While always having been closely related, "research" and "publishing" currently undergo changes. They turn from once firmly established disciplines to experimental practices that not only concern their methods and subject matters, and but also their very definitions. This is related to paradigm shifts in culture and technology: digitization and electronic media technology have disrupted publishing, but they also affect the (digital) humanities. Globalization questions the Western canon and the traditional divide between the arts and research which concerns the traditional textbook form of academic knowledge. As a result, both "research" and "publishing" have become questions rather than answers. At Willem de Kooning Academy (WdKA), a cross-departmental Hybrid Publishing lab for art and design research publications has been established in 2015, and an international Master program Experimental Publishing in 2016 at WdKA's Piet Zwart Institute. The program is to realize new, experimental forms of publications simultaneously in multiple media, combine them with new, experimental forms of art and design research - and, eventually, to extend it to the Rotterdam Arts and Science Lab.

Hybridity of art and research

WdKA's research into new forms of publishing in the digital age began in 2009 with the conference *print / pixel* that brought together artists, designers, software engineers, small and large book and newspaper publishers as well as researchers from the Netherlands, Belgium, Germany, Italy and the United States to discuss the impact of electronic publishing (including e-books) on their future work. Alessandro Ludovico, editor and publisher of the Italian new media arts magazine *Neural*, came as a fellow to WdKA's research program (lectoraat). The question for everyone was: What will be the future of publishing media and editorial design if our common, seemingly paradoxical observation is true that (a) the digital revolution is real, while (b) print and paper will not go away. This resulted in Ludovico's book *Post-Digital Print*¹ which our research programme published in collaboration with the contemporary art space and book publisher Onomatopee in 2012. (Shortly after, it appeared in a second edition, in French, Italian and Korean translations and has its own Wikipedia article.) In the book, Ludovico argued that the death of print had been predicted since the 19th century, but never happened. He therefore focused on "post-digital" projects that combined digital and print or transcended their opposition.

The discussion of new technologies and their impact on publishing, art and design was not new. In a manifesto published in Kurt Schwitters' experimental periodical _MERZ_in 1923, the Russian constructivist El Lissitzky sketched, in eight bullet points, a program for the "new book": Among others, it should be designed as a "book-space" that gives "reality to a new optics". Instead of just giving a new look to old content, the "new book demands a new author". The manifesto concludes with a demand that the "printed sheet [...] must be transcended: THE ELECTRO-LIBRARY". While this electro-library remained a speculative vision for Lissitzky, his book designs from that time anticipate many principles of what today is called *new media*. In the same year, he designed Vladimir Mayakovsky's poetry volume *For the Voice* as book where each poem is typeset as a piece of visual poetry in which the lines between typography and visual art are blurred. On top of that, each individual poem is represented by a pictogram on an index pane on the right side of the book (whose pages are cut open like those of an address book). This design effectively turns the print book into a database with an icon-based graphical user interface as it had been nominally invented by Xerox in the 1970s and popularized by Apple with the Macintosh in the 1980s.

Still in 1923, Lissitzky met Piet Zwart, who next to his work as a commercial designer taught at the forerunner of today's Willem de Kooning Academy. (Zwart became notorious at the school for his demand to shut down "the fine art painting program" in favor of "synthetic and visual drawing, advertising, modern reproduction technologies, typography, photography and its visual possibilities, film, and the use of colour in architecture and in the urban space". This lead to the school ending his contract in 1930.) Lissitzky's, Schwitters' and Zwart's graphic designs were prominently featured in Jan Tschichold's 1928 book *The New Typography*. Similar in format and style to the *Bauhausbãl*/acher (Bauhaus books) including Laszlo Moholy-Nagy's *Painting, Photography, Film* from 1925, Tschichold's book became the classic work on 20th century modernist type and graphic design.

^{1 (}Ludovico)

² (Lissitzky), 359

³ Piet Zwart, Nederlandsche ambachts- en nijverheidskunst, in: Het Vaderland, May 31, 1928

In their new form and content, the $Bauhausb\tilde{A}^{1}$ /acher marked a high point of artistic research publications in the 20th century. The Danish Cobra painter and Situationist Asger Jorn matchingly coined the term "artistic research" in his 1957 *Notes on the Formation of an Imaginist Bauhaus* when he wrote: "Artistic research is identical to 'human science,' which for us means 'concerned' [i.e. engaged] science, not purely historical science. This research should be carried out by artists with the assistance of scientists". ⁴ Jorn's own experimental-artistic research publications include a "psychogeographic" atlantes of Copenhagen and Paris which he wrote in collaboration with Guy Debord: They contain subjective instead of scientific cartographies, with torn-apart maps, drops of paint and collages of materials found in the street. (These psychogeographies later influenced Rem Koolhaas' architectural urbanism.)

Moholy-Nagy's books were a major influence on Marshall McLuhan's media theory of the 1960s. McLuhan remains one of the few humanities scholars who engaged in artistic research and experimental publishing as part of his work as a scholar: First, with *Counterblast*, a riff on Wyndham Lewis 1915 Vorticist *BLAST* magazine produced in two versions in 1954 and 1969, secondly with *The Medium is the Massage*, his collaboration with the graphic designer Quentin Fiore from 1967, in which a typing error ("massage" instead of "message") in the editorial process ended up becoming the title. The few other historical examples of academic publishing that transgresses the boundaries of scholarship and visual art and design include Jacques Derrida's experimentally written, non-linear, multi-column philosophical essay *Glas* (1974) and the book *Diagrammatic Writing* (2013) by Johanna Drucker who is both an accomplished contemporary artist making artists' books and a humanities scholar; to a lesser extent also *The Telephone Book* (1989) by media theoretician Avital Ronell (in cooperation with the graphic designer Richard Eckersley) and the collaboration of scholar N. Katherine Hayles and graphic designer Anne Burdick in the small book *Writing Machines* (2002).

Conversely, scholarship has migrated into audiovisual media to reach wider audiences and find more accessible forms, an approach practiced in British culture cultural studies in American postcolonial studies, such as in John Berger's BBC tv program *Ways of Seeing* (1972) and Henry Louis Gates with *African American Lives* (2006). (The recent explosion of racist and conspiracy theory-mongering pseudo-science on YouTube and other social media indicates the need for scholars and researchers to become more visible in these media.)

On closer inspection, however, and with the exception of *Diagrammatic Writing*, these books qualify as 'creative scholarship' rather than 'artistic research' in Jorn's sense: The hierarchy and the respective roles of writer/scholar and visual designer/artist are not removed, but just softened through more dialogue. What got lost, too, in the take-up of 1920s avant-garde concept into experimental forms of scholarly publishing after the Second World War was Lissitzky's speculative vision of the "electro-library". It was continued - likely without any awareness of Lissitzky and initially without the involvement of artists and designers - in information science and computer engineering, such as in the 1940s "Memex" architecture of interlinked microfilm documents by American presidential advisor Vannevar Bush which influenced Theodor Holm Nelson's 1963 concept of electronic "hypertext". More recently, the idea of extensive "electro-libraries" has mostly been realized in projects like the Internet Archive (archive.org) and the artist-run projects UbuWeb, Aaaaarg and Monoskop (the latter is maintained by Piet Zwart Institute graduate Dušan Barok) that provide vast repositories of digitized, freely downloadable modern and contemporary art and philosophy books as well as audiovisual media, and serve as the unofficial research libraries of art schools and non-traditional academia around the globe.

In the same spirit, Yoana Buzova, Lasse van den Bosch Christensen, Max Dovey, Michaela Lakova and Roel Roscam Abbing developed - when they were still students at Piet Zwart Institue - the inexpensive, cigarette box-size server 'Bibliotecha' which can be brought anywhere, plugged into an electricity outlet and serve a library of down- and uploadable electronic books via its own wireless network, without an Internet connection.

⁴ Asger Jorn, Notes on the Formation of an Imaginist Bauhaus, in: Asger Jorn, Against Functionalism, 1957,

⁵ With Paul Otlet's index card-based information systems created in Belgium between 1895 to 1934 as fore-runners of modern search engines.

Hybridity of print and electronic

This split between experimental print publishing (including the vast tradition of artists' self-made books and multiples since the 1960s) and experimental electronic publishing is epitomized in the very theory of "new media" - which has become a standard disciplinary term, particularly in the anglophone humanities. Its arguably most canonical definition can be found in *The Language of New Media* (2002) by Lev Manovich (who was a research fellow at WdKA's Piet Zwart Institute in 2005) where five criteria are given: "modularity", "numerical representation" (i.e. digitality), "automation" (i.e. programmability), "variability", "transcoding"⁶. "Modularity" means the assemblage of different types of media to a whole whose parts remain independent (such as embedded images and videos on a website); "variability" describes the fact that a "new media object is not something fixed once and for all, but something that can exist in different, potentially infinite versions", "transcoding" the technical and figurative translation of data into different media and representations.

In Manovich's theory and its larger application in arts and humanities, "new media" is thus practically synonymous with digital media. When revisiting Lissitzky's design of Mayakovsky's poetry volume with Manovich, it is nevertheless striking that the book meets most criteria of "new media": It is modular in its use of icons as a navigational interface, variable in the fact that the same poetry volume has been reprinted in numerous editions and typographic designs, and its very title - "For the Voice" - indicates that it is all about transcoding print to speech. It even fits the criterion of numerical representation to the degree that it is structured by countable entities in an index and written in the countable code of the alphabet (since even the visual shapes were typeset with the Gutenberg technology of movable lead type from a letter case).

Conversely, the issue of what is "new media" can be confused in work that is based on electronic computer technology. A good example is 56 Broken Kindle Screens, a print-on-demand book designed by Silvio Lorusso (now a teacher and researcher at WdKA) and Sebastian Schmieg as part of their masters studies at Piet Zwart Institute in 2012. Consisting of nothing but found photographs of broken screens of Amazon's Kindle e-book reading device reprinted full-size on its pages, this book received major media attention when it came out. Effectively, it is a second-order remediation or, in Manovich's terminology, transcoding: the e-book, which originally was a remediation from print to digital, is remediated back to print, all the while preserving the hardware, as a romantic ruin, rather than its software interface. This work technically checks all boxes of "new media" according to Manovich. At the same time, only one of those criteria is irrelevant for the work, with its emphasis of the materiality (versus the marketing pretension of dematerialization) of the Kindle device as well as of the paper book. This is just one example of hybrid analog/digital publishing experiments; Lorusso maintains a database of comparable work by international artists and designers on his website Post-Digital Publishing Archive.

The more general conclusion to be drawn from these and other contemporary art and design practices (including, for example, today's experimental music and film as it is presented in Rotterdam at arts venues like WORM and De Player) is that the distinction of "old" and "new" media is no longer clear-cut and often fails taxonomies such as those of Manovich. After Ludovico's book, a series of articles and books were written in the WdKA research program which investigated the "post-digital" condition after new media. ¹⁰ This has been internationally taken up, among others, by art festivals such as transmediale in Berlin and in

⁶ (Manovich, 27-48)

⁷ (Manovich, 36)

⁸ The term "digital media" is technically incorrect, since only information can be digital, not the medium/carrier of its storage or transmission. I use this colloquial term nevertheless, for the sake of making the text easier to read.

⁹ One of the few publishing houses specializing in experimental, hybrid analog/digital editions is *Badlands Unlimited* which was founded in 2010 by American contemporary artist Paul Chan. Its program contains e-books, print books and even objects such as billboards and knitted signs. In 2010, it published *The University of Reading*, the PhD thesis of Stuart Bertolotti-Bailey, a co-founder of the art/design/theory publishing collective Dexter Sinister (which also involved Piet Zwart Institute research tutor Steve Rushton), as a set of files. This is a rare example of university scholarship intersecting with hybrid publishing, although the form chosen for this publication was chosen to reflect the design constraints of academic publishing: "For better or worse, it looks like what it is – a very long semi-academic, black-and-white A4 document built in Microsoft Word that complies with university house style". (https://badlandsunlimited.com/works/form-as-a-way-of-thinking-practice-based-phd-written-by-stuart-bailey-for-the-university-of-reading-2010-14)

^{10 (}Cramer), (Nordeman), (Vanhoe), (Wu).

university media studies.¹¹

In the more hands-on realm of the publishing industry, hybrid print and electronic publishing is called "multi-channel publishing" and is based on the concept of automatic transcoding/remediation of a publication from one source file into multiple formats such as print book, e-book, websites and mobile applications. The idea is to save costs and have one single, integrated design process for all these media instead of designing for each medium individually and from scratch. This subject was picked up in joint, externally funded research project of the Institute of Network Culture at the Amsterdam University of Applied Science and the research department of Willem de Kooning Academy from 2013 to 2015. In collaboration with the small and medium-size art and design book publishers NAi 010, Valiz and BIS and three graphic design bureaus staffed by WdKA alumni, alternative editorial and design workflows were investigated that abandoned the established Microsoft/Adobe tool chain in favor of distributed authoring systems originally invented for software development, simple markup languages and algorithmic document format translation.

In comparison to the complex content management and document engineering systems used in large publishing houses, the solutions developed in this project were rather simple, low-tech, based on available Open Source software and meant to be used by small publishers who cannot hire IT specialists. These techniques and workflows were documented and explained in an Open Access handbook *From Print to Ebooks: a Hybrid Publishing Toolkit for the Arts.* This toolkit was recursive - made with the very means and methods that it describes. In 2018, Amsterdam University of Applied Science and WdKA received research funding for a four-year follow-up project that tackles the inherent conflict of editorial publishing: How to make editorial and design workflows for hybrid electronic and print publications more time-efficient without sacrificing quality if content and design.

Publishing WdKA's art and design research

After the first Hybrid Publishing research project had ended, the WdKA teachers and researchers involved (Kimmy Spreeuwenberg, Silvio Lorusso, Amy Wu, André Castro, Loes Sikkes, Michael Murtaugh and myself) and a group of senior lecturers and educational managers (Renee Turner, Aldje van Meer, Roger Teeuwen) decided that its lessons needed to be applied to WdKA: literally, to the graphic and media design curriculum of Bachelors and Masters, and to research within WdKA. *WdKA Hybrid Publishing* was founded as an in-house think-tank and "platform for publishing research, while simultaneously conducting research through making, prototyping and incorporating iterative design processes". ¹² If one reads the statement carefully, then "publishing research" can both mean to *publish research* and to practice *publishing as research*.

This ambiguity precisely describes the work of the platform. A first major project was a publication series linked to the *Beyond Social* symposia of WdKA's Social Practices curriculum (that focus on social design and art as activist intervention). Media Design and Hybrid Publishing tutor André Castro programmed a system that could automatically and dynamically translate the contents of a collaborative authoring Wiki into the fully designed website beyond-social.org, which conversely contains computer programming that dynamically formats its pages for print.

With the launch of WdKA Hybrid Publishing, the school created an annual research award for outstanding B.A. graduation projects. This award is not a thesis prize, but based on a jury's assessment of a student's art/design graduation project and thesis as one comprehensive piece of research. (The jury consists of external experts, including Erasmus University scholars who are part of RASL.) The prize-winning research is published both electronically and in a tangible medium (which can be print or something else) through WdKA Hybrid Publishing. This itself is an editorial research process into suitable media, forms of visualization and materialization, and writing that takes up to a year.

For Lou Muuse's 2015 graduation project *Retour Afzender*, the existing website was complemented by an experimentally designed book meant to provide the "stable medium of print [...] as a long-term archive where the medium of the website will be unstable and impermanent by its technical nature". ¹³

^{11 (}Berry).

¹² (Willem de Kooning Academy).

^{13 (}https://www.wdka.nl/work/retour-afzender-return-sender)

Website and book investigate the Dutch asylum system as a system designed to expel asylum seekers, using Muuse's undercover photojournalism in shelters as the main evidence. The book is split into several, individually bound folders-within-a-book that mimic the bureaucratic paperwork of an asylum procedure, and are bound in the material of the Chinese-made plastic travel bags that are widely known as the suitcases of the poor.

Recent Hybrid publications include Daisy Thijssen's *Meat Market*, a critical design investigation of the consumption and packaging of meat (which removes awareness of the dead animal) in the form of a glaring-red supermarket flyer, and Jade Ruijzenaar's *Crangon Crangon*, a research into the inner workings of the shrimp industry and its waste of resources that involved reuse of thrown-away shrimp shells as ceramic glazing. When the electronic versions of these publications were developed, it turned out that the standard e-book formats could insufficiently accommodate visual research. This issue had been noted in the research project with Amsterdam University of Applied Sciences as well. But hopes that the technology would eventually improve, were disappointed. Through our participation in international conferences on electronic publishing, we also learned that the mainstream publishing industry had consolidated e-books as pure, undesigned, flat text media for genre fiction while multimedia e-books had failed in the (conservative) book market and could only be marketed as computer games.

Consequently, the WdKA Hybrid Publishing group thought up a new format for audiovisual electronic book-like publications on the basis of HTML files that contained all embedded images - potentially also video and audio - in their source code and thus could be downloaded and stored as single files and be viewed and read on any device with a web browser, even without an Internet connection. (These publications are available at http://hp.researchawards.wdka.nl. Their design is more extensively explained in the first downloadable e-book, *Command+S This Publication* by Silvio Lorusso and Niels Vrijdag.)

A major future ambition for WdKA Hybrid Publishing is to interweave artistic research within RASL with experimental and hybrid publications - but not act as a design bureau, but as research partners. Examples of contemporary art that transgresses the boundaries between visual art, visual culture research, essayism and theory have gained prominence in the last couple of years: for example, the video works of John Akomfrah and Hito Steyerl or Adrian Piper's work between conceptual art, academic philosophy and social critique. The question remains whether they may conversely inspire new forms and non-traditional media in academic scholarship that continue where McLuhan, Derrida and others left off. The same applies to more empirical forms of research with its increasing reliance on visualization and integration of data that traditional papers and textbooks cannot provide.

New opportunities and possibilities also result from Open Access which the Netherlands wants to establish as the norm of academic research publishing within only few years. It means that research publishing has to fundamentally rethink its models of authorship, distribution and presentation. ¹⁴ In the best case, this could make today's underground libraries of UbuWeb, Aaaaarg, Monoskop the new official libraries and give birth to new types of hybrid scholars-artists-librarians. Clearly, the renewal of publishing has to come from art and critical research, as it no longer happens in a conservative industry that, for the most part, is occupied with mourning its losses.

Conversely, there is a question for the arts: If their legitimation through the Western cultural canon is no longer tenable, if contemporary art becomes too corrupted by the art market to still be credible as a critical practice, if visual culture from outside the art and design discourse becomes more influential for culture at large, what will remain of the arts? Would it be an option to rethink them as publishing in the literal sense of the word?

References

^{14 (}Hall and Adema)