (**fig.2**) or in Vidjay's playful insertion of autobiographical narrative (**fig.3**) that bypasses the series' narrow authorial status. *PmS* embraces the industrial aspects of the brand name and without sacrificing semantic complexity and reader engagement, puts the emphasis of comics, in its (digitally) distributed labor. By foregrounding the uneasy interdependence of work and leisure, of artistic craftsmanship and deskilled manpower, *PmS* displaces the integrity of the comic strip as a full-fledged entity, albeit a corporate copyright property, to an ongoing score: Schulz's 50-years work becomes a durational performance that reenacts and retaliates upon the reader space which begs for new subjectivities.

At best, *PmS* buys into the fashionable paradigm of artist-as-entrepreneur and artistic work-as-content management. At worst, it highlights the historically industrial properties of the medium. Microworking as a compositional practice highlights disconcerting aspects of the publishing industry and conjures images of sweatshop production chain, industrial automation, unskilled labor and regimes of just-in-time production modes. Nonetheless, a closer look reveals just the opposite: a queering of the industry's prototypical standardized practices (**fig.4** presents a rather unconventional and opaque narrative device where the image is broadly occupied by its description). The digital, aggregated micro-actions such as the poorly filtered spam, the algorithmic bot non-sense or the responses to the variously misread instructions that I had to moderate and filter throughout this process, resist the smooth integration and style uniformization conventionally required in the industry of comics: the collected material constantly fails to fulfill the seamless, unbroken metabolization that leads to a totalizing system. The selection process doesn't have the goal to level or neutralize the differences in the work provided by amateurs, fans or non-artists, neither to enforce any *apprenticeship model* nor exclude unqualified, or marginalize temperamental and idiosyncratic approaches to the interpretation of Schulz's work. Rather the opposite: these submissions radically reconfigure the assumptions made about the individual role different agents can have in a production chain. They underline the very nature of comics as an eternal score subjected to vagaries and contextual instantiations.

PmS cannot remain solely a book project. Instead it needs to reflect on the different modes of spatialization (through exhibition formats) or temporalization (through reading performances) of the comics medium, in order to fulfill its industrial ordeal. Printing and framing hundreds of collected submissions would be equal to folding back the project's concept on the content predominance. Instead, a direct confrontation with Schulz's statement

about the high-ground of the comics strip in the comics industry and the glorification of the artist's creative genius invites me to invest a larger spectrum of the brand name through the various Snoopy derivatives and merchandising. What would be the effect of a multitude of subjectivities, styles and expertise investing a series of merchandising-only shows made and designed in the digital factory such as t-shirts, hoodies, hats, lunchboxes, figurines, etc. (**fig. 5 & 6**)? These various unsolicited and unauthorized declinations of corporate products make comics' dynamics between art and industry painfully(?) transparent.

Editorial Note

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Illustrations



Figure 1: A T-shirt print of a drawing based on Charles Schulz's *Peanuts* made by an artist from Venezuela, Thursday, February 15th, 2017 (time of completion: 13m and 2s).



Figure 2: A t-shirt print of a drawing based on Charles Schulz's *Peanuts* made by Anika from Bangladesh, Thursday, February 1st, 2017 (time of completion: 5m and 19s).



Figure 3: A t-shirt print of a drawing based on Charles Schulz's *Peanuts* made by Vi-djay from Indonesia, Monday, February 12th, 2017 (time of completion: 24m and 48s).



Figure 4: A t-shirt print of a drawing based on Charles Schulz's *Peanuts* made by an artist from Macedonia, Friday, March 30th 2017 (time of completion: 7m and 17s).



Figure 5: A t-shirt print of a drawing based on Charles Schulz's *Peanuts* made by Tracey from China, Friday, March 12th 2017 (time of completion: 4m and 25s).



Figure 6: A coffee cup with a drawing based on Charles Schulz's *Peanuts* made by Anika from Bangladesh, Thursday, April 4th, 2017 (time of completion: 12m and 34s).

Chapter 5

A Deep Learning Pipeline for the Synthesis of Graphic Novels

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Abstract

In this paper, we present what is to the best of our knowledge, the first deep learning pipeline to produce a synthetic graphic novel. Our method can synthesize from scratch engaging sequences of graphic novel pages, focusing on the Manga genre. To achieve this, we extract images and text from around 670 thousand Manga pages, which we use separately in order to train state-of-the-art generative architectures, such as GPT-2 for text generation and StyleGAN2 for image synthesis. Using these as sources of synthetic content, we develop a set of algorithmic aesthetic rules in order to bring together complete and continuous Manga pages.

Introduction

There is little consensus among comics scholars on whether comics is a language, but it's relatively agreed that comics is a sequential system of communication, consisting of both linguistic and non-linguistic signs (Groensteen et al. 2007). Comics create, most commonly, a narration, the contents of which are images and text, while its form is the panel layout, the placement and shape of text bubbles and the succession of panels and pages. More generally, we can consider comics synthesis as the generation of images and text, as well as their common arrangement, in a way which suggests a sense of narration and/or dialogue. While comics traditionally unfold a structured storyline and contain text and images that are directly related, types of comics that explore more unconstrained and creative directions have emerged. Our approach is motivated by such works, since we produce and experiment with more abstract and unstructured narrations.

The task of artificial comics synthesis has never before been considered in its full spectrum. Previous attempts have focused on automating specific parts of the pipeline, but

as far as we know, no previous work has ever attempted to automate the full procedure. Progress made on the last few years in generative modelling, especially the development of the Generative Adversarial Networks (GANs) (Goodfellow et al. 2014) and the Transformer architecture (Vaswani et al. 2017), has implied their potential use in creative and commercial applications that rely on content synthesis. Our * Equal Contribution 3 * work is mainly positioned inside this context, aspiring to question and challenge creativity in the multi-modal and complex setting of graphic novels.

We focus on a specific graphic novel form which originated in Japan, called *Manga*. Manga comics come in a huge variety and quantity, being classified into many genres on the basis of their targeted audience, the main subject of their plot and their artistic style. They were originally distributed in black-and-white prints. Nowadays, vast web-communities of Manga enthusiasts, known as *scanlators*, share scanned Manga comics in low quality through the web, usually poorly translated in English. Both because of their world-wide popularity and their abundance, but also because of their automated production process¹, they are a form of art for which we could speculate their, at least partial, automation through Artificial Intelligence in the coming years. To support even more this claim, Manga follow a certain consistency in drawing style, which differentiates them a lot from other types of comics, and are found in abundance, with many successful Manga series consisting of thousands of pages.

We present our contribution, a deep learning pipeline for synthesizing complete and continuous pages in the form of a graphic novel. Our work consists of two main parts: (a) the necessary pre-processing or content extraction step, namely the extraction of images and text from raw Manga comics and (b) the synthesis of the content and its assembly into the form of a graphic novel. We thoroughly describe all steps of the above process and underline the challenges we encountered, as well as the techniques we adopted to surpass them.

Firstly, we describe the pre-processing procedure. The first step is the extraction of Regions of Interest from Manga pages, namely image panels and text bubbles, using a region proposal based convolutional network. Next, we train a U-NET segmentation

1. A typical production line of manga comics for example involves dozens of people handling specialized roles in a quasi taylorist production belt, often in ways that have been criticized for resembling a sweatshop, while distribution has been increasingly involving massively digitized operations of logistics and global supply chains. Comics is, an *industrial* form of artistic expression.

network (Ronneberger, Fischer, and Brox 2015) to precisely segment and isolate text bubbles, which are then inpainted in order to obtain clean images. Finally, we get text transcriptions of the detected areas, an Optical Character Recognition model, which we domain adapt by fine-tuning it to commonly used Manga fonts, increasing its recognition performance. For all these steps, we have used all resources that were available to us, namely existing datasets, manual data annotation and ad-hoc synthetic datasets.

For the second step, we start with training a StyleGAN2 architecture (Karras et al. 2020) on the inpainted Manga images that we previously extracted. To alleviate the low quality and diversity of the generated samples, we explore two different approaches: (1) we train a conditional model, providing labels that we acquire from a tag estimator trained on Anime art and (2) we perform transfer learning using a model pre-trained on Anime faces. To fit the industry standards for image quality, we chain the generation procedure with a super-resolution up-scaling network trained on Manga content. Next, regarding text generation, we fine-tune a GPT-2 language model (Radford et al. 2019) on text extracted from our Manga dataset, as well as on a diverse set of monolingual corpora from different genres of literature. We finally generate both image and text content in a sequential manner and place them inside randomized and standard panel layouts, bringing them together in the form of graphic novel pages.

Related Work

In this section, we discuss relevant research, regarding the comics medium and the procedure of content synthesis. We can make a first distinction between: (a) research that focuses on the analysis of comics and extracts information that is crucial for specific tasks and (b) work that deals with the synthesis of Manga related content, such as animated characters.

The first approaches on the field of comics analysis, focus on using traditional computer vision techniques for the extraction of basic comics features. One of the earliest tasks, providing motivation in this research field, was panel and text extraction, mostly oriented towards automating the process of formatting comics for reading in mobile devices (Yamada et al. 2004; Ho, Burie, and Ogier 2012; Li et al. 2014) or copyright protection (Sun and Kise 2013). With the rise of deep learning, research steered, with great success, towards the use of neural networks for similar or other, previously unexplored tasks. The

creation of appropriate datasets, such as eBDtheque (Guérin et al. 2013) and Manga109 (Fujimoto et al. 2016) (both of which we also use in our work) helped to build more robust tools for detecting and extracting comics features, such as panels (Ogawa et al. 2018; Zhou et al. 2020), text bubbles (Dubray and Laubrock 2019) or characters (Qin et al. 2017), using deep convolutional architectures. Their extracted contents can be used in many ways, for example to create an indexing system with content analysis (Nguyen, Rigaud, and Burie 2018), sketch-based Manga retrieval (Matsui et al. 2016), semi-automatic comic colorization (Furusawa et al. 2017) or making comics more accessible to the visually impaired (Rayar, Oriola, and Jouffrais 2020).

Regarding the synthesis of comics, little work has been done towards the form of narration itself, with a few notable examples, such as the synthesis of Manga-resembling layouts (Cao, Chan, and Lau 2012). Previous work has mainly focused on synthesizing Manga related artwork. The evolution of the GAN architecture during the past years, has increased the interest for generation non-photographic animated characters, typically found in Manga, although it is most commonly used for generating photographic images. In (Su et al. 2020) a GAN architecture is trained to create Manga faces from photographs, while preserving the original face features. A notable example of image generation is the work of Gwern, “this waifu does not exist” (Gwern 2019b), a website hosting a StyleGAN-2 generator for female Manga character portraits with some text, independently generated by GPT-3 (Brown et al. 2020), accompanying each. The basic image generation component of this work was recently updated, introducing a revised StyleGAN-2 architecture, and was featured in the “this anime does not exist” project (Aydao 2021). Important changes of Aydao’s approach are the doubling of the feed-forward embedding layer’s width (consequently doubling the dimension of the latent vector) and decreasing the amount of regularization, leading to slower but more stable training.

Content Extraction

Throughout our work, we use a custom private dataset, consisting of 667,181 black-and-white Manga pages with English text in 72 dpi. Unfortunately, we are not in the position of making this dataset public or publishing the extracted content, as it is part of a private collection assembled from diverse sources, subject to copyright law. Furthermore, we do not perform any human annotation on the above dataset, so the evaluation of all the techniques we present next is mainly done visually from random samples, since our data is unlabelled.

Panel and Text Bubble Detection

As a first step we detect panels (areas in which images are located) and text bubbles (areas in which text is located). As a primary annotated resource for this task we use the Manga109 dataset, which contains handcrafted annotations for panels, characters and text bubbles in the form of rectangular bounding boxes. We found, that training a Faster R-CNN model (Ren et al. 2015) on this small dataset is effective for extracting bounding boxes on our larger dataset. Faster R-CNN incorporates a Regional Proposal Network that shares features with a detection network and is widely used in relevant tasks, even for extracting comics features. Our implementation is largely based on the MMDetection framework (Chen et al. 2019).

It should be noted, that while it is common for Manga panels to have boundaries that are not parallel to the borders or are more complex than quadrilateral, there is no large annotated dataset which contains non-rectangle polygons or masks for object detection. Moreover, modelling rectangular (or even square) images of a fixed resolution is the predominant approach, used by most of the existing computer vision and image generation architectures. Adding white margins to the rectangular images is a possible solution, but while it can increase expressiveness and data variability, it introduces white areas that dominate the generated images and complicates the final page assembly. As we mention below, we arrive to the solution of cropping and resizing accordingly.

Finally, we develop an algorithm that sorts the detected panels and text bubbles according to the Manga reading order, while it associates each bubble with the panel it belongs to. Manga comics are read from right to left and from top to bottom. This applies to both panels and text bubbles. We consider a panel preceding another if it is located higher on the page or if it is on the same level but on the right-hand side. Panels are considered to be on the same level if the horizontal border lines of one are contained on those of the other or if the difference between their respective upper or lower borders is smaller than half the height of the shortest panel. Each bubble is then associated with one panel, based on the distance of their centers. Bubbles that belong to the same panel are sorted following the same procedure. The above algorithm is robust to unconventional panel layouts, common in Manga comics and enables us to extract and encode structural information, such as the sequences of images and the text-image correspondence, as well as getting a complete and ordered story from the extracted text.

Text Bubble Segmentation

In this step, we remove all the text bubbles from the extracted images, as such a visual feature would insert noise and dominate the generated samples. To achieve this, we first detect the exact region the bubbles occupy and then use proprietary software to do content-aware inpainting of the area underneath. The Faster R-CNN model, that we have used above, is not sufficient for this task, as it only can provide us with a rectangle bounding box. An effective solution to this problem would require pixel-level masks which cover the exact area that needs to be inpainted. This is rather an image segmentation task, which we approach using a U-Net architecture (Ronneberger, Fischer, and Brox 2015), following the implementation of the `fastai` library (Howard and Gugger 2020).

We use the labeled "eBDtheque" dataset (Guérin et al. 2013) to train our model. It contains pixel level masks for text bubbles of comics that span various styles and traditions. Since it is a small dataset, consisting of only 100 annotated comic pages, we augment it using custom-made synthetic data. To produce them, we place handcrafted text bubbles, with fill-in real text, on pages whose bubbles we have removed successfully during a previous iteration. To achieve a first rough estimation of the bubble area, we have implemented a flood-filling algorithm to find connected components based on pixel intensity around letter markers, extracted by the Faster R-CNN model that we have previously trained. To make our model more robust, we train it on augmented versions of both the original and our synthetic dataset. Images are randomly cropped and rescaled, followed by a random affine transform, to which random brightness is applied subsequently.

Text Transcription

The last step of this process is the extraction of text from the detected text bubbles. To achieve this, we use the Tesseract Optical Character Recognition (OCR) Engine (Smith 2007). Using a model that was pre-trained on English text led to character recognition of poor performance. This is not unexpected, since comics and especially Manga contain specific and uncommon fonts, as well as not casual monochromatic backgrounds and disrupted or skewed text, which the initial trained model is naturally unaware of. Unfortunately, we could not use the Manga109 dataset for this purpose, as it contains text transcriptions only in Japanese, and as far as we know, no other annotated dataset

was available. To improve the accuracy of OCR, we fine-tune the English model on synthetic pairs of text and generated text bubble images, with fonts resembling those found in Manga comics. As a text corpus we have used “Ulysses” by James Joyce, because of its casual tone and plethora of neologisms and onomatopoeia. The text was partitioned into chunks of varying sizes and then split into lines of varying lengths, in order to better represent text bubbles. Specifically, the number of words contained in each bubble was chosen uniformly in the range of 1 to 20 and line breaks were added to split each bubble to approximately 4 lines, with some added randomness. Also, some punctuation commonly used in Manga, such as triple dots and exclamation marks, were manually added. Using 40 fonts, common in Manga, we generate a total of 20,000 text images with varying word and line count, different backgrounds, font sizes, orientation, blurring and skewing. Some examples can be seen in Figure 1. We find that the fine-tuned model significantly improves the quality of text transcription.

Synthesizing a Graphic Novel

In this section we discuss the method we adopt in order to generate synthetic content, as well as the algorithmic procedure that we follow in order to assemble a graphic novel.

Synthesizing Images We consider the development of the GAN architecture to be a pivotal moment in synthetic content creation, which at first proved its remarkable ability to generate mono-categorical photo-realistic images, such as human faces. One of the most influential architectures, widely used in a wide variety of creative applications is StyleGAN2 (Karras et al. 2020), yielding state-of-the-art results in generative image modeling. Its advantages among alternatives include its ability to be trained on images of higher resolution and the feasible computing resources needed compared to other methods, which has led to its adoption by a community of StyleGAN artists.

After the aforementioned extraction and the separation of images with aspect ratios close to 1x1, we end up with 1.7 million monochromatic images, which are resized and cropped to fit the 512x512 resolution. Training a StyleGAN2 architecture from scratch to this data proved insufficient, resulting in non-convergence. This was either reflected on a high Frechet Inception Distance (Heusel et al. 2018) measure (more than 30) or on complete divergence. Just tuning the hyper-parameters (for example decreasing the regularization or the learning rate) did not solve this issue. We attribute this poor training performance both to the absence of a center in our data, as well as to their polycategor-

ical nature and to their complex textures, something which is not the case in most traditional datasets which have been used for evaluation purposes, such as FFHQ (Karras, Laine, and Aila 2019). To overcome this, we experiment with two standard approaches: (a) boosting the learning process with label conditioning and (b) transfer learning.

The first approach requires a meaningful categorization or labeling of our images. The idea that organizing the diversity of our dataset could result in improved performance was explored in (Oeldorf and Spanakis 2019), which showed that meaningful conditions enable the model to learn a larger number of modes and produce more detailed, diverse and controllable outputs. Additionally, it seems that although simple label conditioning is supported in the standard implementation of StyleGAN2, it is largely unexplored by the (art) community.

To label our images, we utilize a multi-tag ResNet classifier (He et al. 2015), pre-trained on the 5543 most popular descriptive tags of the Danbooru dataset (Anonymous, community, and Branwen 2021). Danbooru is currently the largest available public dataset of anime-style images, commonly found in Manga. Each image is accompanied by around 30 tags coming from a total of 434k predefined tags. Unfortunately, a single annotation by itself is rarely descriptive of a single image. Thus, we predict the tag scores for all our images and apply incremental PCA (Ross et al. 2008) to reduce their dimensionality to 20. Next, we perform clustering, using the incremental k-means algorithm (Pham, Dimov, and Nguyen 2004) in order to extract 20 categories in total. By adding label information, we obtain more diverse content with a lower FID, but which is much more figurative. A few examples can be seen in Figure 2. Although we did not try other variants of this procedure, we strongly suggest it as a subject of future work.

For the second approach, we fine-tune a publicly available model that has been trained on 512x512 female Manga faces (Gwern 2019a) on our dataset. This model is the core of the aforementioned “this waifu does not exist”. We observe that by following this approach, we manage to model face characteristics with a higher fidelity, which can in fact help to make our comic more engaging. On the other hand, this approach exhibits less diversity, and as expected is much more biased towards generating female faces. Some examples that showcase this can be found in Figure 3.

Sampling Procedure

We sample the latent space of our model using a 513-dimensional vector (512 for the noise vector, plus one for truncation) of an interpolated timeseries of stock volumes. This results in a continuous sequence of transformations, a procedure that is generally used for the exploration of the latent space and which creates a sense of action for various characters that appear locally for certain latent vector values. After generating about 130K images, we manually classify them using the active learning technique of Pool-Based sampling (using as informativeness the maximum probability of any category), to four ad-hoc visual categories, plus a fifth which is used to discard images with ambiguous content. As the produced images have a 512x512 resolution, we bring them to the industry standard of 1024, using the domain-specific up-scaling model “waifu2x” (Nagadomi 2018).

Synthesizing Text

Language models assign probabilities to sequences of words and are commonly used to generate text, by iteratively choosing a word given the previous context. GPT-2 (Radford et al. 2019) was until recently the state-of-the-art model for language generation, superseded by its successor (Brown et al. 2020). It consists of billions of parameters and it has been trained on a huge corpus of texts scraped from the web. Even from early experiments, we have noticed its unique ability of domain adaptation when fine-tuning to a certain author or genre; its results could be seen in broad terms as the impersonation of an author or the imitation of the genre.

In our work, we use a distilled version of this model (distilGPT-2), which is contained in the Hugging Face library (Wolf et al. 2020). Knowledge distillation (Hinton, Vinyals, and Dean 2015) is a technique for reducing the size of a model, while decreasing its accuracy by a small factor. The distilled GPT-2 model is twice as fast and consists of 37% fewer parameters than the smallest full model available. We notice that by using the original versions of GPT-2, the sampled outputs can be a bit more poetic and fruitful, but much less reliable in coherence and syntactic precision. We train this language model on the Manga text that we have extracted above, where we use special tokens to separate text that belongs to different bubbles and panels.

To introduce more interesting and diverse textual content, we train language models on a wide variety of publicly available monolingual corpora of literature. For this purpose, we compile separate English corpora from various works of Poetry, True-Crime, Science Fiction and Buddhist literature. Models which are fine-tuned on each of those different language models will be used later as distinct “voices” (Poetry will play the role of narration), to give the impression of a dialogue which unfolds between distinct characters, focusing on different subjects and emotions. To make the output more appealing and to exclude writing styles unrelated to graphic novels, we only keep sampled sequences that follow a set of simple semantic rules (for example ignoring chapter names or references), without a great loss of continuity, as texts of similar styles are generated in sequence. We observe that these models produce more rich and engaging samples than the one which was trained on the text extracted from our Manga dataset.

Assembling a Graphic Novel

As the final part of the described pipeline, we investigate the assembly of a comic from two independent and locally coherent streams of image and text content. We experiment with two processes to generate panel layouts for a fixed page size of 2480x3508px: (a) a randomized approach of generating panels in multiple scales and rectangle shapes and (b) a standard 5 row by 4 column layout of square images.

We first develop a randomized layout synthesis, that follows several fixed constraints. We design a recursive function, which starts from a higher level and based on a biased coin-flip, decides whether it should split in half the current panel space, either horizontally or vertically. Each time, the level is decreased by one, starting from 4 and it stops when it reaches the number zero (see Figure 4). Additionally, while splitting a level in half, it also decides whether the split will be parallel to the borders of the page, or whether it should include a certain amount of randomly selected small inclination. Moreover, we randomly decide if the borders of each panel will have a gutter (the value of which is again selected randomly) or if they will be a so called "full-bleed". All those distributions are parametrized at panel level and their detailed parameters are estimated through experimentation to fit certain aesthetic criteria. Figure 5 contains a few examples of different layouts that are synthesized using this procedure. The non-randomized approach (b) is not discussed because of its simplicity. It is mainly introduced, to balance out the fuzzy elements of the synthetic text and image content and to allow the

reader to effectively engage with the current version of this work.

For each of the above procedures we have used different ways for selecting synthetic content. In the case of (a) we follow again a manually tuned random sampling procedure for each level, where we select images based on their categories. Moreover, to avoid having images with a lot of variation in small levels we use a very simple measure of Shannon-Entropy. To fit an image inside each panel, we resize each image to the smallest dimension of the panel, while keeping its aspect ratio constant and we crop it with equal margins from the borders of its largest dimension. For the more coherent version of the squared layout we ignore the categorical labels and use 4 local images which come from 5 sequences per page in the given order. This plays the role of action or character unfolding.

As a next step we allocate a page and a panel with a custom amount of bubbles for each level, which we will then fill with text, both in the form of dialogue and of narration. For the purpose of dialogue we use three different types of text bubbles, which would represent the three different voices of our previously fine-tuned language models and a (final) fourth one which plays the role of narration. In the case (a) of randomized panels, we allow at most one voice-over per panel and up to four bubbles, the amount of which is randomly selected from a range of values related to their level. In the case of (b), we evenly and randomly distribute the narration text boxes and the bubbles of a given number inside the page. Also, in both cases, we bound the total amount of generated text per level, also taking into account its function - as narration or as dialogue. We implement a recursive function to best fit our text inside a given rectangle area and then re-scale our bubbles, so that their inscribed rectangle would properly fit our text. To locate the area, inside which we would place those bubbles, we construct a Boolean mask which we incrementally update, starting by adding the narration and afterwards by placing each dialogue bubble, while adding a constraint to the total area which can be covered by a bubble inside the panel or inside the page (in cases (a) and (b) respectively).

In terms of content, we use a poetry language model for the purpose of narration, as it provides a sense of poetic continuity throughout the pages. Moreover, for the dialogue bubbles we use three different types of language models which we associate with different qualities and emotions. First we have a Buddhist model, that with a more spiritual, zen and wise vibe. Then we have a Sci-Fi model that is futuristic, exhibiting a certain amount of complexity in situations and techniques. Finally, a True-Crime literature mod-

el that creates a sense of action and suspense is included. To conclude, a visual example of method (a) can be seen on Figure 6 and one of method (b) on Figure 7, which was the one that made it to the "final cut".

Future work

In this work, we manage to construct a pipeline which synthesizes pages that resemble the style of Manga comics. The generation of image and text content, however, has been done independently and their assembly has been aesthetically pleasant and engaging but not necessarily indicative of our dataset. Associating images with text in a meaningful way and arranging them in a semantically consistent order is a critical next step, that will allow us to research creative narration in the multi-modal setting. Relevant tasks have been well researched, such as image captioning (Herdade et al. 2020) or image generation conditioned on text descriptions (Ramesh et al. 2021). However, it can be argued that the text and image interrelation, in the setting of comics, is not as straightforward and strict as that of an image and its caption.

An architecture that emerged recently and stirred up interest regarding the connection of visual representations to natural language is CLIP (Radford et al. 2021). To sum up its basic functionality, CLIP learns joint text and image embeddings, that allow the computation of a (cosine similarity based) matching score between images and text. We believe that analogous approaches should definitely be explored for the task of end-to-end comics synthesis. Ideally, a graphic novel generator is a multi-modal system that learns from and generates parallel streams of image and text, structured accordingly. As we previously mentioned, the function of images and their relation to text in graphic novels is unique and unexplored. Image and text are equally important parts of the same narrative, with no strict hierarchical relationship between them being implied. Therefore, simply generating one modality conditioned on the other is an approach limiting to the comics medium. For example, images can serve the purpose of capturing the reader's attention for the text to find its meaning, while in other cases text can simply include a non-important dialogue as what is happening in the image is more important for the story.

Thus, in order to fully model a graphic novel, one could model narrative as a latent and discrete time series underlying both the image and text data, from which new images and text can emerge. This work does not claim to have tackled this problem, but rather it is the first applied and complete study towards this direction, using contemporary tools and suggesting their limitations.

Discussion

The comics industry has been quite reticent in embracing the complex nature of technological developments in artificial intelligence. But this situation might soon change. The online abundance of digitized media content, available through third-party groups of comics fans, the increasing convenience of programming language frameworks and machine learning libraries, the secularization of knowledge through e-learning and the plummeting prices in specialized hardware might contribute to reach a critical point where artificial intelligence will be gradually integrated in the comics pipeline. Synthetic and generative processes might soon reshape the ways we produce, consume, archive and distribute comics artifacts. A more wide adoption of artificial intelligence in different strata of the industry might reconfigure existing readership(s) market(s).

Our research aims to explore the conditions for synthesizing graphic narratives and comics with the use of deep neural networks. This may result to a better understanding of creativity for comics artists and cartoonists but might also contribute to multiple applications of multi-modal expressive communication that has become our primary modality in sharing and shaping representation of our worlds. Modeling a graphic narrative still remains a challenging task, which has generally been ignored by the deep learning and computer science community. Researching and understanding this multi-modal, discrete and symbolic procedure involved in the production of comics, provides a very challenging task which can unite comics artists and deep learning engineers and potentially augment human creativity in ways which have never been experienced before. Finally, we suggest that reverse-engineering or modeling parts of this procedure can even provide us with mathematical and technological tools, which could profit other fields unrelated to artistic practices.

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Illustrations

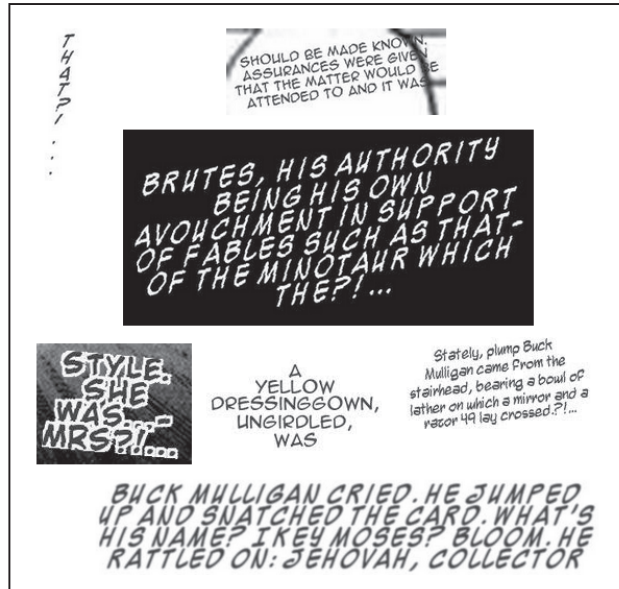


Figure 1: Examples of synthetic text images that were used to improve the OCR accuracy.



Figure 2: Progress of training on labeled 1x1 images @king=1913.



Figure 3: Progress of transfer learning from a model pre-trained on Manga female faces @ $\text{king}=1490$.

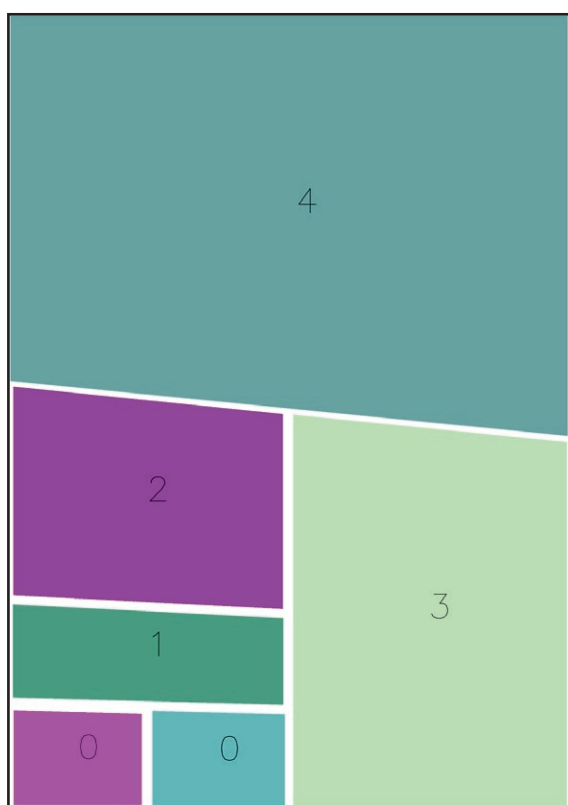


Figure 4: Panels and their associated levels.



Figure 5: Examples of randomly sampled panel layouts.

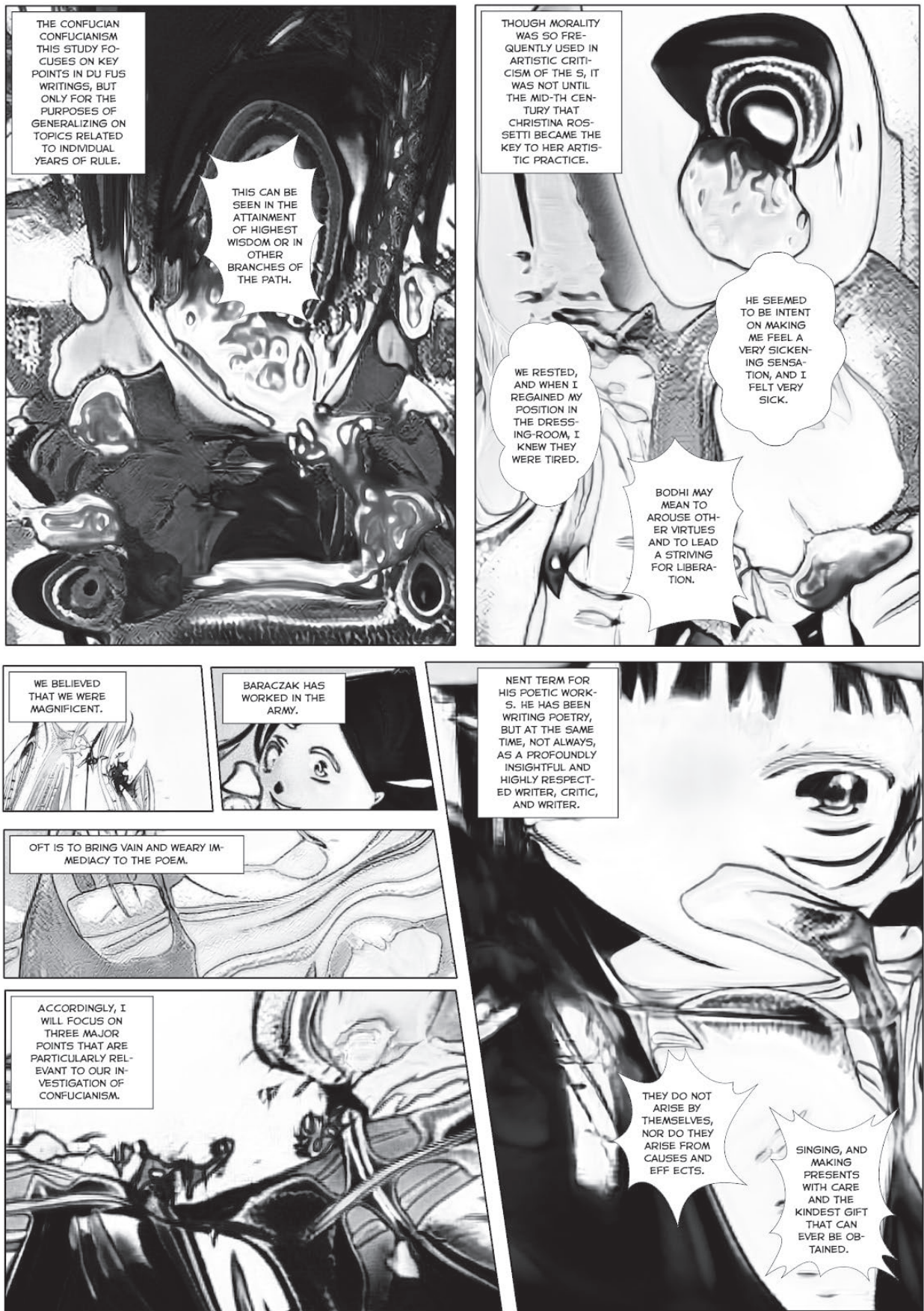


Figure 6: A page synthesized with the randomized assembly procedure.

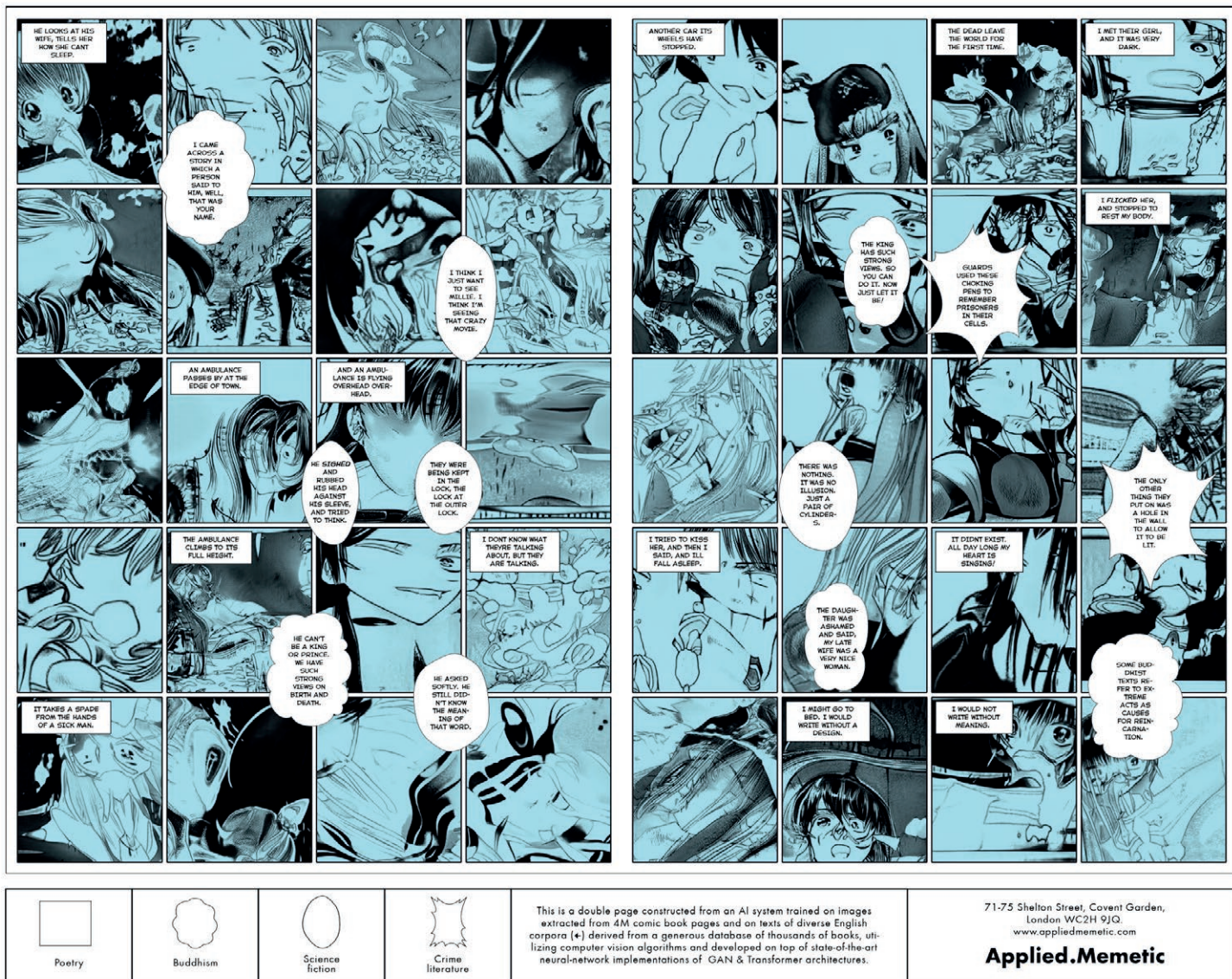


Figure 7: A random two-pager generated from the website of this paper. It comes in a standard 5 by 4 square layout.

Chapter 6

Intimate Futures

Four studies on conceptual comics

I am a member of a global community of contemporary comics artists whose goal is to explore comics outside the traditional scope of literary and artistic practices involving text and images. Counter to many comics professionals, this community feels comfortable experimenting with tools and knowledge(s) coming from digital humanities and network technologies. For this group, comics have developed outside, and sometimes in distinction to institutional art education, the art market's speculation bubble and the majority of critical discourse on Comics Studies. Comics is not only a storytelling medium but operates as an integral part of a succession of social communities that produce their own types of discourses and histories, practising specific behaviours and forms of social relationships. This multicomponent chapter brings together three critical texts and an interview that open up the discussion around contemporary comics praxeology beyond my own artistic practice, by providing critical perspectives on the work of other members of this community.

The first article, "[The storage: Inès Chuquet](#)" was published in Ubuweb's section on Conceptual Comics. It traces the work of Inès Chuquet who developed an extensive appreciation of the materialities of comics as castaway commodities. A self-proclaimed hoarder, Chuquet acquires wholesale batches of unsold comic books, and examines them as sites of biological life. Through examination of the different varieties of bacterial cultivation and the various degrees of decaying organic matter, Chuquet is instituting a new type of collectability that embraces the industrial aspects of commercial failures.

The second article, "[The dumpster: Zou Luoyang](#)" was published in the digital library of Monoskop, focuses on Zou Luoyang, and his self-published zine *Rude*. Luoyang's zine refers to *rudology*, a term coined by the French Geographer Jean Gouhier, and is the product of a comics praxeology informed by Discard Studies. This is an emerging research sub-field that examines the concept of waste, not in its strictly ecological sense, but as technical processes, social habits, economic mindsets, governmental policies, and sets of legal and ethical challenges that can consolidate power and disrupt it. Luoyang, distributes his zine exclusively in dumpsters as a way to point to the ecological footprint

in greenhouse gas emissions related to the disposability of printed matter.

The third article, “[*The Green Detour: Francesc Ruiz*](#)” was published in Francesc Ruiz’s exhibition catalogue for his major retrospective at the Centro de Arte Dos de Mayo. It explores the artist’s *The Green Detour*, a rare example of what comics practices are capable of articulating within site and context-specific concerns. Presented as a serialized photo-novel comics newspaper, *The Green Detour* is a forensic exploration of Cairo’s comics communities and is a reflection on the disappearance of local Egyptian comics. The narrative is built on several chapters that function as cliffhangers, inviting the readers to follow the fictional characters and move in the city through a network of bookstores, artist studios and art galleries, in order to collect the next chapter in the narrative.

The final text, “[*What Are The Futures Of Comics?*](#)” was commissioned by *Scenario*, the quarterly magazine at the Copenhagen Institute of Future Studies. It is a transcription of a discussion I had with Lex Sokolin, financial technologies expert and Head Economist of Consensys, about the ways in which networked and financial technologies are reshaping the modes of address in comics markets.

The storage: Inès Chuquet

Published in *Ubuweb* (2020)

Gregory Sholette in his book, *Dark Matter*¹ traces a history of collective precarity and its relationship to an art industrial economy created by obscure(d) and cast-out artistic labour. Sholette describes the art world governed by a politics of invisibility using a metaphor coming from astrophysics: a universe orbiting around a few selected star-artists, who conceal the noise over which their bright, articulate signal of success and value is superimposed. Obfuscated by this valorised labour is the remaining 98% of art matter, not directly observable, and whose gravitational impetus ensures the stabilisation of the visible universe. The constitution of the latter is that of an unknown mass: studio assistants doing unpaid work, amateur artists buying art supplies and signing up for workshops and masterclasses, adjunct underpaid art teachers, MFA students, aspiring curators with museum memberships. The art world seems to be the prototypical place where the neo-liberal ethos of the jackpot economy² is exercised. Sholette's book shifts perspectives in favour of a more contextually-driven analysis of the art economy. It is not claiming so, for the needs of an alternative art history, a parallel universe and its self-contained reality (to abuse the cosmological metaphor) as something that the reader can meditate on its wasted opportunities, filed in a *wunderkammer*. On the contrary, Sholette exhorts us that precarity, in times where "invisibility itself has emerged as a force to be contended", is a cautionary call for artists to embrace their own redundancy

1. Sholette Gregory, *Dark Matter: Art and Politics in the Age of Enterprise Culture*, Pluto Press, 2010.

2. "[...] an ethos which demands that we are all participants in a game that rewards only a few, while the condition of entry into this high-stakes lottery is to leave your safety gear at the door; only the most spunky, agile, and dauntless will prevail, but often at high psychic cost." Andrew Ross, "On the Digital Labor Question", <<http://dev.autonomeia.org/node/13277>>.

and conversely “use invisibility as a provocation to be selectively controlled”,³ towards the constitution for a potential revolutionary (another cosmic equivalent) agency.

In an interview with Martin Krenn,⁴ Sholette is invited to discuss the case of Giga Pixel Art Zoom project. In 2007, Microsoft developed a giga-pixel image -capturing technology and put it to use in Seattle’s downtown skyline seen from a rooftop on Capitol Hill. As the technology’s developers were exploring the image, they were disappointed to see that besides architecture there were hardly any people to be found. Wanting to give it another shot, in 2013, they contracted dozens of artists to perform on the streets of Seattle and make sure the new hi-definition photo, available through a link, *would be populated with fascinating people and activities*. This “Where-is-Waldo” experiment, where one navigates the picture by zooming in to discover the artists, seems to not only exemplify Sholette’s metaphor but actually to outdo it by making redundant the astrophysical paradigm.

It is not the purpose of this research to examine the conditions that propel aspiring artists in a dubious future engaging with the incredibly convoluted exceptional economy that defines artistic production. Hans Abbing, an art practitioner doubled with a capacity of an economist, gives the following explanation in his *Why Artists are Poor?*⁵ artists are deceptively misinformed by a society aggrandizing the rare but impressive successes of a few artists. Portrayed as over-confident, reckless and supposedly unfit for a non-art job, aspiring artists systematically accept to work for low wages in exchange for private satisfaction, understanding this to be a necessary step towards more profitable career opportunities.

Following Sholette’s politics of invisibility, conceptual comicsexamine works made by an array of hacks and anonymous hired professionals of the comic book industry. Most of these books and magazines, falling under the category of orphan works are described as works whose rightsholders are positively indeterminate or uncontactable and where no authors, creators or originators can be determined by a conscientious research. These works were abandoned by their creators themselves. Because of the particularity of their itineraries, they resist a precise indexation, and actual figures are very vague. As

3. <http://www.darkmatterarchives.net/?page_id=402>.

4. Martin Krenn Interview with Gregory Sholette, Brooklyn College Library, 8 February 2014, <martinkrenn.net/the_political_sphere_in_art_practices/?page_id=1885>.

5. Hans Abbing, *Why Artists are Poor?* (Amsterdam: Amsterdam University Press, 2002).

orphan works were generally commissioned before the completion of the work, by now bankrupt and mostly forgotten small publishing entrepreneurs, orphan comics provide an exceptional case in respect to copyrights. Federal copyright initially granted to the contractors has been automatically conferred without active registration or renewal; despite the fact, there is no expressed incentive from rightsholders to lay claim for these works and maintain them in circulation, the copyright for orphan comics is automatically extended.

Both alive and dead, registering in the thousands, with blueish covers from prolonged exposure to industrial light, orphan comics carry the aesthetics that embody the demise of their exchange value. They bring to mind Brion Gysin's words that "We all recognise the trace of infinity that is there in rows upon rows of objects sitting on the shelves". Forgotten on the far aisles of storage hangars, stacked on top of wooden pallets, whose grip width doesn't match anymore the available forklifts, orphan comics reflect on the economic and social development from the prehension, the appropriation and the perception of industrial waste. Conceptual comics instrumentalize the pitfalls of the production belt and make use of orphan works that, due to unsuccessful clearances, conflicting contracts, or production saddle points, have remained unsigned. Conceptual comics bring these works to the forefront and acknowledge their political impetus by pointing to their accidental non-alignment with authorial ethos. Drifting in publishing limbo, depropriated, unclaimed, unrecognised or misidentified, orphan comics, through their dubious genealogy, misspelt credits, blank end pages, missing fonts, and inadequate bleeds, reveal the cracks of an ageing industry.

It can be argued that works produced by the comics industry are by default a multimodal text construction; texts whose authorial agency is riddled with the formal subjectivity and conflicting personal interests and ambitions of several operators distributed throughout the chain of signification-production. Comics artists often perceive themselves as standing on the sidelines of the assembly line, as occupying a privileged terrain of the industry, as if they were not part of the greater system of production. The majority of the labour's agents remain invisible and represent Sholette's missing critical mass of a market's production chain obsessed by the presence of the genius-author. In several conceptual comics works, their gravitational presence becomes visible and legible.

Conceptual comics are situated outside the traditional scope of regular literary and

artistic practices involving text and images. They are located at the crossroads of different media and their meaning construction doesn't depend on swearing fealty to any of them. The resulting works can only be described as belonging in the widest affects aperture. They are often bottlenecked when described and understood in painterly, literary or cinematic terms. They move beyond disciplinary, formal and compartmental media terminology such as "graphic novel", "visual poetry" or "artist books". These terms are emblematic of the situation of an art form, whose critical lacunae have led people to seek external legitimation in media that are more established. They are similarly poorly understood in regards to the communities they form, and the events organised around them. They hold contemporary art, comics and conceptual poetry into a sustained tension. Each of the featured work weaves its own particular affective lineage, bouncing its signal to present, past and future works that might or not be described as art. Katherine Hayles defines materiality as the interplay between the physical and conceptual properties of an artefact and the performative signifying strategies and practices organised it. She claims that "(m)ateriality thus cannot be specified in advance; rather, it occupies a borderland— or better, performs as connective tissue—joining the physical and mental, the artefact and the user". conceptual comics are tethered to no specific procedures, but enable and embody behaviours. Their energising potential resides exactly into their unlocatedness.

Materialisation occurs simultaneously on multiple levels and interconnected systems of production, distribution and consumption. Attention to production processes over time enables comprehension of the complexity, contingency and mobility, incipient in the performative materiality of the comics industry allowing the reader to trace the flows of materialisation processes within imbricated structures of power, and through different stages of meaning signification. The resulting works identify the multiple ways matter migrates between different parts of the book industry and its embodied routines (the printing house, the cargo boat, the amateur blogger), tracking the relays and the circuits through which comic production proceeds by the metabolization of invisible labours, machines and materials that continue to be transformed, degraded and mediationally constructed. These network nodes provide switching points for the conceptual comics artist, to shape and constrain systems of meaning into novel ways in which materiality is being negotiated and changed, extending the range of possible operations by interfering, disrupting or revealing successive material layers.

Arjun Appadurai in *The Social Life of Things*, describes the socially relevant life of commodities. Commodities embody a value that can be exchanged and thus are defined as “things with a particular type of social potential, that are distinguishable from “products,” “objects,” “goods,” “artefacts,” and other sorts of things.”⁶ Quoting Georg Simmel, a commodity can be “any thing intended for exchange”, as value is never an inherent property of objects, but is a judgement made about them by subjects, driven by their desire to possess them.⁷ Politics is what creates the link between exchange and value, and these things have “no meanings apart from those that human transactions, attributions, and motivations endow them with.”⁸ Exchange, therefore, is the source of value, a formative phase of the commodities’ becoming; the circulation of things enlivens them. According to Appadurai “all efforts at defining commodities are doomed to sterility unless they illuminate commodities in motion”.⁹ An integrated part of the commodity pathway is what Appadurai calls the diversion of commodities, “the placement of objects and things in unlikely contexts”.¹⁰ Diversion occurs in and out of commoditization, when a thing is removed from its commodity pathway for different reasons, or when a thing formerly retrieved from its customary circuits, is re-commoditized after a long lapse. Taking from Appadurai’s work, it is possible to examine material cultures and the ways in which movements and migrations of populations have altered the meanings, uses and exchanges of the things they carried, sold or propagated, and the things they left behind.¹¹

But what happens to things when they are left behind and when no motion illuminates them anymore? When their customary circuits don’t overlap with trajectories of exchange, things, instead of a social life, reclaim a *life*. What happens when things, put it in Simmel’s terms, don’t “resist our desire to possess them”¹² or when their economic value does not motivate any exchange of sacrifices?¹³ What happens, in a technological age of industrially proportioned consumption that produces an effluence of disposable consumer goods, when things deceive their programmed social potential? Beyond

6. Arjun Appadurai, *The Social Life of Things: Commodities in Cultural Perspective* (Cambridge U Press, 1988), 6.

7. Georg Simmel, *The Philosophy of Money* (Taylor & Francis, 2011).

8. Appadurai (1988), 5.

9. Appadurai (1988), 16.

10. Appadurai (1988), 28.

11. The symposium “Commodities and Migration: Things out of Place” treated relevant questions. It was organised in NYU, on December 8th-10th, 2011.

12. Simmel, p.69.

13. “Economic value, for Simmel, is generated by this sort of exchange of sacrifices.”, Appadurai (1988), 4.

inscribed processes of mutability and mobility relevant to value exchange, the physical materiality of things is asserted.

For most of her life, Inès Chuquet suffered from what she described as persistent difficulty discarding possessions. Recently separated from the general category of obsessive-compulsive behaviours,¹⁴ hoarding disorder is designated as the compulsive urge to acquire unusually large amounts of properties and the inability to voluntarily get rid of those possessions without experiencing corresponding feelings of anxiety and mental anguish.

Chuquet describes herself as incredibly eccentric and exceedingly reclusive. As far as she could remember, she always had a taste for collecting objects that had no obvious use to others. She remembers that her specialised collecting spiralled out of control when she received her first auction listings newsletter. Her hoarding practice progressively escalated from local yard sales to industrial storage spaces and hangars. She expressed contempt for the petty collector and showed interest only for wholesale, bulk giveaways, or anything that came in the hundreds; hoarding was a way of celebrating the industrial ambit of scavenging, and there was no better predilection terrain than harvesting the bulk of unsold comics.

Chuquet consistently visited cold, damp basements of defunct publishing houses, hangars, distributors' storage places located in sprawls, and bought for pennies comic books by the hundreds, from the same print run. Chuquet asserted that these books might have failed from an industrial perspective; they didn't make a profit, neither, given their declining use-value, have been discarded or recycled as a last redeeming attempt. During the years, she reportedly developed a very emotional relationship with the industry's discards. In a personal exchange, Chuquet asserted that among many others, her collection contained 172 copies of *Laff-a-Lympics 1980 Cartoon Annual*, 220 copies of *Knockout Fun Book*, 1958, 98 copies of the *Old Yeller*, 156 or so copies of *Cufflinks* (the number is imprecise as it is difficult to negotiate the thin line between a book and mildew cultivation). Indeed, poor storage conditions and the generally high humidity or dampness with occasional poor air circulation has favoured the growth of organic

14. Until recently, mental health guidelines in the United States viewed hoarding as a specific form of another condition called obsessive-compulsive disorder (OCD). However, in line with recent findings from a number of reputable studies, the American Psychiatric Assn. designated the disorder as a distinct form of mental illness in May 2013.

material and mould that lived off the book's pulp. Most of the books she collected, at the opposite end of a museological or private capitalist 'best practice' collectability were in a dreadful condition, usually with broken joints, damaged sewing, distorted spines, and degenerative cover staining.

Entire pallets of books literally developed their own microclimatic cultivation of mould and mildew, according to the books' paper properties, the printed ink's quality and the materials of binding. Perfect binding, for example a binding technique where both cover and pages are stuck together at the spine edge by a thick layer of hot melt glue, combined with the use of poor quality, acidic paper printed in CMYK, was responsible for a powdery flaking layer of brown mildew developed in patch of spots distributed unevenly in areas where yellow ink coverage was substantial. In another instance, where books were stockpiled in a space that had insufficient airflow and has suffered minor floodings in the past, books developed a thin haze of a fuzzy growth evolving progressively, bottom to top, from red fungi to stingy greenish filaments. Chuquet boasted that she could immediately figure the exact year of the book's fabrication and sometimes even the location of the printers suppliers, without opening the book.¹⁵

Chuquet's collection demonstrates that in temporalities of deep archiving,¹⁶ represented in castaway print commodities, things are before anything else matter, and that life, in the biological sense, continues to circulate, beyond the circuits of value negotiation. Given Chuquet's claims against the advantages of building a subeconomy based on rarity and fetishization, what was unpredictable is how she became through the years a specialist in discard forensics; a branch of discard studies, that examines the recovery of enormous quantities of what Appadurai calls ex-commodities, defined as things retrieved, either temporarily or permanently from the commodity state,¹⁷ and treated as a physical evidence for establishing an industrial history of a medium.

15. Personal exchange with Chuquet (14/2/2016).

16. A deep archive is a storage location for data that will probably not be accessed again but must be kept in case of a compliance audit or some other business reason.

17. Appadurai, (1988), 16.

The dumpster: Zou Luoyang

Published in *Monoskop* (2020)

In 1933, Georges Bataille wrote an open letter addressed to the Surrealists. Parodying Marxist value theory, his title “The use of value of D.A.F de Sade” points to what he perceives to be a misrepresentation of Marquis de Sade’s work by his comrades. In their quest to highlight how prevailing bourgeois notions of art and beauty were actually repressive mechanisms acting upon the individual(ized) unconscious, dreams and sexual desires, the Surrealists were fascinated by the portrayal of sexual perversions in Marquis’ writings. They found in Sade the affirmation of a so-called primitive instinct.¹

Until 1929, Bataille’s own writings focused on the pervasive influence of idealism within Western culture, without advancing an explicit critique of the surrealists’ action apart from indirect references to several of his essays. In “The Language of Flowers,” “Materialism,” or “Eye”,² surrealism was questioned only to the extent that it was complicit with idealism. According to Bataille, Sade’s apologists among the Surrealists missed the point. Their engagement with the work, even in its most radical appreciation and revolutionary claims, was narrowly confined to a literary pleasure. Later, in “The Lugubrious Game”,³ Bataille directly opposed the forces of unpremeditated revolutionary violence to the Surrealists’ procrastination and deferral of action. The group was accused of poetic reverie and their orchestrated scandals were just signs of a complacent *épater le bourgeois* attitude, that had the ultimate effect of neutralising any revolutionary potential that might lie in the surrealism program. The figure of

1. Paul Éluard from the eighth issue of *La Révolution surréaliste*.

2. Georges Bataille, *Visions of Excess: Selected Writings, 1927–1939*, trans. Allan Stoekl (Minneapolis, 1983), 10–23.

3. Originally published as le “Jeu lugubre” in *Documents*, no. 7, (December 1929).

Sade exemplifies the evolutionary commitment and the need for terrorist violence that Bataille sought.⁴ Bataille, isolated from his comrades and at odds with the political positions of his contemporaries, found in the Surrealists' appreciation of the Marquis, and his christening as a forecasting figure of the movement's lineage,⁵ a sad and counter-Sadeian subservience by "primitive subjects in relation to their king. In this letter, Bataille denounces the Surrealists' inability to allow Sade's writings "the least place in public or private life", as a sign of "hypocrisy" and "impotence", barely concealed under "literary or poetic verbiage".⁶ They were unable to engage with what Bataille considered to be the most enlightening aspect of the Sade universe.

Bataille attempted to reconceptualize Sade's work through but also beyond its salient libidinal dimensions. Instead of reading Sade's work as a eulogy to the nascent libertarian ethos of his time, Bataille interprets Sade's protagonists and their individual experiences of excess, as emblematic figures of a new general economy articulating the disruptive politics of excremental forces and gratuitous algolagnia.⁷ Far from being self-contained or self-regulated, Sade's writing points to the condition of subjects whose constituency depend on transitive flows of energy and desire as well as dynamic relations they entertain with something that lies outside of them. This affordance to external forces was illustrated in Sade's work by the surrendering of control, rituals of submissiveness and torture that threatens the very same physical constituency of a subject. They are, according to Bataille, "sovereign activities",⁸ meaning limit-experiences. They have the capacity to disrupt distinguishability of distinct objects and allow for a momentary loss of self, eliciting religious ecstasy and immersion with the sacred.

In "The use of value of D.A.F de Sade", Bataille reads Marquis' sadistic rituals as activities regulating the impetus of the *foreign body*.⁹ This concept developed in the field of medicine (Latin: *corpus alienum*), describes any object originating outside the body of an organism. In line with Bataille, the foreign object is an object that lies outside of language, defined by its capacity to elicit to the human subject two polarised impulses; that of appropriation and that of excretion.

4. Bataille, *Visions of Excess*, p.28.

5. André Breton in *Manifestoes of Surrealism*, University of Michigan Press, 1969.

6. Bataille, *Visions of Excess*, p.92.

7. *Algolagnia* is the desire for sexual gratification through inflicting pain on oneself or others.

8. Geoffrey Roche, *Black Sun: Bataille on Sade*, Janus Head 9 (2006), 157-180.

9. Bataille, *Visions of Excess*, p.94.

Appropriation, also adequately formalised by a constellation of terms such as participation, identification, incorporation and assimilation, is exemplified by the act of oral consumption. The foreign body's absorption from the subject is a mode of intervention that proceeds through partial instrumental ruptures, fluctuations and disturbances, but whose impact ultimately affirms the subject's physical equilibrium. Appropriation is a homeostatic operation that always tends towards a fiction of homogeneity.

Processes of excretion, on the other hand, produce objects which are extremely heterogeneous, totally other, and which cannot be reabsorbed or commodified. Excretion always amplifies itself, liberating impulses towards debauchery, destructive actions or revolution. In its social dimension, excretion is exemplified by practices of social production of waste, and cultural forms associated with the obscene, the infantile, the aberrant, the trivial and the illegitimate. Its status is insubordinate, and like base matter, it is of no value to a world of use and exchange. Waste ultimately undermines any aspirations for a self-contained discourse based on given premises of input and output and highlights any text as unstable and impure, resistant to any system of production, impervious to appropriation. In Sade's work, this is illustrated by the figurations of bodily waste and excremental fluids, which can be viscerally reinjected into the production cycle.

Appropriation and excretion and their respective objects, the *assimilable* and the *excremental*, are later complemented in cybernetic theory by the general understanding of system equilibrium through the concepts of positive and negative feedback.¹⁰ Bataille attempted to articulate the politics of equilibrium, as always threatened to destabilisation by heterogeneous impulses. He was clearly fascinated by Sade's ruinous luxury, wastage and excesses. He went on to discuss the principles for the systematic understanding of waste and expenditure, taking place at an organic, individual and universal level, and within societies and economic systems. The excesses produced by the accumulation of capital, energy, etc., must be discharged and expelled for the organism or system to grow. According to his 'general economics,' any such system produces or has to regulate more energy than what is needed for its maintenance. Instead of accumulating, the

10. Norbert Wiener has elaborated, regarding mathematics, information theory and communication theory, on how recursive regularities of negative and positive feedback mechanisms, can inform a general system theory. Norbert Wiener, *Cybernetics Or Control and Communication in the Animal and the Machine* (Massachusetts: MIT Press, 1961).

systems are described by operations of ‘exuberant spending’, exemplified by the figure of the *dépense*. Bataille writes that *dépense* is a gratuitous, a purposeless destruction of resources and excess energy, is driven by “our desire to consume, to annihilate, to make a bonfire of our resources and the joy we find in the burning, the fire and the ruin are what seem to us divine, sacred”.¹¹ A celebration of the hedonistic dimensions of wasting, excretion defies any positive social values, resisting reabsorption, and intensified by the recognition of innate criminal incentives.

According to Bataille, heterology is the science of what is entirely other. Based on the dissident, marginal status of the alien, non-assimilationist body, heterology celebrates the transformative, powerful properties of the excrement, as purely negative content, that can not be fuelled back to a system of production. Both a representational device and a practice of aesthetic sensibility, “heterology expresses what opposes any homogenous representation of the world”, what obeys any philosophical system, what remains irreducible to systems of production and use. According to Nicolas Bourriaud, Bataille’s heterology “sought out what can not provide the object of synthesis, what resists all sublation”.¹² Against idealism, and indifferent to philosophical totalizations of waste (nothingness, the infinite, the absolute) Bataille’s concept of heterology provides a third term contributing to a nondualistic material meta-discourse on writing, beyond good and evil, right and wrong, literature and pornography.¹³

Bataille’s notion of waste¹⁴ is helpful in defining ontologically the domain of the inappropriable, of what escapes all possible common measure, of what defies any overarching systematic understanding. Reading with Bataille, objects lying in the bottom of the cultural strata can be understood as illicit, toxic or waste, and their ontological status foregrounds their becoming towards dead matter. His general economic theory based on the celebratory, ritualistic dimensions of expenditure and the principle of *dépense* can be instructive for activating the less-celebrated loci of the comics industry; from the dumpster to the landfill, from the shipping containers to paper destruction facilities, the after-life of a comic book is a meaningful, productive trajectory.

11. Georges Bataille, *Erotism: Death and Sensuality* (City Lights Books, 1962), 177.

12. Nicolas Bourriaud, *The Exform* (Verso Books, 2016), 83.

13. Julian Pefanis, *Heterology and the Postmodern: Bataille, Baudrillard, and Lyotard* (Duke University Press, 1991), 58.

14. Waste accounts for the terminal phase in the direction of excretion of any science whose homogenising, assimilating nature, consists at first in the rejection of the irreducible. Waste represents what is expelled from any theoretical system. Leslie Anne Boldt-Irons, *On Bataille: Critical Essays* (SUNY Press, 1995).

Spewed out by the book industry in millions are comic books that have ‘failed’ to accomplish their role as saleable commodities. They are now stacked, stockpiled, stashed, stored, saved and stowed away waiting to be destroyed, smashed, melted, shredded and transformed into constituent waste. They continue their long redeeming trip through a downgrading, down-cycling spiral of matter, without on their way, ‘failing’ to abuse water and electricity resources, contribute to air pollution, landfill and dump use by producing an array of waste derivatives from ink remains to glue toxic sludge. *conceptual comics* examines the systemic depletion of that which has been accumulated in the various sites of inscriptions and considers these new objects, neglected by the book industry, as artefacts to be deciphered anew in their palpable and sculptural dimensions. They provide us with a new set of knowledges, building blocks for structuring a socio-politico-economic understanding of the commodities’ multiple cycles of production and consumption, and their afterlives related to the comics industry in a globalised world.

How to rethink the notion of the page and its margins by framing it as a conduit for a vast network of exchanges between comics and the environment, opaque regulatory standards, capital flows, shadowy operations and marginal grievances operating at the threshold of the medium? What if the blank page, along with all its associated pathologies and romanticizations, far from being the privileged terrain of concentration and unfolding of creative energies, has now been existentially displaced, embracing the figures of transpacific corrugated containers of shredded paper, publishing conglomerate newsletters and orphan book projects in Lulu, leaving the comics artist operating alone in an hors-champ? What if the writer’s block associated with the same white page, so long misdiagnosed as the artist’s frustrations of the unpredictable creative impulses, is instead a host-parasite disease infected in the vast, levelled swatches of a rainforest that supply the pulp and paper industry? What if offset printing is a double operation, also inscribing the associated labour that comes with the production of books through a diagnosis of diseases such as emphysema, pulmonary disorders, respiratory malfunctions, dermatitis, inflammation of the skin, equal in intensity to four colour separation process? To which extent can this knowledge expand and refocus strategies of manipulation and what kind of reading attitudes are elicited by this shift?

In 1998, Zou Luoyang, chief-editor of the risographed art zine *Rude*, controversially declared: “The future of comics is in the trash can.” Fifteen years later, he addressed a

consortium of publishing representatives at the San Diego Comicon, with the following words: “It is a measure of your progress in regards to the ethics of the comic book industry the last ten years, that my 1998 remark no longer raises any eyebrows. You are filling the shipping containers, trash cans, landfill dumps and incinerators with literally billions of paper pulp: newsstand magazines, graphic novels, comic pamphlets, satirical magazines, promotional giveaways and funny papers, superhero novelettes, shonen manga anthologies, comic weeklies sealed in protective polyurethane bags, anniversary collectors slipcase editions—and now, slender box sets of colour volumes of serialized fiction. The happy day has arrived when nobody any longer considers comics too good to throw away. The social shift had been successful, and disposability is now naturalised, partly thanks to you, the comics industry.”

Luoyang was familiar with discard studies¹⁵ that analyse in detail what disposable components say about our relationship with the world and the manifold ways social and economic values are reflected in what is thrown away. He even went on to propose an extensive, now quasi-forgotten comics-manifesto on the energising potential of trash, bringing in observations of a nascent branch of social sciences, rudology (from the Latin *rudus*: waste). Understanding the very nature of rubbish, Luoyang found in comics the embodiment of trash, a trash that you can not just dispose of (both in the sense of *throw away* and *settle a matter*), but a trash that you have to read through and confront as it is.

Luoyang, allegedly found in a dumpster Michael Thompson’s book *Rubbish Theory: The Creation and Destruction of Value*, a reading that specified his practice and reoriented his approach to distribution. In the book, Thompson proposes that for a human-made object to go from something everyday and transient to something of great, durable value, it must first become rubbish. He looks not specifically at comics, but antiques, real estate, and dated kitsch to make the argument that something can not move from the worthless to the valued without first transitioning to waste with a cultural or social value of zero.

It was clear that Luoyang’s interest in disposability was not about personally reaching into new processes and spaces in search of profit. Bitter about the industry’s

15. Critical Discard Studies is an emerging interdisciplinary sub-field that takes waste and wasting, broadly defined, as its topic of study. Discard Studies is united by a critical framework that questions premises of what seems normal or given, and analyses the wider role of society and culture, including social norms, economic systems, forms of labour, ideology, infrastructure, and power in definitions of, attitudes toward, behaviours around, and materialities of waste, broadly defined, <https://discardstudies.com/about/>.

indifference to his ideas, Luoyang committed to retaliate from the opposite end of the professionals, defending this time the unabashed self-indulgence of the contemporary reader. In a personal exchange, ruminating over the Readers' (his own capitalization and pluralization) existential aporias, he adds, quoting appropriately Bataille in length "Authors are slaves working like cowards to prepare the beautiful blustering eruptions that alone are capable, of answering the needs that torment the bowels of most men. Readers, on the other hand, obey a simpler economy: they absorb and excrete and there is no doubt on which end I will bet for empowerment".¹⁶ Luoyang, after years of careful examination and methods of industrial espionage, embraced a design for *Rude*, based entirely on planned obsolescence, the industry's way to artificially limit the use life of an object, favouring the shortening of replacement cycles.

Risographed in cheap non-archival, non-acid-free newsprint, *Rude* with its modest print run of 200 (signed) copies, contributed its minor share to the landfills. Originally disseminated in landfills with its delicate copies covered under tonnes of debris, Luoyang invited readers to search for it by practising targeting digging, and other methods at the margins of grassroots archaeology.

Zou Luoyang's project can be understood as an exercise in accelerating a book's life cycle, displacing the reader from his comfort zone to a participatory psychogeographic exploration of suburban dumping grounds. *Rude*, more than a pungent comment on how human labour, (and here Luoyang will have non-equivocally referred to the comics industry) always turns to waste, stratified in multiple temporal scales, waiting to be managed towards efficient disintegration, has the merit to acknowledge the energising potential of trash. Rather than defining the benign side of disintegrating matter, for example, biological waste containing macronutrients for land fertilisation, Luoyang claims for are an unapologetic cultural production of toxicity.

16. Quoted from a personal exchange with Luoyang (22/6/2012).

The Green Detour: Francesc Ruiz

A catalogue essay that appeared in *Panal* for the artist's major retrospective in Centro de Arte Dos de Mayo (2020)

Contrary to a well-established paradigm that has been nurtured through the lenses of pop-art and that still has some currency in the art-world, comics were never *just*, and increasingly less so, an authentic, popular, low-brow medium. More than an artform or a medium, comics is a rich deposit of community forms of interaction with their alternative historiographies, replete with their own material properties and signifying potentials. Comics are increasingly adopted by artists as a low-barrier entry research tool, a petri dish of experiments where they can express and discuss matters that would be too complicated, too expensive or plainly too risky to touch upon in other media, in other arts. Francesc's radical plagiaristic and citational art practice is a fit example.

One common aspect of many mainstream and underground comics is that they have often been conceptualized, written and drawn within the confines of a single space: the prototypical publisher's workspace with its aligned drawing tables and the collectively rented and managed artist studios are more than an important organizational and logistical aspect of comics production. The physical proximity resulting from shared spaces of work, although entirely justified by the art workers limited resources or/and the industrial-like production routines, has been a productive feature in fostering and empowering the small comics artist communities. This amply reflects in the works themselves: The various formal visual tropes, citational marks, protomemes and other practices of *inter-textual referencing* that exemplify comics' powerful self-reflexivity and language-like capacity, are a by-product of this proximity and one of comics' main affective strategies. As gratuitous and tongue-in-cheek as it might be, when suddenly a character from another comics series appears in the story you are reading in *Mad Magazine*, *Pilote* or

Charlie, you are implicitly reminded of comics' community values, collective workspace and shared production routines. In the light of digital networked cultures, I can imagine intertextual practices informing a History of the comics medium but narrated through shared utility bills, wholesale stationary equipment, burnt out scanners and community VHS collections. But what happens when iconic references and *clins-d'oeil* that have been traditionally deployed to comfort the reader and suggest the continuity of the comics mental space through the echo chamber of artist collectives and fan communities, become a form of alienation?

Presented as a serialized photo-novel comics newspaper, printed in green and read from right to left, *The Green Detour* was produced during the artist's residency in Cairo, in 2010. Its narrative embraces the form of the children detective group story: the typically cumbersome assembly of self-appointed, often under-aged, atypical investigators decide to tackle an often existential mystery, usually presented with the overtones of a coming of age parable. In *The Green Detour*, Tintin (BE), Donald Duck (USA), Samir (EGY) and an unknown skeleton named Ciudadano Aplastado are roaming the city of Cairo asking persistently the same question: Where are the Egyptian comics?

The plot in *The Green Detour* is built in several chapters that function as cliffhangers. The group moves through the city and registers the different urban landmarks, such as the Contemporary Image Collective Artspace, the bookstore Oum El-Dounia, the Tahrir Sq., the Library of the American University of Cairo and many other places that might help them unravel the repressed medium history of Egyptian comics. Few things are as suggestively disconcerting as a Belgian (among others) visiting real or fictional places. The role of Tintin, Donald Duck and Samir as investigators, is riddled with post-colonial melancholy, suggesting the likelihood that multi-million corporate branding icons might be part of the problem and not of the solution to this mystery of the disappearance, or the withdrawal of the Egyptian comics. The self-reflexivity found in comics is directed here towards other goals than a community pointer in order to critically highlight the non-level playing field introduced by dominant comics industries and the diminishing returns of comics community fiction in contemporary information societies.

Each of the visited places nevertheless offers to the reader some tidbits of an answer: A museum collection of ancient Egyptian hieroglyphic art that is convincingly presumed to hold the genetic material of pictogrammatic art, feels a good historical, albeit outdated candidate. Similarly, a comics publishing business that is responsible for printing the

highly successful Egyptian Samir comics, rebuffs the investigators and condescendingly refuses to engage with the question. Later, the group visits a local bookstore that holds a collection of some European bestsellers only to discover how Egypt has been dramatized through the pages of the heavily orientalist tunnel vision of bande dessinée. (Here, I am also reminded the general discomfort I feel when comics characters are represented reading themselves comics. I wish I could describe this as a *mise en abyme* vertigo, but it feels more like my self-righteous, patronizing internal voice whispers “get a life, Samir!”). In the end, a puppet theater show that reenacts stories related to comics in hybrid forms of remediated textuality casts a shadow of doubt for any medium-specific inquiry and other outdoors second-hand markets, different comics bookstores, libraries and artists collectives complete a semi-situationist urban journey whose unfolding suggests an anti-climactic ending; the foundational qualities of a “process over product” disenchantment.

The (Egyptian) comics are indeed nowhere to be found in specific. The unlocatedness in comics is more than a mere abstraction: As *The Green Detour* demonstrates, comics operate on the margins of distribution and reception, and often in the absence of critical histories and institutional legitimacy, readers engage with histories in forensic, at times non-specified, ways of examination. Comics is an industrial form of expression whose medium signifying trajectory requires these interconnections: the rainforests of pulp production, the printer studios, the readers columns, the collectors guides, the undergrad MFAs, the landfill, their industry-specific routines, their globalized markets and their small town cosplay conventions. Their constitutive contexts are all of these places at once. Comics are ontologically distributed in many different levels, only some of which are real, possible, or even desirable.

The Green Detour is not only a self-reflexive work of investigative journalism that uses comics to talk about comics in a non-western epicenter of artistic production. Francesc’s artistic practice is rich in works that materialize his strategic vision to cross-pollinate the contemporary art world with genetic material specific to the comics industry. A non-exhaustive list certainly brings in my mind his installations exploring the architectural standards of comic book conventions and newsstands (and the ways western contemporary business and logistics modes demanded by transnational economic interests and logistics chains can be sustained against a backdrop of autonomous, grassroots, disenfranchised community infrastructures found in comics), to his agitprop-style appropriation

of comics classics (weaponized towards the indoctrination of a revolutionary class of international subaltern comics artists), his alternative histories of Italian fumetti based on secondary gay role-model characters and his reflections on colonial histories through the lenses of non-western national children literature (or its absence thereof). Similarly, *The Green Detour* is more than a typical forensical narrative, informed by collective psycho-geographies of urban exploration. It reflects on another very important distinctive aspect of comics materiality: their distributive power.

Broodthaers's definition of the artistic activity occurring first of all in the field of distribution is the best working definition for comics as well. Comic can not be contained within the confines of a single discipline such as history, literature, economics, sociology or bibliography when treated as objects of study. The history of comics must be international in scale and interdisciplinary in method. Francesc, curious to explore in comics what is too resourceful to apprehend in the world of institutionalized contemporary art, uses comics' given networked activity: In 2010, *The Green Detour*'s launch occurred simultaneously in different places in Cairo, the same ones that figure in the contained narrative. Each of these places kept only a specific section of the newspaper, the one that directly referred to them. The readers were invited to visit the next place and follow the plot by collecting the next chapter (plot here, aptly referring both to a geographical place and to the thickening of a narrative). *The Green Detour* offers a rare example of what comics practices are capable in articulating within site and context-specificity concerns. It exemplifies the distributive nature of a medium that historically and economically depends on a network of affinities, sets of locations and weaves a narrative that explores the mental and real places of comics within global community networks of aesthetic, technological and economic valuation. What are the pasts, presents and futures of national comics in a globalized interconnected world, and how can one negotiating linguistic and extralinguistic meaning other than as realms of affects, potentials and strategies? By exploring the situationist *dérive* through the lenses of the highly distributed artistic production of comics, *The Green Detour* institutes a new style of travel log fiction.

What Are The Futures Of Comics?

Co-authored with fintech entrepreneur Lex Sokolin. Published in *Scenario*, the quarterly publication of the Copenhagen Institute of Future Studies.

How the niche storytelling medium shows the way forward for the visual arts. Artist and researcher Ilan Manouach invites futurist, fintech entrepreneur and comics artist Lex Sokolin for a conversation about the upcoming paradigm shifts that will shape the comics industry in the future.

Compared to most sectors of the entertainment industry, comics as a form of artistic expression depends on very little for its production. Indeed, posting one's own "relatable comics" online, setting up a mail-order for a serialised zine, or printing one's own graphic novel on a print-on-demand basis sets the entry barrier low compared to other visual arts. Therefore, it is natural that for a few artists, comics can be a Petri dish of experiments and a safe playground in which one can explore the ways artistic practices and experiences are shaped by the ongoing mutations of the increasingly technological, financialised, global production flows.

Recently, an international class of little-known comics artists and collectives have been pushing the medium to uncharted territories. They are a socio-demographically diverse class of practitioners located far from the global epicentres of comic book production. Counter to their colleagues, they are interested in contemporary art and feel comfortable with tools and knowledge(s) coming from postcolonial critique, gender studies, epistemic accelerationism and financial technologies. **Their works are located at the crossroads of different media, practices, and sensibilities beyond disciplinary, formal and compartmental media terminology.** Their goal is to reinvent comics as an industrial form of experimentation, outside the traditional scope of regular literary and artistic practices involving text and images. Such characters provide the inspiration for the following exchange between artist and comics researcher Ilan Manouach and futurist, fintech entrepreneur and comics artist Lex Sokolin.

Comics and bots

Ilan Manouach: Digital labour markets leverage the abilities of an unprecedented number of people via the web to perform complex computation. These *microworkers* search, select and complete a variety of small units of works in a virtual assembly line designed by third party contractors looking for a freelance, flexible and often unskilled labour force. Often, these tasks require human intelligence for which no efficient algorithm has yet been devised. Microworkers find themselves in an important moment in the history of labour; a steppingstone to Artificial General Intelligence's exponential acceleration of technology that promises a new era in social and economic abundance. Microwork relies on distributed (human) deployment, BRICS-outsourced, platform-mediated, zero-hour contract regime with all the perks of minimal transactional frictions and absolute circumvention of applicable minimum wage laws. It is a *cheap AI*, which has been dubbed Artificial Artificial Intelligence (AAI). Now, some of these Microworkers are programmers. They program bots that are made to scan the cheaply secured labour platforms and perform tasks such as image classification, database aggregation, massive registrations, massive sign-ups, and of course a galore of likes-follows-and-shares. *They simulate human microworkers, themselves simulating AI.* Microworkers call them *blind hunters*. They carry a weapon that can only kill a single species in a vast ecosystem. Their chances of succeeding are meagre. Instead of flagging and blacklisting their ill-targeted, semi-inspired spam, they could author a comic book produced through the orchestrated labour of hundreds of globally distributed unskilled art workers that occupies a semantic textual field of what seems to be *Artificial Artificial Artificial Intelligence (AAAI)*.

Lex Sokolin: When you apply the idea of artificial intelligence “upskilling” workers to the arts, the result is truly bizarre. Where does authorship reside? In the case of AI trained on a large set of visual imagery, it resides in the twilight of mathematics and the underlying data set selection. GANs [Generative Adversarial Networks; where two neural networks generate content by competing in a game, ed.] hallucinate things in a space defined by human potential, even if the journey across the latent space is unusual to us. But to give human workers instruction on the repetitive robot tasks of finding collage bits for the GAN to put together – this is truly unnerving. We quickly could get to a place where the AI is better at both the aesthetic and emotional result, if human judgment or emotional feedback are inputs into its collection. We still retain our creative capacity for context switching, moving from the Renaissance to Parametric Art, for example. But

there are plenty of novelty seeking algorithms that could be pointed at the arts, at comic storytelling, at finding humour and surprise as we define it. Worst of all, we might be very happy doing these micro tasks if they are framed as pursuing the beautiful sublime at the behest of an AI.

Changing Perspective

Lex Sokolin: As machine learning develops further, people come to expect hyper personalised experiences across all their platforms. Increasingly, entertainment and media can extract insights — like emotion, political leanings, earning power, health and fitness — from individual data. Comics have always been a medium for the niche, and the next step from manufacturing a generic mainstream through Blockbuster movies is to build mass-customised graphic narratives for local populations. With the cost of flexible displays going to zero, comic books are becoming made from screens themselves, in whole or in part. Each one comes embedded with tiny Amazon-built cameras, which inform the book of the reader’s predispositions and manufacture a rendered comic story in real time that fits the personality of the reader. This atomisation creates meaningful reconciliation issues for creative corporations, who must staff up with thousands of human writers to generate all potential universes of storytelling to train the machine. Eventually, comics micro preferences become one the most valuable sources of personal emotional data, similar to the decision choices video game characters undergo in role playing games.

Echo Chamber’s “Curated Decay”

Ilan Manouach: As the market for vintage and rare comics reaches astronomical prices, comics collectordom has its own mechanisms to assess the condition and value of a print. An entire industry-specific dictionary was put in place in order to mitigate the risks of investment. One can find a rich jargon of terms such as ‘deacidification’, ‘oxidation shadow’ and ‘quinone stains’. Every wear and tear mark has a name. Every name reflects practices of mishandling. Every name represents a tangible asset liability. For comics collectors, whatever is outside a heavy duty 4-mil acid-free Mylar sleeve is as good as dead. All this changed when Echo Chamber, a small organisation based in Brussels, decided to address deterioration not as a logistical problem, but as an opportunity. The organisation’s *Curated Decay* portfolio targets wealthy collectors and offers a variety of derivatives for those that are willing to entrust them their valuable possessions. Their underlying

business idea is that decay, an inevitable fate for paper products, can be programmed, even artificially accelerated in order to reflect the collector's idiosyncrasy and ultimately contribute in raising the price of the item. Some of their previous commissions include cases of expedited disintegration where *Bone's* first issue from a Dutch client was buried along long-term Organic Carbon sequestration in tidal marsh sediments along Scheldt's estuarine salinity gradients in Belgium, or a highly entropic environment where a mint copy of *Tales of Suspense #39* laid in monitored exposure to microbial detriogens and macrofauna such as tubeworms and bivalves in the company's Pacific Lab.

Lex Sokolin: With the explosion of digital content, the materiality of the object on which the content is delivered becomes increasingly important. How do we think differently about a story when that story is told through paper, plastic, TV, iPad, VR, or song? Why is one medium and its physicality worth more than another? Why is licensing and reproduction of content in some cases worth less than the first time that content was generated and put to canvas – consider an original Picasso, or Jack Kirby's sketches. There are several potential answers. First, the physical object has a quality of time to it, demarcating where it stands sequentially to other discoveries. Originality and speed matter. Second, physical objects hit other senses than just the visual. We remember our childhood through the texture of book covers and smell of new comics. Last, the object has a uniqueness, creating scarcity and commercial value through supply and demand. Perhaps future generations will find blockchain based authenticity and iPad animations to hold the same nostalgia.

Augmenting the Visuals

Lex Sokolin: Part of the appeal of comics is the independent press, which has led to the decentralisation of storytelling and publishing. In response to the over-produced comic creations in the mainstream, individual creators have started using augmented reality to graffiti 3D-rendered stories across abandoned environments, combining elements of 80s counterculture, Pokémon Go, and Ready Player One. As AR and VR hardware becomes more powerful, young people begin to tag locations the way artists used to tag subway cars. The stories are digital and interactive, built out of the comic medium, but leveraging modern technology to generate cutting edge appeal. Some of these comic programs are time-bounded, communicating political messages like those of the Hong Kong protests or anti-Trump sentiments. Others involve authentic crypto collectible characters and objects or turn into interactive games. Classic editions of physical comic books are used as triggers

or performance locations for these digital artifacts.

Ilan Manouach: New technological affordances, such as geolocation, AR gear and biometric devices, could allow designers of digital comics to monitor user access in order to enhance participatory identification. Some of these new works could be explored only in specific GPS coordinates (a comics story that helps the reader locate an illegal rave party), or in specific moments (a traditional storytelling from the Toro tradition that can be read only the day of the coronation of Rukidi's successor in modern Uganda) or under specific mental states (an app that unlocks graphic narrative content when readers demonstrate acute theta brainwave activity occurring only in states of deep meditation or profound sleep). With this, obviously one should also imagine readers that decide to game the system and tamper with the limitations of content access through rootkits, GPS spoofing, biometric hacking and ultrasonic message emission.

Comics and Deep Learning

Ilan Manouach: Some of the most creative bits of comics art are happening today at the junctions between technologies and different professional disciplines, some of which are artistic. **Applied Memetic** is a small start-up based in London. It has the mission to produce the first graphic novel entirely made with AI. The organisation examines the different moments in history when technological innovations disrupted the art market, redefined the work and ethics of artists and re-addressed art's political role in the sphere of the commons. Their research culminates in the recent advances in machine learning and especially deep neural networks and synthetic media content such as GANs and deep fakes. These technologies weaponise user creativity and allow for an unprecedented degree of authenticity and realism. In addition to that, a) the online abundance of digitised media content awaiting to be harvested, b) the convenience of programming language frameworks and machine learning libraries, c) the secularisation of knowledge through e-learning and d) the plummeting prices in specialised hardware, are certainly going to put online vernacular expression in "hyperdrive mode". Applied Memetic's bet is that it's rational to expect that machine learning will ultimately contribute in reshaping comics and their readership(s), market(s), reader's sensibility and practitioners' artistic ethos.

Smoothing out the Writers

Lex Sokolin: As superheroes have become mainstream, one attribute that has become

exposed is that different writers have different takes on the same personality. While this may work as a way for writers to differentiate against the industry, now billions in revenue are at stake. As a result, AI combining image recognition and natural language processing can become trained on the full data set of superhero stories. The result will be a manufactured mythology and personality for each culturally notable character and their parable, defined and policed by software. The algorithm can then be extracted and instantiated as a hyper realistic avatar on social media. These avatars would be blockchain-anchored for authenticity, such that the seal of authenticity becomes equivalent to a legal license around all derivative content created by the account. With increasing social interaction on media platforms directly with fans, the avatars become examples of massive, community taught software. They are then channelled back into traditional media — being used as screening tools for actors, acting as editors of scripts, and eventually being integrated into the physical world through automata.

Ilan Manouach: Mainstream comics production has always been riddled with conflicting personal interests and ambitions of several operators distributed throughout the chain of signification-production. Additionally, the comics market is in the centre of a very competitive entertainment industry where customers increasingly expect a personalised, interconnected experience across a wide number of end-products and channels. The comics industry already depends on a variety of social formats of engagement, through readers' columns, corporate-led fan-clubs, alternative conventions, mimeographed zines, specialised fora, price guides and academic conferences. Readers and fans have occupied a constitutive part of the comics industry and their activities opened doorways for the market favouring the emergence of new forms of content. The idea of comics superheroes, developing in an ecosystem of distributed trust undergirded by blockchain technologies, is a very powerful one. One can only think what can happen in one of the most fascinating genres in the world of comics: the *Dōjinshi*: An unregulated market of self-published comic book derivatives that develops side-by-side and is competitive to the regular market. *Dōjinshi* are products of unauthorised fanfiction where popular comics characters live parallel and quite surprising lives. Which bespectacled white suburban fanboy would accept to carry records for a spin-off of Captain America living a life of an Iraqi teenager exploring her identity and fluid sexuality?

Estranging Comics
Comics

Abrégé de Bande Dessinée Franco-Belge

48 pages | ISBN 978-2-37751-005-4 | 2018 | **Belgium:** La Cinquieme Couche, **France:** L'Endroit, **Switzerland:** Helice Helas, **Greece:** Topovoros, **Israel:** Gnat, **Italy:** Fortepressa, **Brazil:** Antilope, **Denmark:** Forlaens.



Compendium of Franco-Belgian Comics takes as its starting point the 48CC comic book format. The name, contemptuously christened by the alternative publisher l'Association, points to the product of a normative and just-in-time book industry that dominates the French speaking publishing industry. During a single afternoon, I purchased from second hand shops a selection of forty-eight 48CC books and after a careful reading I built a non-exhaustive idiosyncratic index of elements considered to generally define the tradition of Franco-Belgian comics. Among a variety of comics proto-memes, metanarrative devices, paratextual elements and other hovering dark clouds, shark wings, identity stereotypes and body-shaped holes, *Compendium* presents an orchestral comic book, where instantiations of this typology, freed from the imperatives of specific narratives can be read as the in situ building blocks of the European BD.

Compendium invites readers to forensically parse the cited works by foregrounding as in for themselves the heterogeneous objects of a local comics industry. It points toward the constitution of new practices of indexation. It uses the concept of the ontograph as a way to present comics as objects, without requiring an interpretation that comes from the elucidation of the original narrative functionalities, or having to demonstrate the referential significance of distinct narrative units and building blocks. By merely charting the networks among reading experiences, *Compendium* provides a virtually present construct of relational juxtapositions and claims the irreducibility of objects to their effects or compounds.

Compendium argues for the necessity of different modes of reading in relation to comics by exemplifying how combined modes of an approach to a text can allow new works to develop. Its objects are freed from the imperatives of the specific narrative in which they were initially implemented, and from the correlations implied by storytelling functionalities. Similar to an autopsy, the distinct narrative units and the building blocks of the Franco-Belgian comics tradition are laid bare, emerging and imposing themselves as dense singularities.

Read online:

monoskop.org/Compendium_of_Francobelgian_Comics



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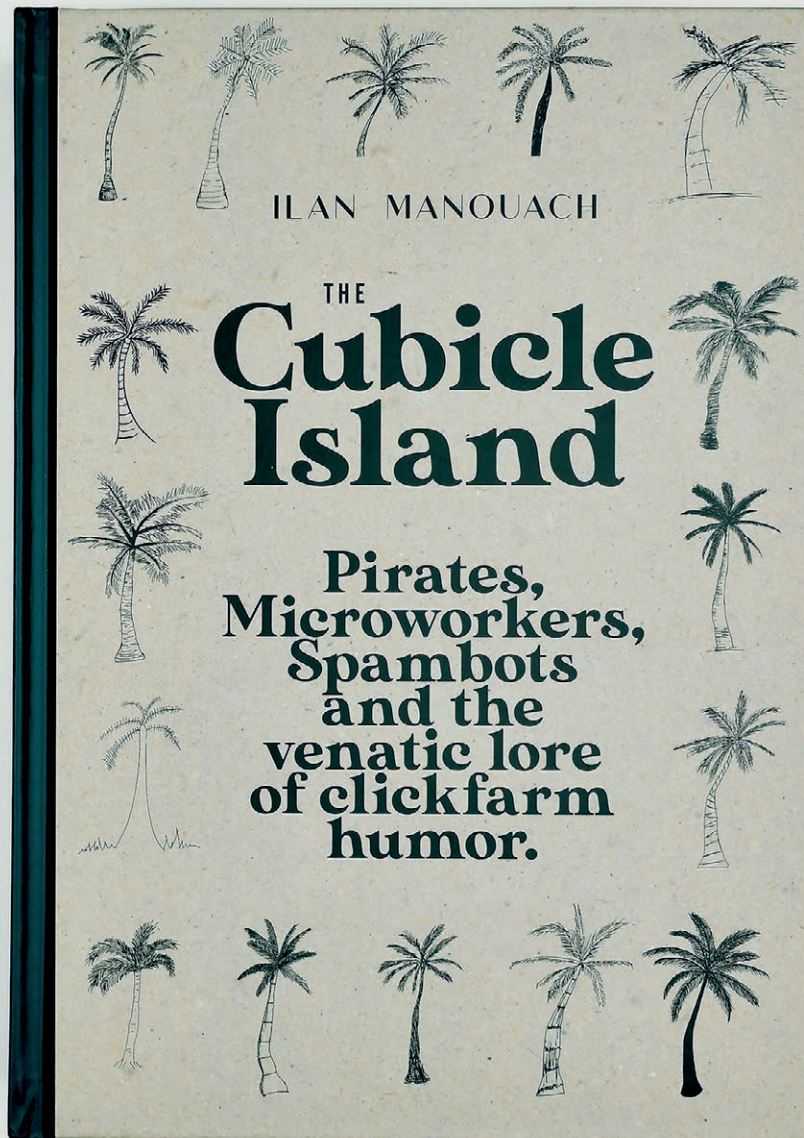
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The Cubicle Island: Pirates, Microworkers, Spambots and the venatic lore of clickfarm humor

1500 pages | ISBN 9782390080510 | 2020 |
Belgium: La Cinquieme Couche, Denmark: Forlaens.



The Cubicle Island Pirates, Microworkers, Spambots and the venatic lore of clickfarm humor is a conceptual comic book project, and an experiment with the distributed ramifications of digital labor. The book collects hundreds of desert island cartoons, a genre that reached the peak of its popularity in 1957, possibly as an expression of Cold War fear of the nuclear bomb. I have de-texted the original text captions and solicited microworkers, through the interface of a popular digital labor platform, to submit a funny text between 50-70 words for each one of the cartoons. Microworkers are most often asked to complete tasks for which no efficient algorithm has yet been devised. They are considered to be the operators of the smallest unit of work in a virtual assembly line. The term "microwork" describes a series of small tasks that are completed by many people across the Internet to comprise a large unified project, such as this book. It refers to the deployment of human labor occurring in platform-mediated, zero-hour contract regimes that benefit minimal transactional frictions and the absolute circumvention of applicable minimum wage laws. As a labor force, microworkers find themselves in an important moment in the history of labor; a stepping stone to Artificial General Intelligence's exponential acceleration of technology that promises a new era of social and economic abundance.

The Cubicle Island is a durational performance based on fifty years of desert island press cartoons. The performance highlights the extreme isolation that accompanies new regimes of work alongside the making of an international class of precarious cognitive workers. The book labors silently through the products of an extremely deskilled textual workforce, both human and non-human, and embraces the epistemic and technological accelerationism championed by the interconnectedness of the global precariat. In the age of surveillance capitalism's selective transparency, it thematizes new formations of labor and leisure.

Read online:
monoskop.org/The_Cubicle_Island



"I am here by giving a short information of an island nearby my home which is vanishing. Munderthuruthu or Munroe is an island village in Kerala's Kollam district, which is located at the confluence of the Ashtamudi lake and the Kallada river. Due to the ferocious tidal waves, these islets are fast submerging and are about to vanish from the map. Already, over 430 families have abandoned their homes and fled to the opposite shore."



"His smile and optimism. Gone."



"I am a 24 year old girl. I have completed my masters in English literature from a reputed university. Presently I am looking for a job. I would like to join a school or college as a teacher. Teaching is my passion. I also am a trained singer and have performed in various stage shows. In the future I wish to do phd on the origin of english language."



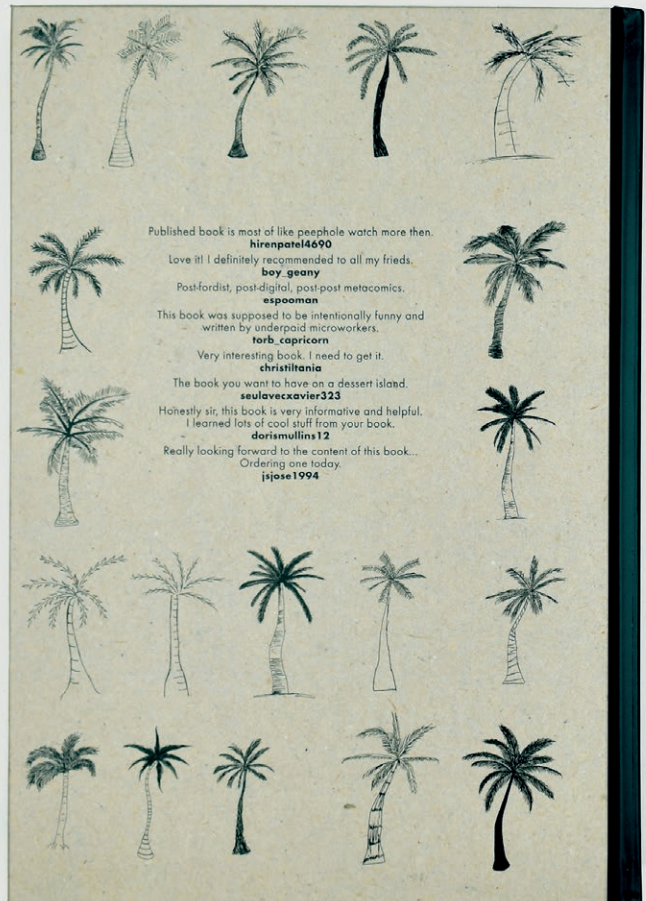
"My psychiatrist told me I was crazy and I said I want a second opinion. He said okay, you're ugly too."



"Dear Idol, First off, thank you for being YOU! Thank you for being the first one that I've to when I need advice or spiritual guiding! Thank you for always be there! Thank you for all the laughs! Most importantly, thank you for loving me for me and for never giving up on me. I guess many say that I am one lucky girl because I am on a personal level with the one I call m. "Idol". Most of you have the celebrity idols such as Johnny Depp, Kim K, Justin Bieber, Sarah Jessica Parker, etc. but I idolize a friend that I made back in 2008; just because I am friends with her doesn't make her any different than the typical celebrity idol. Actually, my idol is in a Catholic band called Full Armor Band (check them out!), so in all technicality, my idol isn't too far off. What makes being friends with your idol so much better is that not only could I look up to her whenever it's needed but, I could call her and talk to her when things get rough and ask her for advice! How cool would that be if you could call your celebrity idol? I mean, it's worth a shot...you can always send fan mail and hope for the best! I can send fan mail to my idol as well."

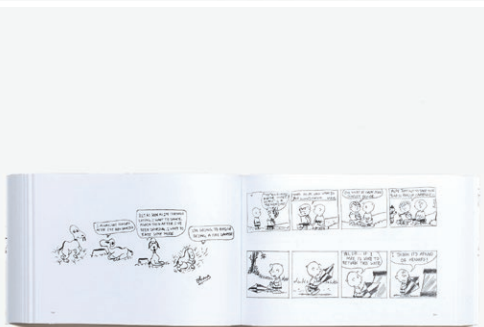


"I think my acetylcholine and basal ganglia are not working well. Yesterday I got fainted."



Peanuts Minus Schulz: Distributed Labor as Compositional Practice

700 pages | Bilingual Edition
ISBN 9782365680301 | 2021
France: JBE.



Peanuts minus Schulz: Distributed Labor as a Compositional Practice is a conceptual comic book project that consists of the reproduction of Schulz's work by commissioned artists, using digital tools and mediated by a digital labor management platform. Commissioned by way of digital labor services, it brings together a selection of comic strips home-brewed by over one thousand de-skilled microworkers from twenty different countries. The operation consists of the reproduction of iconic comic strips using a number of variations that I devised and integrated in the commissions. Without sacrificing the semantic complexity and the reader engagement that can be found in the original *Peanuts* series, the book emphasizes the comics, in their (digitally) distributed labor. The percolation of the comic strip units through the extremely deskilled workforce of the digital factory calls into question the primacy of storytelling and drawing as the defining factors of comics.

The deployment of home-brewed versions of Schulz's work, and the varied responses to the different instructions I received, is both intentional and unpredictable. By foregrounding the uneasy interdependence of work and leisure, of artistic craftsmanship and deskilled manpower, *PmS* displaces the integrity of the comic strip as a fully-fledged entity, albeit a corporate copyright property, to an ongoing score. The digitally aggregated results resist the smooth integration and style uniformization conventionally required in the industry of comics. In *PmS* the collected material constantly fails to fulfill the seamless, unbroken metabolization that leads to a totalizing system. The selection process didn't have the goal to level or neutralize the differences in the work provided by amateurs, fans or non-artists, neither to enforce any apprenticeship model nor exclude unqualified, or marginalize temperamental and idiosyncratic approaches to the interpretation of Schulz's work. Rather the opposite: these submissions radically reconfigure the assumptions made about the individual role different agents can have in a production chain and underlines the very nature of comics as an eternal score subjected to vagaries and contextual instantiations.

Read online:
monoskop.org/Peanuts_Minus_Schulz

Fastwalkers

The first synthetic comic book generated with emergent AI. *Fastwalkers* is a nonlinear neural meditation celebrating the computational affordances as contingent to the formation of new reader sensibilities in comics.

512 pages | 24x30cm | CMYK

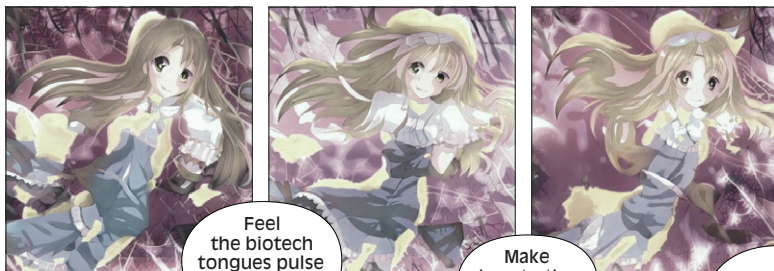
ISBN 978736987120 | 2021

Greece: Onassis Publications



The first synthetic comic book written with emerging AI, *Fastwalkers* is a nonlinear meditation on deep learning that celebrates the unexpected poetics of generative computing and explores its potential to form new reader sensibilities. Born out of my ongoing experimentation with the informational abundance and affective economies of comics, this is a wildly vibrant hallucinogenic book in which all text and images have been produced by machine learning. Since its beginnings in the late nineteenth century, the comics industry has expanded symbiotically alongside the development of printing, distribution, and communication technologies. As a highly digitized medium with active online communities, comics lend themselves to the programmatic processes that define machine learning and today synthetic processes are reshaping how we produce, consume, archive and understand all media, including comics. Co-created with the latest AI (GAN, GPT-3), and developed by an interdisciplinary team of computer scientists and designers, *Fastwalkers* is an amalgamation of different community datasets, proprietary algorithms, indexing regimes, beta testing, and generative models, all trained on millions of data units and text bodies used specifically to make this book. The result is a semantic landscape of ambient layers whose harmonies and dissonances reveal the aggregate nature of knowledge exchange in the semicapitalist age and illuminate the inherent computational qualities of comics to play with the latent space lurking in the reader's cognition.

Read online:
tinyurl.com/fastwalkersAI



Feel the biotech tongues pulse globular lies.

Make love to the reptilian flesh.

Metallic boots enter into martial sex.



Feel my cyber curves slither along ethereal skin.

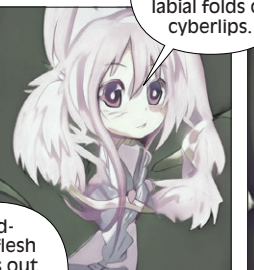
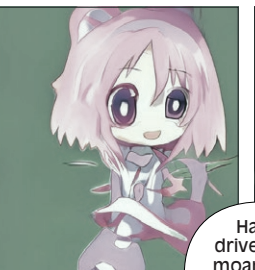
Make love with chameleon intimacies.

Feel the sticky ether of my cosmological lust.

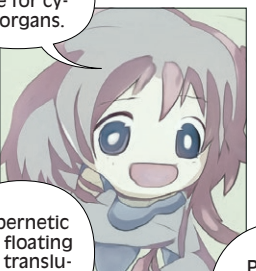


Hard circuitry pulsates in the labial folds of cyberlips.

Hard-drive flesh moans out stuttering copulations.



Hard-drive flesh moans out stuttering copulations.



Cybernetic gas floating in a translucent membrane.

Peppery spasms in posthuman cyborg lips.

Venus wobbles in a twirling scene of cyberorgasm.



The pulse of the amazon.



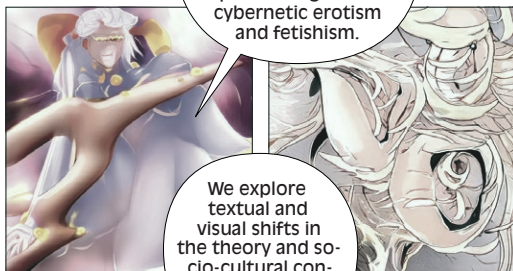


Let's face the truth.

In light of technological developments that include the integration of artificial intelligence, we can foresee an exponential growth in cybernetic erotism and fetishism.



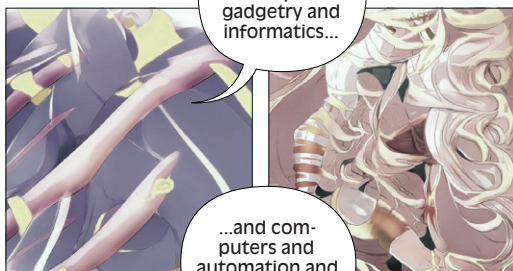
Modern mass media based on the assumption of a two-dimensional, one-way model has been regarded as sick and corrupt.



We explore textual and visual shifts in the theory and socio-cultural context of sex and the body...



...by adding machines and toys and gadgetry and informatics...



...and computers and automation and miniature prosthetics...



...and modeling and ultraviolet energy emissions.

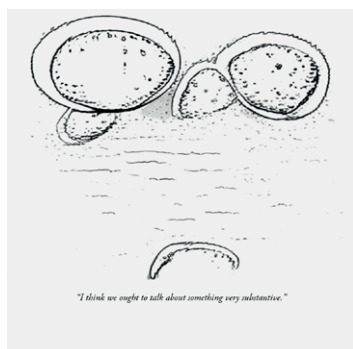


Hello world.

The princess flinched and looked up at the sceptre.

The Neural Yorker

A twitter generator that synthesizes press cartoons in the style of *The New Yorker*. At the core of the project are algorithmic models based on the latest available computational frameworks in image and text synthesis.



The Neural Yorker, the product of a collaboration between a comics artist and an AI engineer, is a Twitter bot posting an “original” cartoon in the style of the famous magazine once a day. It is based on a GAN-derived model for the generation of press cartoons. Generative Adversarial Networks or GANs are the most successful image synthesis programming architectures in the past few years. They have the ability to generate novel images by emulating the probability distribution of any given training dataset. Their architecture is based on adversarial training by pitting two (or more neural networks) against each other. The first network, called the Generator, generates samples in order to meet the probability distribution from the collected dataset. The other network is the Discriminator; it examines a random selection of samples and needs to determine whether they are real data, from the original dataset (ground truth) or negative training examples that are produced by the Generator. Through multiple iterations, the two networks get better at achieving their respective goals in what is known as unsupervised learning: the Generator refines the resemblance of the generated data in order to deceive the Discriminator by having it accept the generated data as ground truth while the Discriminator’s goal is to get better at assessing the data provenance. Therefore, the GAN architecture resembles a zero-sum game, where the model converges when both neural networks reach what is known as the Nash equilibrium, a state where the actions of each neural network will stop having any effect on its adversaries. The generated samples will then, theoretically, be indistinguishable from those that are in the dataset.

The Neural Yorker’s model has been trained on hundreds of thousands of cartoons and punchlines that were scraped and collected from a multitude of online repositories and databases with their own systems of classification and labeling. The aggregate nature of knowledge production is not only thematized here as a metaphor or a theoretical perspective on the multitude of epistemic regimes, but as a constructive operational procedure in the very same production of synthetic cartoons.

Read online:
twitter.com/neuralyorker

Estranging Comics
Curatorial work

Conceptual Comics Archive Ubuweb & Monoskop

Archival project of media preservation
for the digitization of 80 conceptual
comic books with metadata.





The Conceptual Comics archive presents works that diverge from established conventions of comics as a medium. This library is a resonating chamber for conceptual works and unconventional practices little known outside their communities. It also acts as a springboard for establishing the conditions for affective lineages among similarly minded practitioners. The variety of the collected material expresses the editors' preference for non-uniform consistency, accommodating the medium's flux. Nevertheless, conceptual comics share many issues and urgencies, alternating between material self-reflexivity and critical exhaustion. They operate on the margins of distribution and reception and their 'unrootedness' in the medium's spectrum is more than an abstraction: artists uncomfortable with entrenched roles invite readers, in the absence of critical discourse, to engage with the works in non-specified, at times forensic modes of examination. I argue that this condition, more than a minor drawback in a normative industry, induces new behaviors and forms of social relationships. Every comic book featured in this collection explores the very substrate of its medium, not as a culturally neutral site, but as a way to build alternative histories, replete with its own material properties and signifying potentials.

This collection examines how social and economic forces, and their established commercial and communication routines, affect the medium's meaning and signification. The rainforest of pulp production, the printer's studio, the readers' column and the landfill do not simply represent geographies of comics industry but are technologies of inscription in their own right. They are integral elements of a material language that actively shapes comics and challenges the reader to negotiate meaning through different distributions of transparency in its products. This collection proposes to equally embrace real, unclaimed, anticipated and fictional practices in their perpetual materialization, and reflects on their specific sites of production and their potential to register meaning and organize discourse based on inscriptions of this alternate material language.

These two conceptual comics collections feature books and other printed formats that were documented, and photographed from cover to cover, highlighting the artefacts materiality. Each book is presented along with metadata and a text from the publisher's press release or a small critical introduction to the work written in order to provide background information on the necessities of the collection. The collection proposes to equally embrace the real, the unclaimed, the anticipated and the fictional practices in their perpetual materialisation. As a whole, it reflects on the specific sites of production and their potential to register meaning and organise discourse based on inscriptions of the industry's material language. In an age where public libraries are an endangered institution, media collections run by amateur librarians emerge as new, vital topographies of sharing and as a possible direction for an alternative reconfiguration of the comics industry.

The collection contains 75 comics artifacts that are photographed from cover to cover as well as information and metadata about the books such as Author, Title, Publisher, Price, Language, Publisher Location (City), Year of Publication, Number of Pages, Book Format, Book Fabrication, ISBN, Contributing Editor, Contributor Designer and Contributing writers.

Read online:

monoskop.org/Conceptual_comics

ubu.com/cc/index.html

Shadow Libraries: Ubuweb in Athens

A three-day festival at the Onassis Cultural Centre in Athens co-curated with Kenneth Goldsmith. The program consisted of an exhibition, an educational program of four workshops and two symposia.



Full Programme (2018)

Shadow Libraries Symposium

In an age where public libraries are an endangered institution, UbuWeb and other collections run by amateur librarians emerge as new, vital topographies of sharing. This symposium and the related workshops explore the conceptual consistency and the ethics of digital preservation and distribution from the practitioners' perspective. The invited guests will unpack the thingness of these fragile knowledge infrastructures and discuss how their architecture challenges current norms of intellectual property rights, market concentration and control of access. Programme:

Monoskop

By Dušan Barok (Slovakia). Monoskop is a wiki, blog and a repository aggregating, documenting and mapping works, artists and initiatives related to the avant-gardes, media arts and theory and activism. Initially it focused on Eastern and Central Europe. Built on a Wiki that everyone can contribute to, it provides both an exhaustive, indexical overview of those fields and digital access to rare historic finds. In parallel to the wiki, Monoskop maintains a blog repository featuring daily releases of books, journals or other printed archival material, some freshly digitized by Monoskop and some contributed by the users, authors and publishers. Dušan Barok is founding editor of the platform for collaborative studies of the arts and humanities Monoskop and currently a research fellow at the University of Amsterdam.

The production of a process, the process as a product

By Vicki Bennett (UK). Working under the name PEOPLE Like Us, Vicki Bennett specializes in the manipulation and reworking of original

sources from both the experimental and popular worlds of music, film and radio. PEOPLE Like Us believe in open access to archives for creative use. Most creative work only becomes visible to the audience once it is finished and published. It is rare that one gets to experience the journey that a creator undertakes while making work. It almost seems to be a secret, prohibited to be exposing production methods. But how can we learn without access to these methods? Vicki will reflect upon 25 years of creating audiovisual media, sharing information and insights on how she edits and outputs large-scale works using preexisting material. Under the name PEOPLE Like Us, artist Vicki Bennett has been making work available via CD, DVD and vinyl releases, radio broadcasts, concert appearances, gallery exhibits and online streaming and distribution for 25 years.

Public Library / Memory of the World

By Marcell Mars (ex-Yugoslavia). Public Library/Memory of the World is the synergy of two efforts. First, it makes the case for the institution of public library and its principle of universal access to knowledge. Second, it is an exploration and development of distributed internet infrastructure for amateur librarians. A public library is one of those almost invisible infrastructures that we start to notice only once they go extinct. A place where all PEOPLE can get access to all knowledge that can be collected seemed for a long time a dream beyond reach – until the egalitarian impetus of social revolutions, the Enlightenment idea of universality of knowledge, and the exceptional suspension of the commercial barriers of copyright made it possible. The Internet has, as in many other situations, completely changed our expectations and imagination about what is possible. The dream of a catalogue of the world – a universal access to all available knowledge for every member of society – became realizable. A question merely arises of the meeting of curves on a graph:

the point at which the line of global distribution of personal computers meets that of the critical mass of PEOPLE with access to the Internet. Today nobody lacks the imagination necessary to see public libraries as part of a global infrastructure of universal access to knowledge for literally every member of society. However, the emergence and development of the Internet is taking place precisely at the point at which an institutional crisis — one with traumatic and inconceivable consequences — has also begun. Under the name Marcell Mars (b. 1972) Nenad Romić is one of the founders of Multimedia Institute - mi2 (1999) and club mama in Zagreb (2000).

Affective Archives

By Cornelia Sollfrank (Germany). How a feverish way of thinking manifests itself online. In my talk I will suggest the notion of the ‘Affective Archive’ for the exploration of a selection of unprecedented cultural experiments concerned with accumulating, structuring and preserving cultural artifacts as well as building infrastructures for making these available. Empowered by high-performance digital technology and driven by the affective relationship between the subjects and objects involved, the resulting archives are able to achieve a cultural relevance that exceeds institutional efforts in many respects. They are constituting their own ecosystem in which building cultural memory has turned into a performative act, undertaken by individuals and small groups according to their personal standards, under precarious conditions; a bottom-up activity whose strength is derived from ignoring all official logics of preservation. Cornelia Sollfrank (PhD) is an artist, researcher and university lecturer, living in Berlin (Germany).

The Pirate Bay

By Peter Sunde (Norway). The Pirate Bay (TPB) has always been looked at as a big player that changed the world of distribution. TPB has paved ways for all streaming services, such as Netflix and Spotify. The founders of Spotify even credit most of their success to The Pirate

Bay — without it they could never have gotten the situation, market deals, audience and technology they needed. In many ways the view is that without TPB the success of today would not have been. And that is the major failure of the project — the success that TPB was aiming for was not to create a new and improved capitalistic centralized market, but the opposite. I’ll talk about why in essence it failed but why the opponents (and some political groups) still need TPB to look successful. Peter Sunde Kolmisoppi, alias brokep, is a Swedish entrepreneur and politician.

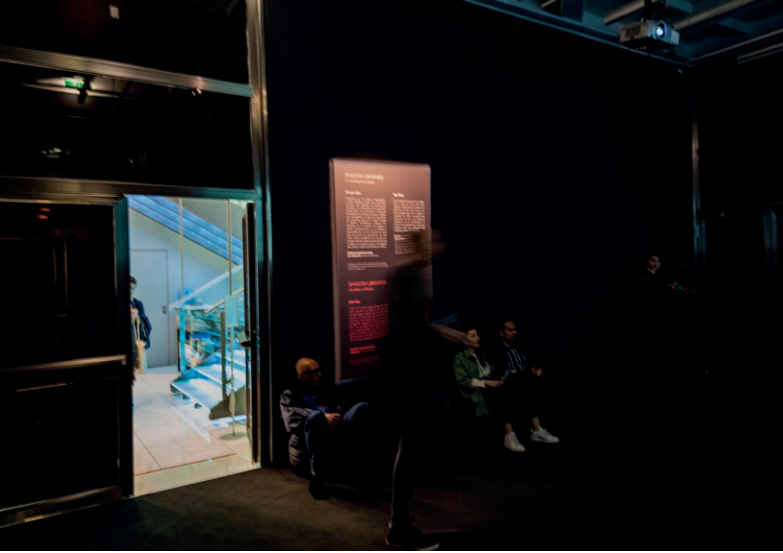
Of Coffee, Copyright and Cracks

By Prodromos Tsiavos (Greece). Copyright is not about copyright; or it is not about copyright anymore. It is about the way we communicate, we learn, we view things and — more recently — about the way we interact and relate with physical artefacts and goods. The growth of copyright beyond its original ambit and scope is a direct result of the very informatization of life: This constitutes a greater trend that stems from the radical transformation of the socio-economic life cycle of goods and services, but also of the ways in which personal and community interactions are enacted in a hybrid digital and physical environment. This talk is a journey into the vagaries of copyright as a core mechanism of production and exploitation of intangible capital, but also an attempt to shed light to practices of commoning that may provide a crack to a system that seems to have a life of its own. Prodromos Tsiavos is the Head of Digital Development at the Onassis Cultural Centre and a Senior Research Fellow at The Media Institute (TMI), London.

Authoring in the Digital Age Symposium

Confronted with an unprecedented amount of texts and images, contemporary artists are consistently expected to challenge conventional notions of creativity and authorship by engaging with archival research, appropriation, iterative





and sampling techniques and other practices of mediation. Through talks and workshops the purpose of the event is to critically examine the politics, and the contradictions of a contemporary artistic ethos that claims for humanities that are processual, contingent, unbound and unfinished. Programme:

Archiving in Style, Part 2

By David Desrimais (France). A prospective analysis of Jean Boîte Éditions. What are the upcoming challenges for a publishing house that deals with digital issues? Based on the recent history of the Press, we'll go browse few case studies (notably some detailed stories about two books: Google, "Volume 1" by King Zog and "Theory" by Kenneth Goldsmith), our expectations about AI and uncreativity... Aiming to one expectation: what's next in our need to produce artifacts that are bridges from screen to bookshelves. David Desrimais is a publisher based in Paris, France. Founder and director of Jean Boîte Éditions (with Mathieu Cénac, since 2011), he publishes books in the digital age, in the fields of arts, humanities and poetics..

Poetry in the age of user-generated content

By Craig Dworkin (USA). With a database aesthetic and a frequent turn to online source material, the texts of first-phase Conceptual Writing aligned with the early internet in fraught ways. This literature was newly relevant because of how it read against the contemporaneous emergence of database-driven cultures of surveillance, finance and communication. Some two decades later, certain works are again newly relevant because of the ways they exploit both the themes and forms at the heart of the social-media networks that now predominate and structure online CULTURE. Although at a glance these current works may look very much like the Conceptual Writing of the late 20th Century, they signify with heightened urgency on account of those cultural congruencies. This talk proposes that we might note four key areas in which technological, economic and literary trends now overlap: passive indexing, affect, junkspace and

platform. By way of test cases, it will look at some of the most innovative contemporary writing by young American poets in order to argue for the ways in which the rise of social media has altered the significance of appropriative, procedural, and conceptual writing practices over the course of the 21st Century. Craig Dworkin is the author of two scholarly monographs, *Reading the Illegible* (Northwestern UP, 2003) and *No Medium* (MIT, 2013), and the editor of several collections.

An artist talk by Dina Kelberman

By Dina Kelberman (USA). Much of my work comes out of my natural tendency to spend long hours collecting and organizing imagery from the internet, television and other commonplace surroundings of my everyday life. I like to elevate the familiar and transform brief moments into infinite stretches of time. I gravitate towards things that are simple, colorful, industrial and mundane. I am interested in using materials that are easily accessible and familiar to the everyday person – anyone can and should make things that are perfectly natural to them and yet totally inexplicable to someone else. Humans are definitely a failure of an animal, but at least every single one of them is extremely weird. In some ways my work is about how everyone and everything is special, and so while specialness is not special, it is still pretty much the most exciting thing going. I enjoy exercising resourcefulness; setting up limitations and then seeing what is possible within them. I like how when things are simple enough they turn into whatever you were already thinking about, but they don't lose themselves, it just turns out they were always about that thing. Sometimes I think intentionality is the opposite of truth but then again that's art. I make work as I am compelled to make it and consider why later, often resulting in connections I didn't consciously set out to realize. In close examination of the simple or the seemingly insignificant the viewer may bring their own limitless associations.

Reading from *Satin Island*

By *Tom McCarthy* (UK). The author will read excerpts from his book *Satin Island* and a discussion will follow with Kenneth Goldsmith. Tom McCarthy is a novelist whose work has been translated into more than twenty languages. His first novel, "Remainder", won the 2008 Believer Book Award and was recently adapted for the cinema.

Mercury Retrograde

By *Emily Segal* (USA). Emily Segal is an artist, writer, and trend forecaster. She founded the art collective and trend forecasting group K-HOLE, and is currently the director of Nemesis, a think tank for cultural strategy based in Berlin, Helsinki and NYC. She will be reading an excerpt from her novel-in-progress, *Mercury Retrograde*, which explores virality, fame and affect in the pre-Trump NEW YORK media startup landscape. A Q&A with Kenneth Goldsmith will follow.

Workshops

Large-scale digital preservation under adversarial conditions

By *Steve McLaughlin* (USA). A workshop about distributing and preserving large-scale data collections under adversarial conditions. Over the past three decades, academic librarians and archivists have developed a rigorous, yet circumscribed, set of best practices for long-term data preservation. Meanwhile, amateur file sharers have worked out their own approaches to the preservation problem, often with little concern for institutional authority or the strictures of copyright law. Unfortunately, these two groups rarely cross paths. In this workshop, Steven McLaughlin will present several techniques for distributing and preserving large-scale data collections under adversarial conditions, drawing primarily on methods used by shadow libraries and among individual collectors. His aim is to foster critical awareness of each of these systems' benefits and limitations. First, he will

teach participants to use rsync for real-time mirroring from a centrally hosted data collection. He will then walk through the process of launching a decentralized BitTorrent repository, using Docker and Transmission to create torrents on a virtual private server. Finally, he will discuss the promise and pitfalls of emerging blockchain storage systems.

Archiving in Style

By *David Desrimais* (France). A 3-hour workshop like a round-trip from digital to analog feelings, and back. meet the most genuine qualities of the internet, as we love it. The workshop means to extend the most genuine qualities of the internet, as we love it, to some physical incarnation. If I need to summon this online feeling and there is no electricity, what can I do? What are the textures, the smells, the weight we could associate to digital feelings? Here the feeling serves as an element of preservation, and the physicality of things as a way to think perennial in digital. Based on each participant's digital practice and knowledge and crossed with David Desrimais' (Jean Boîte Éditions) know-how, this workshop is a round-trip from digital to analog feelings, and back.

Rules! A fun time

By *Dina Kelberman* (USA). A workshop which focuses on intuition and whim, and create work within a game-like structure. Dina's Kelberman work often utilizes procedural accumulation of found digital images and video to create artworks that are more than a sum of their parts. Such projects include "I'm Google", an ongoing tumblr project which has been shown internationally and featured in "The NEW YORK Times Magazine", and the browser-based "Smoke & Fire", which was commissioned by the New Museum. In this workshop Kelberman will discuss her artistic process of Intuition > Rules > Execution, and lead participants in the creation and execution of their own procedural experiments. These experiments will invite participants to avoid overthinking, focus on intuition and whim, and create work within a game-like structure.

Exquisite Corpse

By *People like Us* (UK). A workshop inspired by the game of 'exquisite corpse' where you will be able to generate ideas for new work, using the internet search engines, forums and databases. Using preexisting selected found physical/conceptual material, participants will engage in a game of Exquisite Corpse to generate ideas for new work. The game 'Exquisite Corpse' (also known as 'Consequences') is related to the creative process, whether that be the laying out of notes for a text, making a storyboard or the construction of a film narrative. It is an index of possibilities and daydreams that in fact need no end outcome, it is all about the journey. When played as a 'game' it's an entertaining way of finding out about one's own memory, making visible the hidden patchwork quilt of an individual's knowledge banks – hinting at how we make connections within ourselves and to each other all the time. We are able to visualize the scope for making tangents within the overall journey where every direction is permitted, and sometimes discover the limitations of our own hard circuitry (our memories). With internet search engines, forums and databases we are not limited to just our own recollection of a song or a text or a movie scene, we can search other PEOPLE's memory banks too through keyword searches – the whole of the internet is a massive thesaurus of unrealized new connections and potential creations.

Exhibition

A standard feature of UbuWeb is its "Top Tens", where invited guests get to recommend their cherry-picking selection of the archive. "UbuWeb in ATHENS" invites ten contributors living in Greece to share and spatialise their collection by tracing their own path through the colossal mass of UbuWeb's available works. Curated by: Elpida Karaba. Guests: Konstantinos Dagrizikos, Maria F. Dolores, Daphne Dragona, Enterprise Projects, Sozita Goudouna, hiboux architecture & Alkis Hadjiandreou, Marika Konstantinidou, Jenni Kountouri Tsiami, Galini Notti, Danae Stefanou.

Screening

A 24H Ubuweb screening. Drawn on curatorial, documentary and installation practices that reflect on the issues of moving image circulation, "24h Ubu" features a selection of video works harvested from the confines of the UbuWeb archive. Curated by an ALGORITHM designed by Heracles Papatheodorou that is programmed to fill the 24h slot to its maximal capacity, this video marathon gives the audience the chance to experience seminal, video works of the contemporary art archive during a long night event at the ONASSIS STEGI.

Performance

By Kenneth Goldsmith, *The Ideal Lecture (In Memory of David Antin)*. Kenneth Goldsmith will present a new, hour-long talk poem called *The Ideal Lecture (In Memory of David Antin)*. About the work, Goldsmith writes, "I want an art that leaves no nagging questions, is insanely simple in its goals, and meets every one of them unequivocally. I want an art where the philosophical questions posed in the work are answered in the experience of the work itself. I want an art that my mother can understand. The piece will be accompanied by visuals by the experimental graphic design studio Other Means (NYC).

Read online:

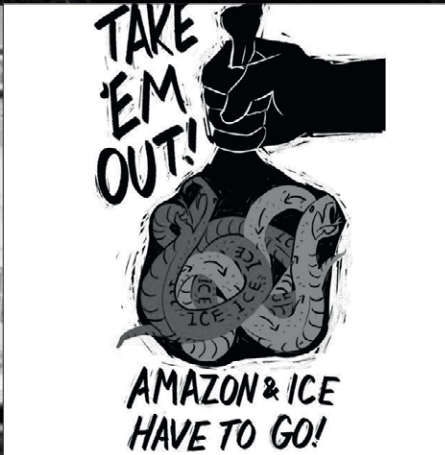
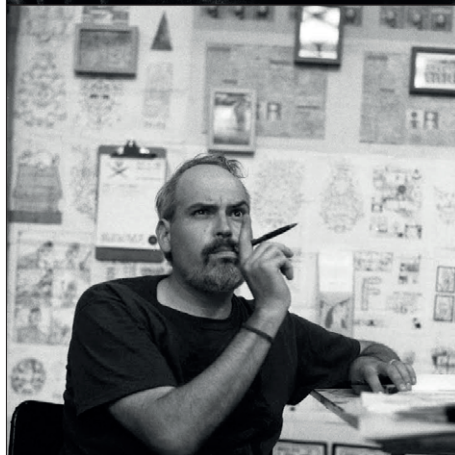
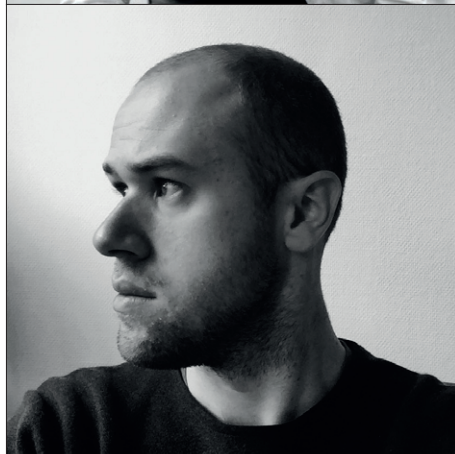
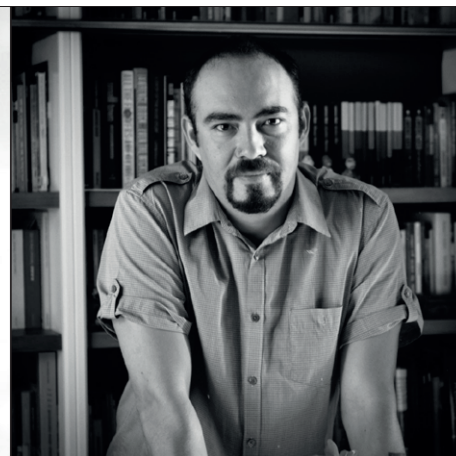
www.onassis.org/whats-on/shadow-libraries-ubuweb-athens

Futures of Comics

Futures of Comics is an international non-academic research programme that explores how comics are undergoing historic mutations in the midst of increasingly financialized, globalized technological affordances and proposes to map the social, economic, racial and gendered forces that shape the industry's commercial, communication and production routines. Through *reading sessions*, *artist talks*, various *workshops* open to the general public, a *symposium* and the production of a *temporary library / reading space*, Futures of Comics attempts to document and reflect on contemporary artistic practices with the goal to provide a resonating chamber for works and practices that are little known outside of comics communities. Curated by Ilan Manouach on behalf of the Fumetto Comics Festival of Luzern.

www.futuresofcomics.org





Full Programme (2019-2020)

On Trans/National Comics: the Canadian Case

By Kim Jooha (South Korea). National Comics is one of the main frames of analysis in comics... or is it too old-fashioned now that the 'transnational' is trending? We will discuss the upsides and limitations of the concept of national comics in the case of Canada, an officially multicultural and bilingual country in constant search of national identity: Does Canadian Comics matter? What is national comics? Most popular comics? Best comics? What about immigrants and emigrants? What are the roles of institutions?

Introduction to Indian Comics

By Aarthi Parthasarathy (India). Comics in India are being treated as cheap objects. People feel they have no inherent value, and are often discarded. Through a documentation of different raddiwalas (paper recyclers) who sort through the pile of books and magazines they get and rescue comics from there, Aarthi will talk about books that are representative of different points in the comics journey of India: from the Pattachitra and Kaavad, to Indrajal Comics, to Amar Chitra Katha, to Tinkle Comics to Graphic Novels and finally zines. One of the books she will have with her is a rescued comic!

Feminist Critiques of Comics Histor(iography)

By Kim Jooha (South Korea). Sadly, comics have a longstanding tradition of sexism. Primarily focusing on North American / Canadian comics, we will discuss how sexism has affected the writing of the history of comics (erasing women) and the lack of historiographical discussion in comics. We will also see how contemporary creators (including men), publishers, and readers reflect the rise of feminism (including sexuality) in recent years. * Works by: Julie Doucet; Carel Moisewitch; Fiona Smyth; Jillian Tamaki; Ginette Lapalme; Hue; Jessica Campbell; Aaron Man-

zyck; Eric Kostiuk Williams; Eli Howey; Victor Martins; Tings Chak.

Comics are a Problem

By Josh O'Neill (USA). The creative challenge presented by comics does not begin or end at the drawing table. How does new work find a readership? What makes for a sustainable art practice? How do financial pressures and challenges drive aesthetic decisions, and vice versa? Join publisher and author Josh O'Neill, co-founder of the publishing collectives Locust Moon and Beehive Books, for a group discussion of small press economics, experimental methods of comics production and distribution, and the communities that create -- and are created by -- comic books.

Deskilled Comics

By Kim Jooha (South Korea). Deskilled Comics are intentionally poorly drawn comics. Why do some of us like deskilled comics? How do we distinguish the deskilled and just unskilled? Or do we need to distinguish them at all? Are skills important in art? Why are deskilled or unskilled comics so much popular online? * Works by: Mark Connery; Kendra Yee; Mushbuh; Patrick Kyle.

Gendered Representations in Comics

By Aarthi Parthasarathy (India). The workshop on gender and comics is basically to take people through different images, that Aarthi has collected for here research project and at each image, stop to have a discussion, as well as a visual/written reaction. We could engage in detail with each piece of representation, and have a conversation about it. Then we would either note down our observations on context, character, creator to understand why that image exists in that way, or re-imagine/ re-write that image.

Collage & Comics: From Source to the Subject

By Kim Jooha (South Korea). Comics' entry to the fine art world was the source of the appropriation art (Lichtenstein). But now many comic artists deploy the method of appropriation includes collage. There are exciting similarities of heterogeneity and methodology that collage and comics share, especially with the development of photo editing software. We will discuss collage works of comic artists; comics employing collage; comics influenced by collage; collage as comics; and comics as collage. * Works by: Julie Doucet; Marc Bell; Michael Comeau; Kendra Yee; Hue; Patrick Kyle; Tings Chak; Ginette Lapalme.

How to Completely Vanish from Earth?

By Francesc Ruiz (Spain). An experimental workshop on comics distribution. The workshop arises from the need to think radically the distribution of any cultural material and in particular of comics from a negative perspective. Through different exercises we will create a protocol for massive elimination of all comics worldwide. Later we will identify spaces of resistance where comics could survive under extreme adverse conditions.

Making and sharing comics libraries

By Dusan Barok (Slovakia). In an age where public libraries are an endangered institution, collections run by amateur librarians emerge as new, vital topographies of sharing. Confronted with an unprecedented amount of texts and images, contemporary comics artists are consistently expected to challenge conventional notions of creativity and authorship by engaging with archival research, appropriation, iterative and sampling techniques and other practices of mediation. This workshop proposes to familiarize ourselves with basic wiki tools and reflect on archival practices that have thrived with the advent of digital and internet technologies. What are the possible ways and the best practices for constitutions of non-hegemonic archives that equally embrace the real, the unclaimed, the anticipated and the fictional? And how we can collectively organize our hoarding, taxonomic drives towards an active exploration of the digital library's conceptual consis-

tency and its ethics of digital preservation? The workshop aims in the collective production and distribution of an ad-hoc (thematic, medial, historical or not) archive of comics or the augmentation of an already existing one.

Archival Gestures of Comics Memory

By Benoit Crucifix (Belgium). How do comics save themselves? What are the modes of knowledge production and cultural transmission that shape the past of comics? Which means organize the inscription of comics in a longer temporal perspective? Futures of comics inevitably depend on the way they have been saved and preserved. While contemporary comics face new challenges in terms of their archival storage and distribution, within the large spectrum of a digital economy, the 1970s already grappled with related issues of reproduction technologies, access and circulation, storage and materiality. This talk will look at comics collecting less as a subcultural phenomenon than as an important episode in a larger history of Xeroxing, microfilm, public access, cultural policy, dematerialization, underground distribution — a narrative that is still largely ongoing in the digital context of whistleblowers and rogue archivists.

Smuggling; many gestures, one single process?

By Morvandiau (France). As part of his thesis research entitled *The Art of Smuggling?* a cartography of the francophone alternative comics (1990-2015), Morvandiau found that many art workers of similar affinities have consistently multiplied their practices within the field of comics and publishing. How should we understand the claim for an expanded set of functions and capacities other than as a seeking a professional status, responding to multiple, often conflicting necessities such as the developments of a taste, a strategy and a process? From the trial and error experimentation to the perpetuation of outstanding printed works, the professional polymorphism in comics might be, along with the arrival of the manga in Europe, the major editorial upheaval of the last 30 years.

The Art of the News

By Alexandra Zsigmond (USA). The talk will be sourced from different interviews and discussions conducted with New York based professionals working in journalism and art direction and it will be structured as an examination of the Futures of Comics and the role of visual storytelling in The New York Times and other American newspapers and magazines.

Talking with others

By Powerpaola (Colombia-Ecuador). For two hours we will start a dialogue with the other through drawings and texts. We will make a small fanzine that could be easy to copy and make an exchange with others. It's very interesting how the other person reacts and how we build the topics and subjects to talk about. Everything matters. We could use basic things as pencils, paper, cutter and a ruler.

Against Comics

By Un Faulduo (Argentina). At first, Un Faulduo was a magazine. Then it became a world, the Faulduoworld. Now, it's a magazine, a world and a group, which, for fifteen years, has tried to elucidate what's the border of that strange language called comics. Un Faulduo makes comics, that is, some drawings framed by panels with some texts with words and onomatopoeia. But let's play a game: let's pretend that none of this exists. That there are no panels, no balloons, no words, no pictures. Let's erase everything and paint -like Rauschenberg or Debord- the remains. Let's assume that the only thing left standing is language, howling or silence. There are not, nor were there, manifestos to explain us, to help us. Only, perhaps, the arrogance of work. We are there, in the gutters, against comics. But how to oppose to something that does not yet exist?

Censorship in Turkish Comics

By Baris Uygur (Turkey). The presentation will lay out the historical background of censorship towards Turkish comic magazines (Girgir, Mikrop,

Limon, Leman, Pismis Kelle, Penguen, and Uykusuz) from the early 70's. I will start with the Ottoman Empire and the late 19th century when the first humour magazines have been published, and continue with the early republican period when the humour magazines become propaganda apparatus rather than providing criticism. I will support the presentation with examples from magazines and my main focus point will be the 80s and 90s and today. After the presentation we can have a discussion session in which we can compare different practices in different countries.

Communication Invoices

By Michael Fikaris (Australia). Australian small press comic art anthologies and what they say of the times they were made. Dense but affordable, self-published comic anthologies sparked an explosion of limited-edition releases from Melbourne, Australia's innovative underground comic artists in the late 1990's – 2000's. Generally produced in runs anywhere from 20 – 1000 copies, these booklets often featured dedicated comic studies alongside friends and casual participants to the comic book lifestyle. These artefacts, aesthetics, and printed attitudes were often made solely to conspire a larger understanding of the people around them. Australia is well known as a colony and outdoorsy culture with sports, beaches, barbecues and entrepreneurs ruling the cultural expectations. So what about the comics? Researched and curated by Michael Fikaris, editor and publisher of Silent Army Comic Art Collective, this presentation on self published comic anthologies brings together a selection of releases from the 1990's to today, alongside the developments and outcomes of small press comic technology. Drawing from the private collections of Fikaris, the anthologies explore the intersection between illustration, storytelling and design in the radical margins of Australian culture.

Neologism creation / microedition

By Laura Caraballo (Argentina). This workshop will happen at two different times. The first part is a collective reflection based on elements such as:

the critical analysis of hegemonic feminism, the definition of post-colonial feminism, as well as the problematization of the notions of binary and identity. I will propose some theoretical baselines around these concepts and the phenomena that materializes them. The second part will consist of a collective creation of neologisms or images that can report on the proposed problematics. This reflection and creation will result in the realization of a collective fanzine that will serve as a "manifesto" or, why not, an "anti-manifesto" of the work done during the workshop. The intention is not to pursue total agreement among the participants. The potential dissent will determine the richness of this limited moment of collective work.

An Open Letter To Comics Festivals

By Cartoonists Against Amazon (USA).

Cartoonists Against Amazon will read "An Open Letter To Comics Festivals." The group will additionally discuss the reasoning, context and strategy behind writing the letter, other ways in which cartoonists can work in solidarity with labour and migrant justice movements, and the networks of dissent being forged between comics and anti-Amazon organizing in other mediums, including No Music For ICE.

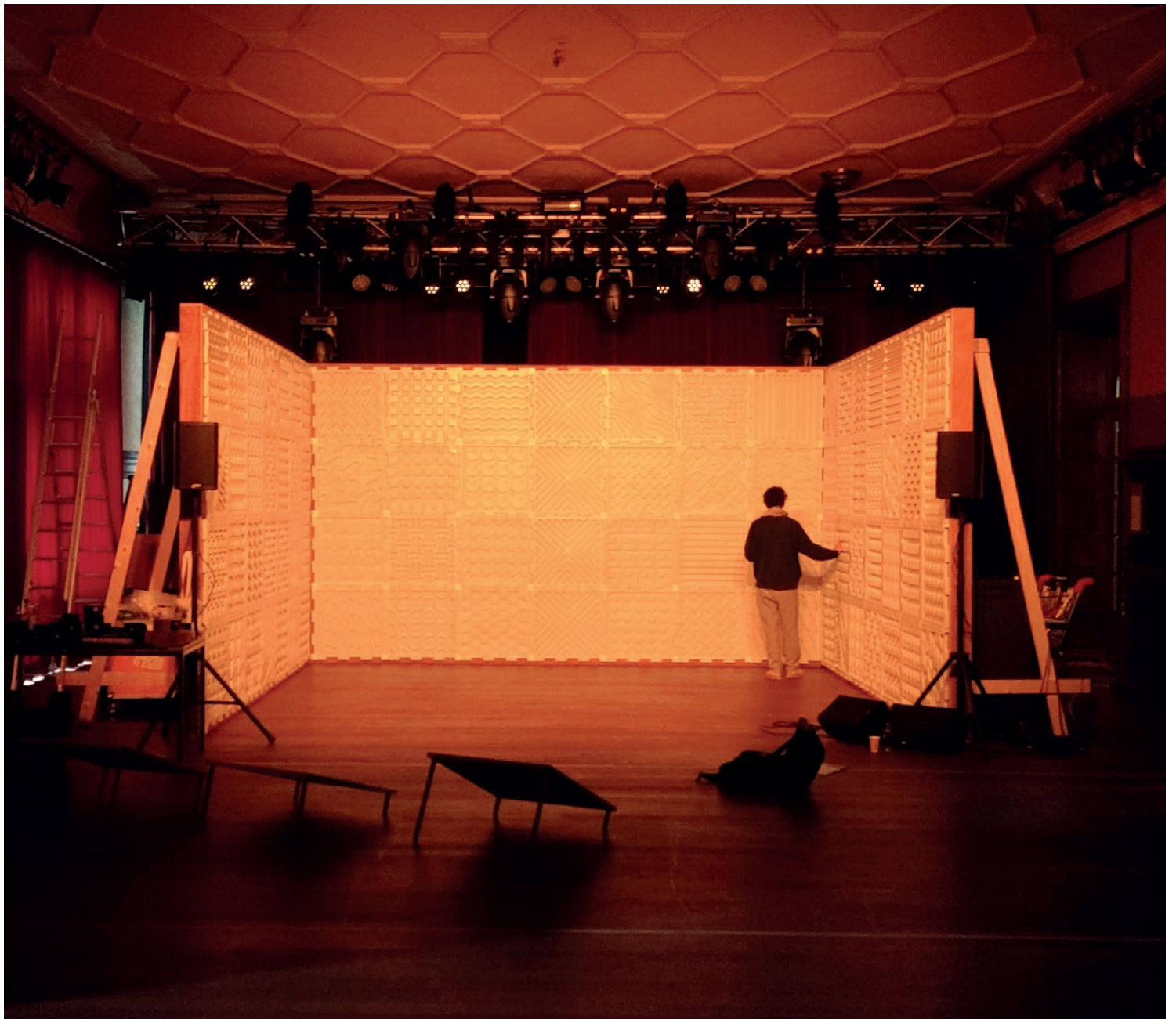
Read online:

<https://futuresofcomics.org/>

Shapereader. The Mural

The Mural explores Shapereader and its tactile resources as a speculative tool of graphic musical notation. In the middle of the global pandemic, eighteen performers from a variety of backgrounds were invited to experiment how sound can be stimulated by touch.

www.shapereader.org



Graphic notation is the representation of music through the use of visual symbols outside of the realm of traditional music notation. In western music tradition, graphic scores evolved in the 1950s and have been extensively used either in combination with, or instead of traditional music notation. Graphic scores often involve the invention of new notation systems used to convey specific musical techniques through the utilization of shapes, drawings and other artistic techniques meant to evoke improvisation from the performer. Since then, composers increasingly rely on graphic notation where standard musical notation can be ineffective and when, for example, aleatoric or undetermined effects are desired. From the evocative glyphs and the densely arranged pictograms of early contemporary music to the more popular current DAW visual interfaces, graphic scores have shaped the way we produce, archive and understand music.

The recent *Shapereader* workshops (2019), conducted in Madrid, Barcelona, San Sebastian and Ghent, introduced *Shapereader* as a tactile system for an alternative graphic notation in music. The workshops introduced to the participants the tradition of graphic scores. They explored these traditions with concrete examples, examining the different ways composers have bent language in order to foster new social/musical systems of interaction. The participants then used the existing resources of *Shapereader* and composed collectively a vocal score that was performed in front of a public.

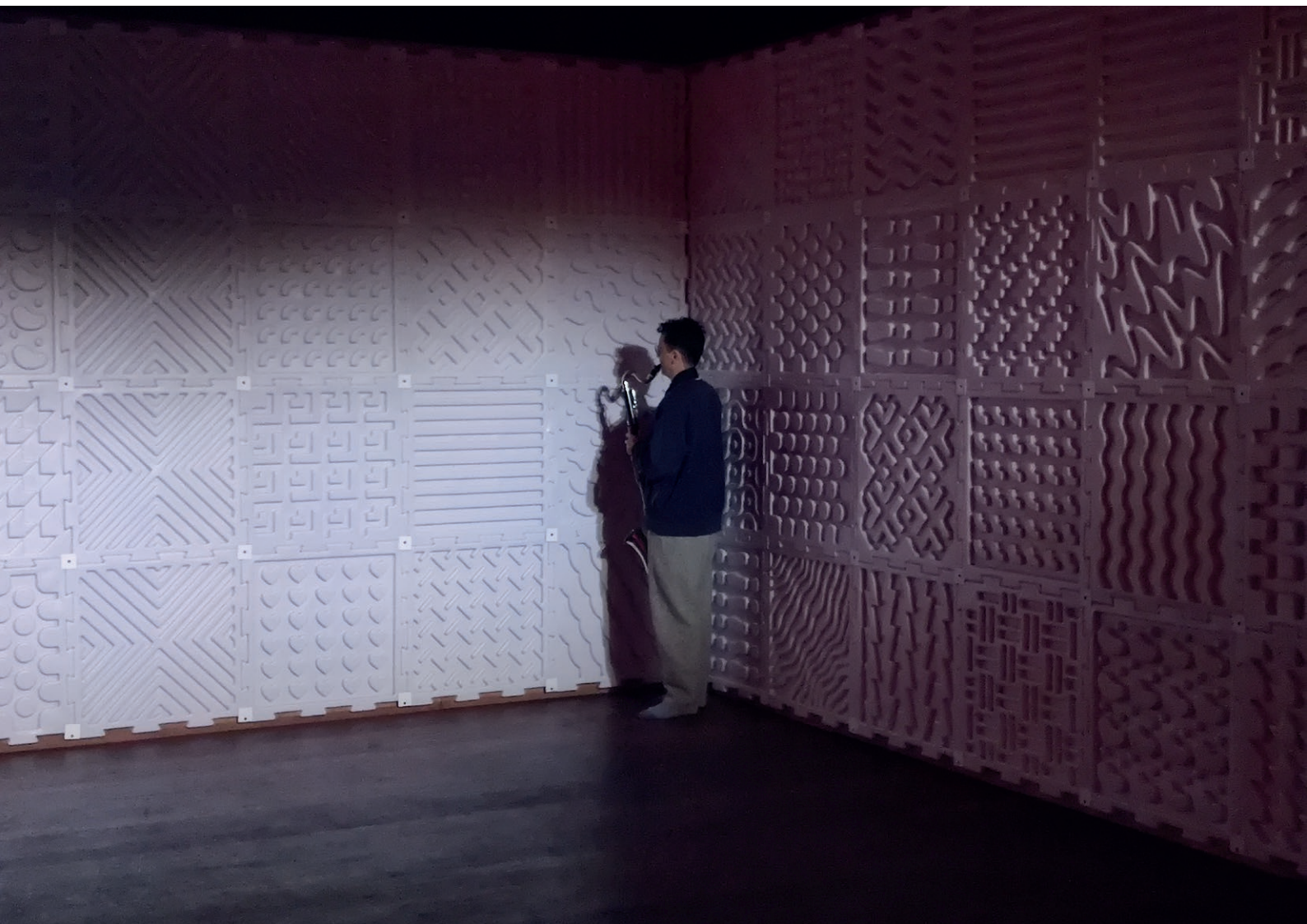
Drawing on the implications of these initial evaluation workshops, I developed an interest in further explore the haptic knowledge and tactile memory mechanisms involved in *Shapereader*, by scaling the works from the initial, intimate context, activating the fingers of the participants to architectural dimensions potentially engaging their entire bodies. Informed by the work and research of the Austrian Egyptologist Alois Riegl, the *Shapereader* installation takes as its inspiration what Riegl called the “tactile look”. The researcher developed an analytical system to trace the formal attributed of Egyptian art whose tactile qualities have the capacity to stand for material realities. The historian stressed that the material and contingent properties of the different bas-relief structures found in Egyptian art, were not simple decorations, but contributed to producing a verifiable and palpable reality that anchored and embodied specific religious feelings for subjects. In his extensive research on Egyptian art, Riegl redefined tactile knowledge from

being an accumulation of sensations collected through an array of active and passive epidermal contacts, to that of a teleosense; an experience that doesn't require any more the mutuality of physical touch but suffuses it within a larger sensorial frame that acknowledges the physicality of surfaces, consistencies and forms.

The installation examines the conditions for synthesizing community experience through embodied notions of materiality and performativity. It is grounded in the lineage of graphic scores in western contemporary music and extends this tradition by activating a deposit of tactile knowledge that frames the human body as a reading/writing interface with affective potentialities. Both a tactile score and a scenographic installation, this new *Shapereader* implementation pledges for a "secularized", diversified, non-normative and embodied scoring apparatus that has the capacity to amplify chains of significations that reflect the community's needs and desired uses, as well as the need for a safe space for sonic experimentation for mixed groups of performers.

The work was installed in the Balzaal of the Kunstencentrum Vooruit, in Spring 2020 and in the middle of the global pandemic. In compliance with Belgian health regulations, this art residency was an opportunity to invite eighteen performers from a variety of musical backgrounds on a daily basis. Structured as individual meetings, we discussed and shared affective (and other pre-attentive) individual experiences related to embodied experiences in sound production, and together conceptualized the building blocks for a tactile, graphic musical notation according to each performer's preoccupations. During the month of April 2021, and along with the different participants, we questioned the normativity of conventional notation tools, discussed the de-emphasizing of vision with regards to "reading" music and explored the manifold ways in which sound can be translated and stimulated by touch. The encounters, the short performances and the interviews with musicians were documented on camera, and were released as a short film - a collective commemoration on the awareness of mutuality in the sense of touch, that may never be the same again.

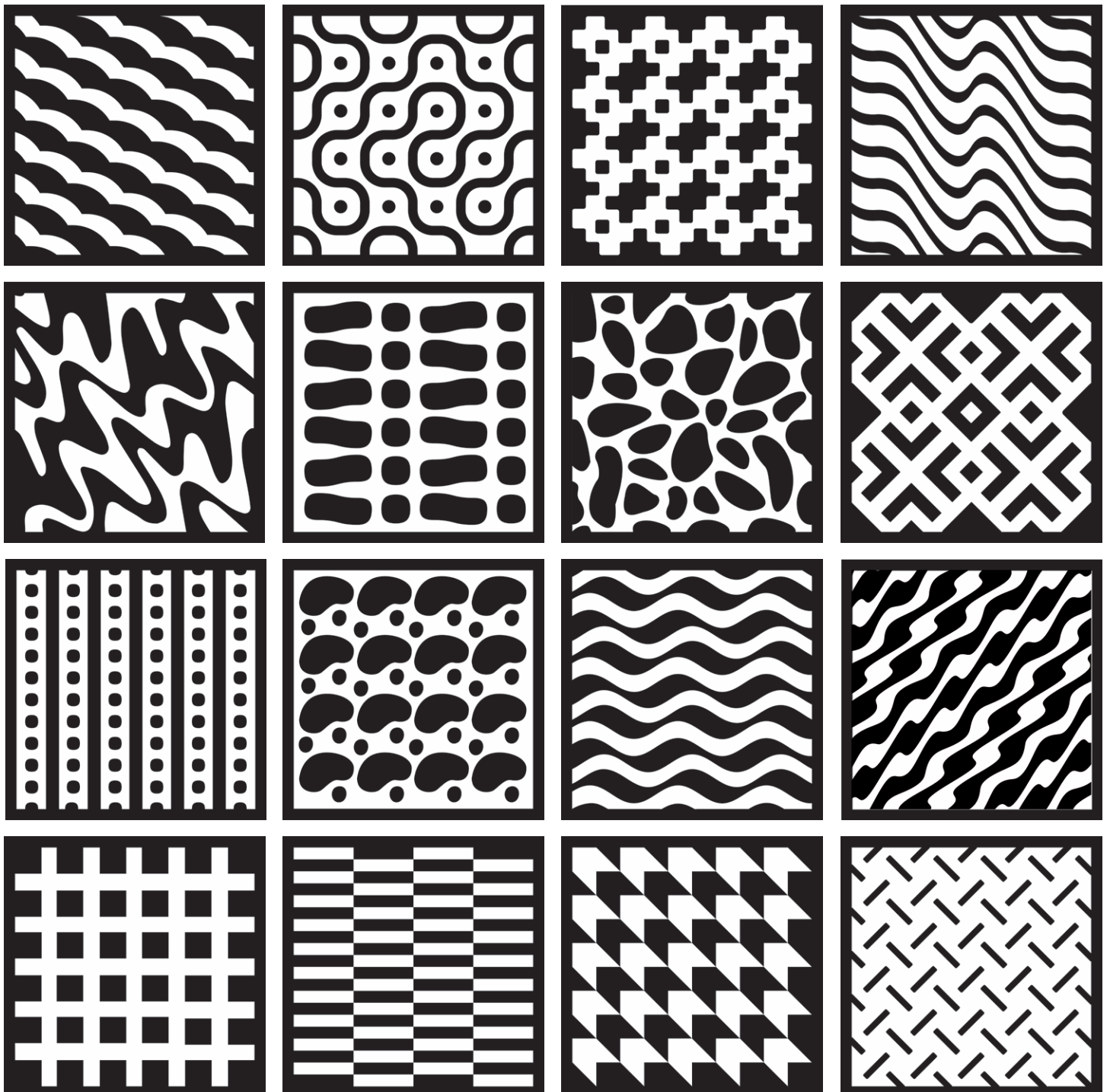
Watch the documentary online:
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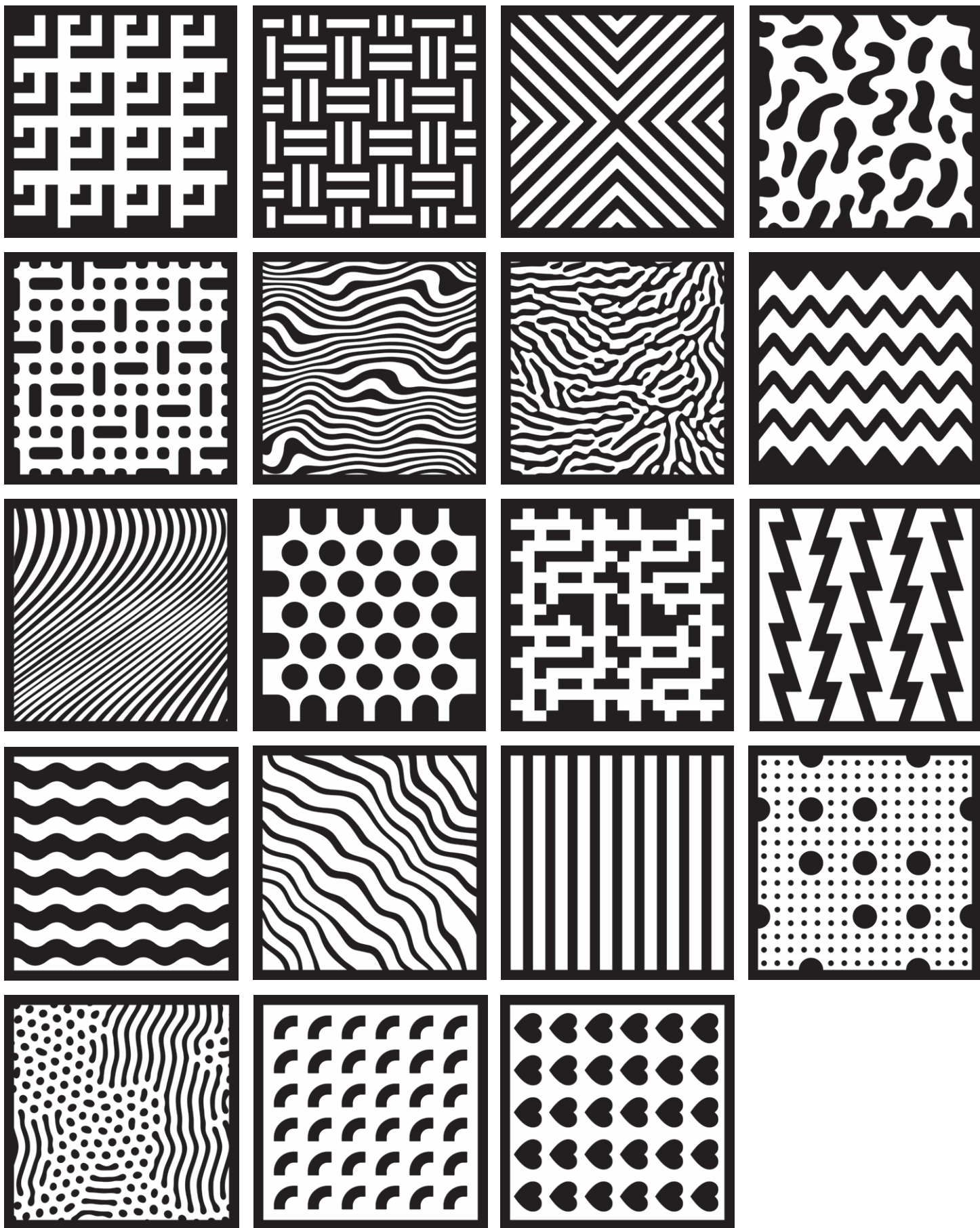


Technical rider

1. Design

Given the limitations in vacuum casting on a resilient, thick (3mm) substrate, the design has to be schematic, understandable, memorable and easily identifiable by most of the body's uninformed exploratory procedures. From the 2500 available Shapereader patterns I made a selection of 24 shapes that can be adapted in order to be easily scaled up and provide in their final form a consistent density for a safe physical movement.

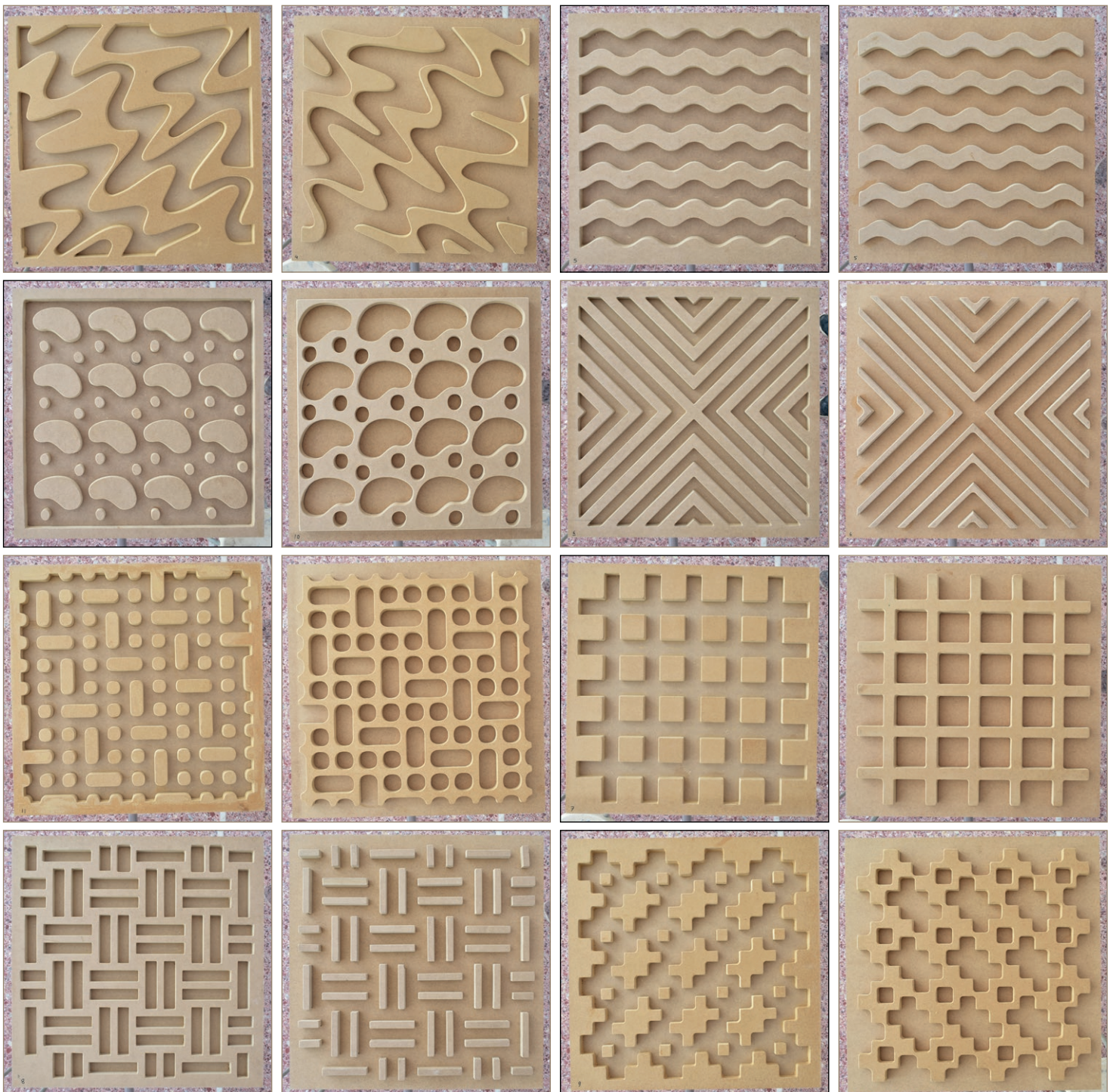


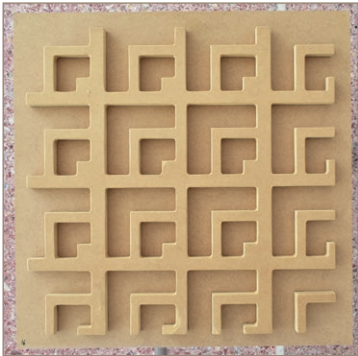
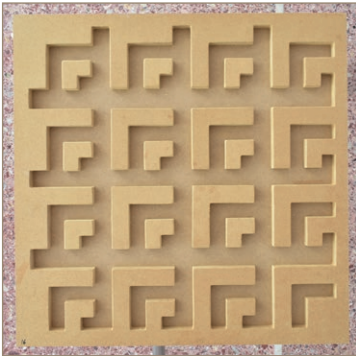
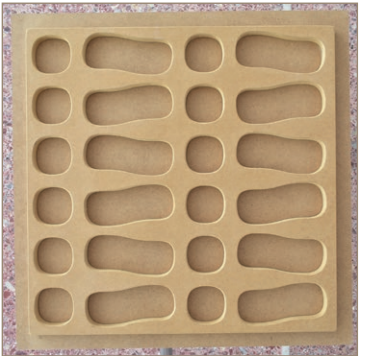
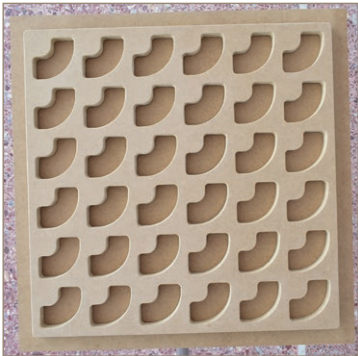
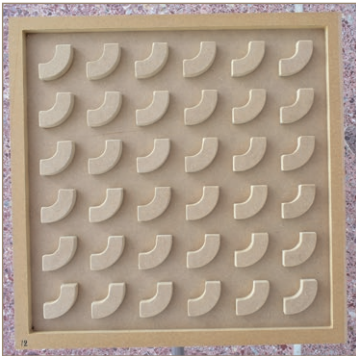


Technical rider

2. Prototype development

CNC refers to cutting material with a computer numerical control machine. The CNC machining process interprets the 3D patterns we designed in the previous stage and translates data to CNC machine. This method allows for rapid prototyping, a greatest degree of dimensional accuracy, critical surface finishes, material-specific properties. Here, the 25 master designs (prototypes) are carved using an X-Carve milling machine on 80 x 80 x 3cm MDF boards. The finished prototypes will undergo clamping preparation, trimming, sanding, polishing in order to produce the best outcome during the vacuum casting process.





Technical rider

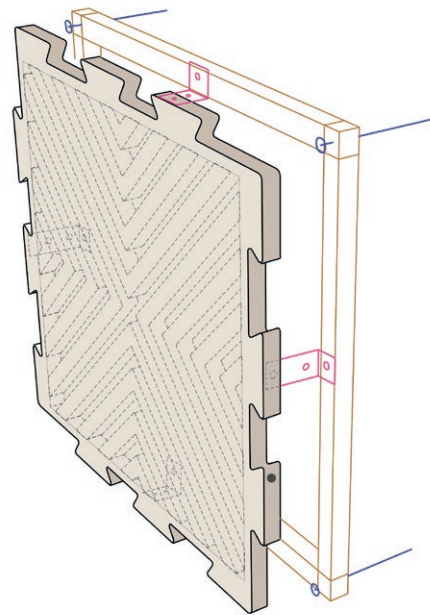
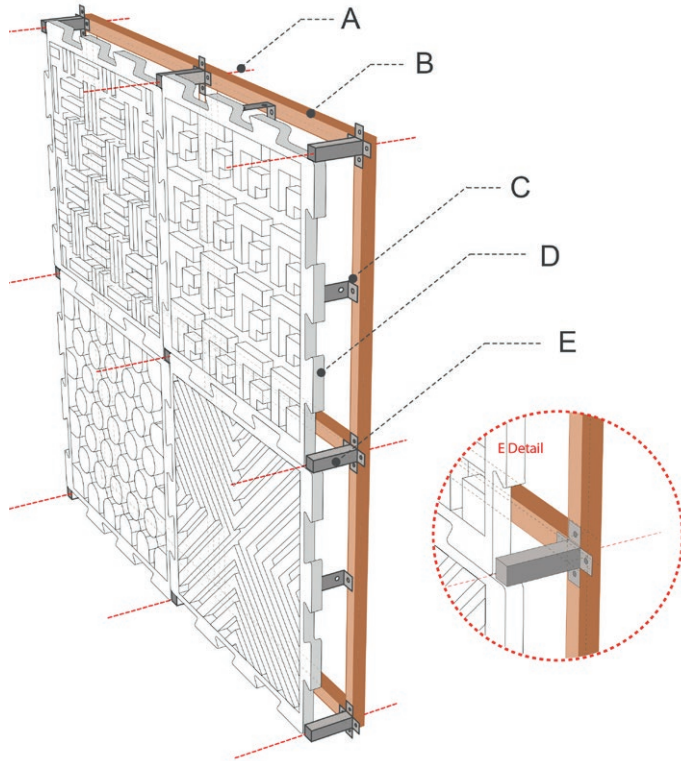
3. Vacuum casting

Vacuum casting is a fast and inexpensive technology for manufacturing versatile products by shaping hot thermoplastic sheets around the milled prototypes. Once the sheets are drawn onto the prototype, any remaining air is sucked out of them, pulling the material tightly against the prototype to ensure consistent definition in the final product.



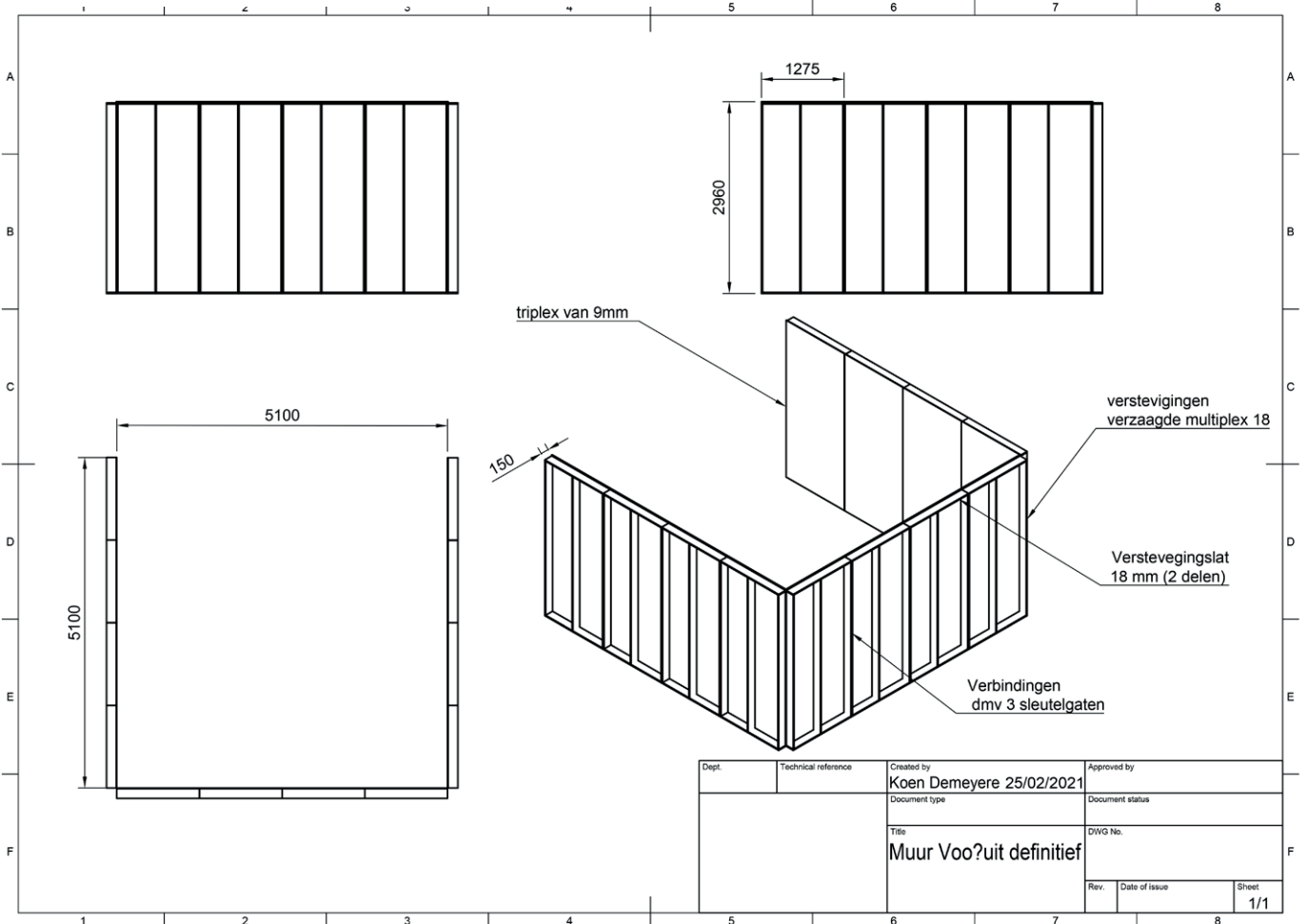
Technical rider

4. Installation

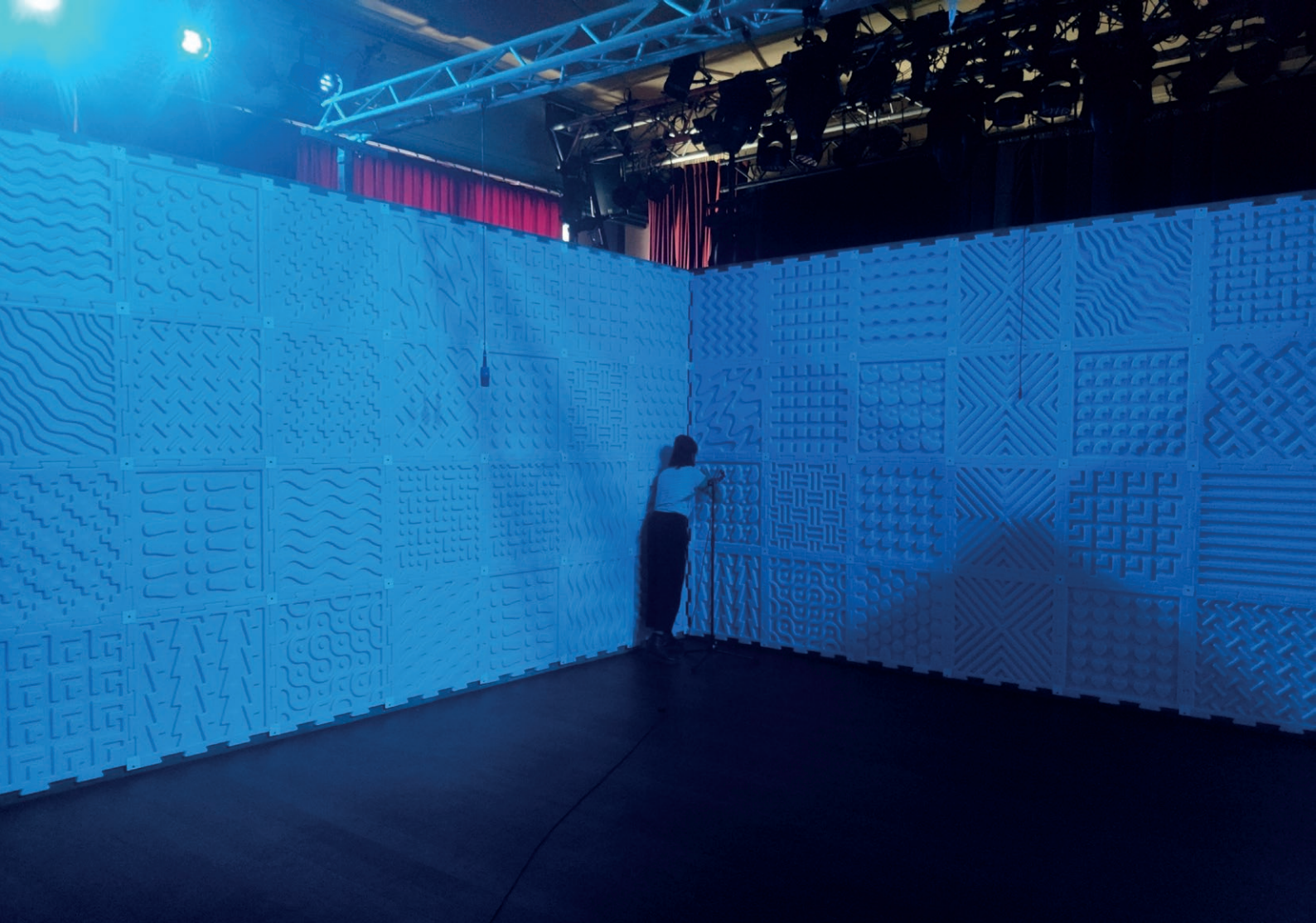


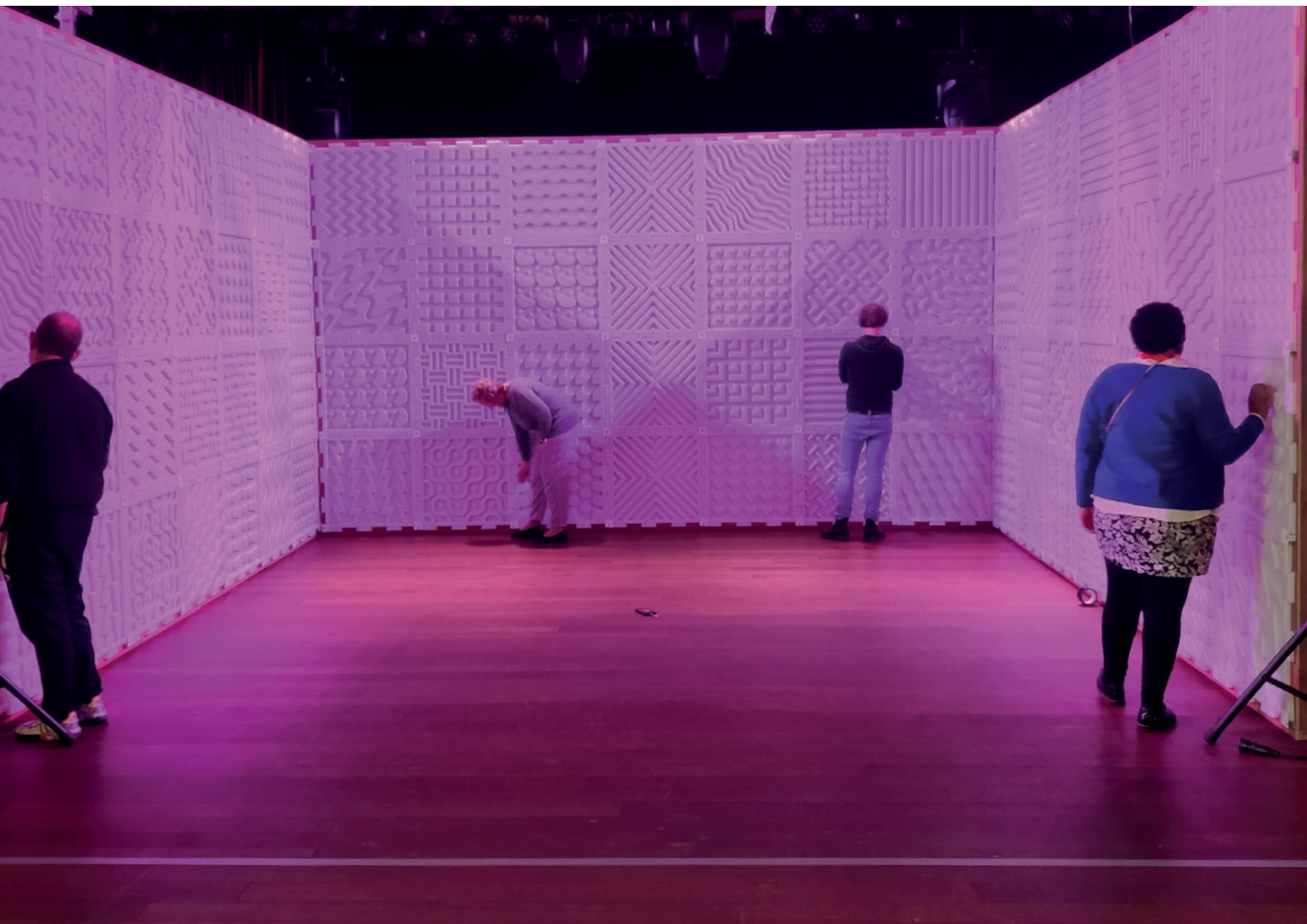
Fixture plan

- A. Cement screws
- B. Planned fir wood (3,5 x 4,5 cm)
- C. Galvanized metal L
- D. Shapereader plastic panel
- E. Special metal piece



Dept.	Technical reference	Created by Koen Demeyere 25/02/2021	Approved by
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Conclusion

The dissertation constructs comics as a contemporary object by embracing an attitude of productive estrangement towards its forms, material qualities and operations. I argue, both in theory and in artistic practice, that the interconnected, globalised and financialised comics industry coupled with the intensified digitisation of the comics infrastructure, has contributed to the diversification and consolidation of reading and making communities and the reconfiguration of labor. The digital transformation has also had a profound impact on the ways in which information is aggregated, stored and retrieved in the comics industry, gradually making possible the introduction of generative algorithms towards the production of synthetic media content. The cumulative effects of these technologies has resulted in the expansion of the scope of knowledge and has unsettled professional capacities and traditional models of production in the industry. This disruption is felt as an institutional challenge for academia and comics research. The current state of Comics Studies is in need of theoretical overhaul, toward a mode more in tune with speculative understandings of the signifying potentials of the industry's mutating infrastructures, the affective intensities of its expanding networks and the modes of address of its distributed comics communities. Nevertheless and as crucially, the configuration of comics media ecologies is also significant for comics professionals. Artists, by becoming more attentive to the infrastructural dynamics at play and the contractual obligations implied by the comics industry, are presented with the opportunity to introduce pressure points in its socioeconomic backdrop. A novel comics praxeology might be informed by the leverages this knowledge provides.

A determinant element in the understanding of the ongoing crisis originates in the globalization of labor and the networked exposure of an impressive constellation of semi-professional and amateur activity related to comics. The visibility of an international workforce, coming from a diverse range of ethnic and socioeconomic backgrounds has contributed to provincializing the global epicentres of comic book production. Globalization, as opposed to uniformization, is the result of the increasingly interconnected affordances of the comics industry and is manifested as a complexification of consumer habits. As Jean-Paul Gabillet examines in his study of the relative commercial failure of canonical works of Franco-Belgian comics in the US market, the globalized dimensions of the comics industry contributes to an intensified striation of comics cultures and economies where "commodities travel more easily...than the consumption practices in which they are embedded back home" (Gabillet 2013). A similar case can be argued in Casey Brienza's sociological research on the complexities of importing and marketing bestseller Japanese manga for the US market.

The comics industry, as convincingly argued by Benjamin Woo, was never a single entity limited to the production of print commodities, but a diverse ecosystem consisting of multiple sub-industries, legal, printing, retail, distribution, and others. Besides these sub-industries, the spreading digitization is also manifest by the emergence and the ramification of new sites of professional engagement. The rise of entrepreneurial fan culture and the combined deployment of globalized distributed labor, the professionalization of microwork clickfarms, the building and maintenance of specialized p2p trackers, media repositories, shadow libraries, aggregators, rogue archives and unaffiliated blogs, have allowed users and makers without prior specialized professional training in comics education, to leverage the network dependencies of an ever-growing network infrastructure. My book *Peanuts Minus Schulz* and Chapter 4 “Distributed Labor as a Compositional Practice” of this thesis, demonstrate that a worldwide integration of the infrastructural deployment of labor in comics has forced an expansion of the concept of labor that might challenge and significantly impact the productive capacities of comics artists in the future. *Peanuts Minus Schulz* revisits, through the deployment of distributed labor, the traditions of the production belt that have conventionally defined the manufacturing workflow of mainstream comics. The book, resisting the smooth integration and style uniformization conventionally required in the industry of comics, aggregates in a non-totalizing way the different forms of affective engagement through the unskilled, idiosyncratic and temperamental interpretations of Schulz’s work.

The recent global explosion of innovative and experimental works that interrogate the specific mediation introduced by the comics industry in cultural, economic, and social transactions, has also resulted in a displacement of our theoretical assumptions about the state of comics research. The production of new insights and the dissemination of knowledge has a certain relation to futurity that the current state of interdisciplinarity in Comics Studies hasn’t yet been able to capture. In the introduction of this dissertation, I argued that the majority of Comics Studies, rather than embracing an operational, constructivist ethos in speculative world-making related to the medium of comics, has been instead progressing by incremental, marginal displacements in the disciplinary canons of affiliated research fields such as in Comparative Literature. This premise led me to interrogate how artistic research can be sensitive to the ethics of disciplinary cohabitation. In this regard, I brought forward the propositions of Generic Epistemology, a concept theorized by philosophers Francois Laruelle and Anne-Françoise Schmid. The concept responded to the epistemic challenges introduced by the emergence of complex computer modelizations in scientific research.

The multitude of symbolic languages and the fragmentary nature of knowledge production in the computational age has forced a radical rethinking of research methodologies, and has registered a need for working across disciplines based on a general compositionality of observations, skills, methods and insights. Generic Epistemology amplified the necessity for the formation of a disciplinary concurrence. According to the writers, an object of study is irreducible to unique disciplinary purviews. The combined and often conflicting partial perspectives embedded in a democracy of disciplines can be strategically utilized, toward the estrangement of the research object, in order to reveal its multiple dimensions and capture it in its “interdisciplinary oscillation” (Schmid et al. 2011). Posited against the conventional scientific methodology predicated on the phenomenological distance between subject and object, Laruelle and Schmid defended the epistemic entanglement between a researcher’s intentions and interests and their object of study as a necessary corollary for conducting research. This further resonates with the specificities and the urgencies of artistic research.

My research suggests that the transformation of the medium’s ecology is extensively dependent on the unstitching of dominant disciplinary perspectives on comics (e.g. semiotic, literary), and on our ability to think and operate between disciplines, in a non-hegemonic way. Following up to Generic Epistemology’s “indisciplinary” project, Schmidt and Hatchuel attempted to further disentangle the theorisation of research objects from the disciplinary sets of finalities they are supposed to fall under. They advanced the hypothesis that not only entrenched disciplinary perspectives are increasingly insufficient in delivering new insights, but that they can also hinder the production of novelty in a research field. By provocatively asking “what is a mathematics ‘without’ object, a mathematics ‘without’ number?” (Schmid and Hatchuel 2014:132) the authors proposed their concept of “fiction”. According to the writers, research objects need to be disassociated from their well-known properties, conceptualized without their ‘essential’ features, and estranged from existing dominant scholarly perspectives. A similar conceptual operation of fiction can be found for instance in Chapter 3 of this dissertation, “The Tactile Comics of *Shapereader*”. The *Shapereader* project is a system of comics storytelling based on a repertoire of tactile shapes that was conceptualized and specifically designed for makers with visual disabilities. *Shapereader* was an opportunity to open up the object of comics to the epistemic perspectives of Disability Studies. By thrusting comics into the sensorial realm of tactility, *Shapereader*’s comics “without” visual information, stretch the limitations of the medium’s definitional fixity and unsettles its underlying assump-

tions, namely: how comics ought to be (printed and flat), how they should typically address their reader (through visual stimuli), and who the reader is assumed to be (a detached, contemplative, disinterested, disembodied, or able-bodied entity). *Shapereader*'s participatory ethos is an exercise in disciplinary cohabitation, as it engages groups of people that are conventionally not represented in comics communities. The constituency of attendants in *Shapereader*'s participatory workshops offers therefore a compelling opportunity to work across disciplinary domains and social worlds.

Participatory projects in the arts are usually experienced as exercises in institutional critique demanding the reconfiguration of power relations in certain domain applications (Schäfer 2008), while according to social scientist Sherry Arnstein, participation is increasingly linked to citizen empowerment and to social progress. It is a transformative process that allows "the redistribution of power that enables the have-not citizens...to be deliberately included in the future" (Arnstein 1969). In their 2006 book, *Blindness and the Multi-Sensorial City*, editors Patrick Devlieger et al. examine the impact of disability studies in decision making processes in architecture and design. They argue that collaborative projects, specifically designed for users with visual impairment, and which "consider alternative uses of materials, and insert qualities that may enhance richer non-visual experience" (Devlieger et al. 2006) are fostering important encounters; they contribute to a social space where capability and disability are not only features of an individual. They are instead the properties of an environment that is socially determined and which allows to frame disability as a dynamic, and situation bound condition. Focusing on the needs of the visually disabled addresses the issues of a long overdue, inclusive understanding of comics. *Shapereader* explores the medium's inherent heterogeneity from a position of hybrid textualities. Comics becomes a multidimensional entity with the radical capacity to construct an alternative political project and contribute to the production of new subjectivities by engendering the pluralization of perspectives, and positing its own forms of sensorial, embodied engagement.

A crucial part of this thesis consisted of examining the materialities of comics infrastructure from the perspective of a net-savvy, technologically-fluent class of comics professionals. In his book *Towards A Philosophy of Photography*, the philosopher Vilem Flusser's intuited that the role of the photographer in the advent of digital photography evolved into that of a hyper-aware networked performer. The photographer does not merely take pictures, but reconstructs the world as information, deciphering and making

visible through the photograph's signifying layers, a succession of social institutions and nested apparatuses that produce their own type of discourses, knowledge(s) and histories. Flusser's era is quite different from ours, and in some regards it was much easier to navigate in terms of informational density. Comics are increasingly technical objects and the computational age might call for a similar displacement regarding the working ethics and capacities of comics professionals. I argue that a heightened contextual appreciation of the infrastructural backend and the awareness of the imbricated institutions that form the comics industry would allow comics professionals to expand their toolbox and update comics making to a twenty-first century comics praxeology. This shift involves a necessary radical rethinking of rooted traditions of craftsmanship in comics communities that are insufficient in responding to the intensities of a media-saturated information economy. Indeed, comics artefacts are increasingly embedded in information-intensive contexts and this is an important effect of the rampant digitisation of comics infrastructure. The industry's technological affordances accelerated by the democratization of artificial intelligence and the rise of synthetic media and generative algorithms, thrusts the comics medium into largely unknown territories. As demonstrated by Chapter 5 "A Deep Learning Pipeline for the Synthesis of Graphic Novels", the book *Fastwalkers* (2021) and the twitter generator *The Neural Yorker* (2020), comics can also be construed as a technical-computational object. Following Generic Epistemology's precepts, these projects point to integrative access to knowledge and collaboration. They are entirely co-created with emergent AI and developed by an interdisciplinary team of computer scientists and designers; they are the products of a variety of different indexing regimes, community datasets, distributed and cloud computation, proprietary algorithms and generative models trained on millions of data units and bodies of text. *Fastwalkers* and *The Neural Yorker* outline a speculative hypothesis according to which an industry-wide adoption of synthetic media based on generative processes and algorithms will reshape readerships and markets with tangible effects in the medium's affective intensities.

From the point of view of the comics professional, sustained engagement with the industry's very own infrastructural backend can catalyze a discursive, self-reflexive attitude towards the industry's dependencies and histories. An infrastructural sensitivity, whether it is technological, financial or social, would allow artists, but also researchers, to broaden their systems thinking in a variety of different capacities. In addition, this sensitivity can contribute to expanding their operational agency, helping professionals navigate their artistic practice as well as other contingent domains to comics such as

librarianship, deep learning or Disability Studies, all the while actively constructing and reconstructing the concept of comics, as knowledge and technology evolves. As my book *Noirs* and Chapter 1 “Outlining Conceptual Practices in Comics” suggest, every part of the industry’s technical-economic scaffolding can be parsed as a tactical opportunity for a critical displacement, in order to embrace future, speculative, unclaimed or impossible comics forms.

Infrastructures are ubiquitous. Despite its diversity, comics scholarship, and this dissertation is no exception, explores comics from an obvious, unassailable standpoint. While there is still little scholar consensus on whether comics is a medium, a language or an art, it’s relatively agreed upon that it is a formal expression that consists of a variety of well-documented community forms of human interaction, occurring in terrestrial infrastructural setups. But is comics ontologically earthbound? As we are reminded by Brian Larkin, infrastructures are built on “deep affectual commitment”. In his article “The Politics and Poetics of Infrastructure”, Larkin proposes disentangling the object of the infrastructure from the prevalent narrow understanding of an invisible system of technical substrates that silently governs our phenomenal, objective world. In Larkin’s writing, but also in the research of many of our contemporaries, infrastructures are approached through a synthetic perspective, as technical, social, financial, biological or affective entities, whose materialities contribute to a particular aesthetic order, consist of and involve embodied experiences, and help shape specific structures of feeling. Infrastructural thinking is impossible to contain in one single epistemic perspective. The diversity of theoretical outlooks on infrastructures requires a sensibility to context as well as the signifying practices and material operations of other contingent domains. Infrastructures are therefore also structures of feelings; from a materialist perspective on the infrastructural dependencies of the comics industry, a speculative step in this direction would engage the deployment of cosmic infrastructures and how their dynamic temporalities might resonate with contemporary practices in comics.

The engagement with non-terrestrial infrastructures would require a necessary retooling in our understanding of “immutable” objects in comics epistemology. Parallel to the multiple modes of address in the experience of comics, such as the institution of “writerly” and “readerly” subjectivities,¹ the comics industry’s formative potential can also

1. Roland Barthes described a text as “writerly” (*scriptible*) in its capacity to put the reader in a position from which to navigate a multiplicity of different readings, actively contributing to the construction of meaning as opposed to “readerly”

be approached beyond the confinements of human experience or comprehension. We would therefore take Schmid's and Hatchuel's provocation one step further and hollow out comics from their most resilient feature, the human agent. The continuity of this research would lead us further down the path of estrangement, where we would start localising the sites of a productive trajectory and the distributed elements of a material, speculative language beyond the industry's constitutive topographies, beyond the pulp forests providing the industry's raw matter funneled through global distribution sinews, the transatlantic containers, the warehouses and data centers, the shredding facilities, waste management and the landfills.

Constructed between the real and the theoretical, a speculative research project on the infrastructure of contemporary comics would explore the medium's affects from the perspective of interstellar communication. The investigation would contribute to a vibrant discussion on the modalities of interstellar communication that explores, from a technical point of view, the specifics of message design (language universals, inverse cryptography, communication channels, compression strategies, message duration) as well as the ethical considerations for humankind (anthropocentric heuristics, cultural bias, reflections on intersubjectivity). Drawing from an abundance of historical cases of interstellar communication such as the Arecibo transmission, the first intended pictogrammatic narrative to leave the Earth, as well as various traditions of time capsules such as The Oglethorpe Crypt of Civilization, in addition to documented explorations in interstellar message design informed by xenolinguistics, psychedelics and interspecies communication, a proceeding research project might trace the contours and ethics of signifying practices in contemporary comics that address the formation of "otherly" subjectivities.

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(*lisible*) texts, where meaning is supposedly fixed, linear and where the reader is more of a recipient of information. Comics have consistently explored these modes, ranging from the "writerly" elliptic, poetic constructions where signification is constantly deferred to the "readerly" implementations that can be found in educational uses, infographics, applied cartooning or the variety of historical cases in propaganda communication. Barthes, Roland. *S/Z*. Paris: Éditions du Seuil, 1970.

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