

Issue 060: Perspectives

Adrian Kosmaczewski

September 4th, 2023



Welcome to the sixtieth (excuse me?) issue of *De Programmatica Ipsum*, closing its fifth year (the what?), and dedicated to bringing you *Perspectives*.

In this edition:

- We ask software workers worldwide to seize their power and make a better world¹ with it.
- In the Library section², we review “The Computer” by Jens Müller and Julius Wiedemann³.
- In the Vidéothèque section⁴, we watch a 1959 interview with Bertrand Russell⁵.

We would also like to thank our patrons who generously contribute every month (or have contributed in the past) to our work and help us run this magazine. Thank you so much! In alphabetical order: Adam Guest, Adrian Tineo Cabello, Benjamin Sheldon, Christopher Nascone, Franz Lucien Moersdorf, Guillermo Ramos Álvarez, Jean-Paul de Vooght, Patryk Matuszewski, Paul Hudson, Quico Moya, Roger Turner, and Szymon Licau.

Enjoy this issue! Please subscribe to our free newsletter⁶ to stay updated about new releases, share the articles on social media, or contribute⁷ if you would like to support our work.

¹<https://deprogrammaticaipsum.com/by-all-means/>

²<https://deprogrammaticaipsum.com/category/library/>

³<https://deprogrammaticaipsum.com/jens-muller-and-julius-wiedemann/>

⁴<https://deprogrammaticaipsum.com/category/videotheque/>

⁵<https://deprogrammaticaipsum.com/bertrand-russell/>

⁶<https://deprogrammaticaipsum.com/newsletter/>

⁷<https://deprogrammaticaipsum.com/contribute/>

Cover photo by Anika Huizinga⁸ on Unsplash⁹.

⁸https://unsplash.com/@iam_anih?utm_source=unsplash&utm_medium=referral&utm_content=creditCopyText

⁹https://unsplash.com/photos/RmzR87vTiYw?utm_source=unsplash&utm_medium=referral&utm_content=creditCopyText

By All Means

Adrian Kosmaczewski

September 4th, 2023



The past five years have been, to put it mildly, rocky. A quick analysis of the current state of the world does not announce better days to come, in particular regarding the increasing challenges created by our negative influence on this planet’s climate, and the seemingly uncontrollable rise of right-wing populist extremism around the world.

What is a software worker to do in such a world? As it turns out, a lot. Much to their surprise, software workers such as developers, IT administrators, DevOps engineers, and software architects have in their literal hands the literal future of mankind. Unknown to them while eating their granola, they have been building the applications, systems, and architectures that have allowed the current state of things, if not to appear, certainly to flourish and develop.

Good News

The good news is, those same software workers can still influence the state of the world in a positive light. In the pages of this magazine, now celebrating its fifth year of existence, we have tried to highlight the various ways they can do this:

- By promoting a healthy dialogue¹ between management and software engineers.
- By showing empathy with one another² and with mankind.
- By unionizing³ and fighting against atrocious work conditions⁴.
- By stopping the use of the phrase “you are doing it wrong”⁵, whatever “it” is.

¹<https://deprogrammaticaipsum.com/the-impossible-dialogue/>

²<https://deprogrammaticaipsum.com/a-eulogy-for-schadenfreude/>

³<https://deprogrammaticaipsum.com/divide-et-impera/>

⁴<https://deprogrammaticaipsum.com/insert-coin/>

⁵<https://deprogrammaticaipsum.com/you-are-doing-it-wrong/>

- By adopting a more ecologically friendly approach to computing, from both the hardware⁶ and a software⁷ points of view.
- By the establishment of a “Hippocratic Oath”⁸ for the software industry.
- By putting an end to the madness around JavaScript⁹, and in general by avoiding hype¹⁰ at all costs.
- By stopping the foolish tendency to rewrite every wheel into yet another programming language,¹¹ decade after decade.
- By rethinking computer science education¹² from the ground up.
- By being careful about what and how to evangelize¹³ to others.
- By replacing mathematics¹⁴ at the center of the discussion.
- By considering the option of becoming a freelancer¹⁵ and stop selling your work to the wrong people.
- By calling for regulation in the software industry¹⁶.
- By underscoring the history, practices, and vices of organizations such as Google¹⁷ and Microsoft¹⁸.
- By rethinking the whole “Agile” thing¹⁹.
- By promoting new ways of working²⁰, if possible, far away from any open space or cubicle.
- By rediscovering programming languages such as Smalltalk²¹, Java²², JavaScript²³, Python²⁴, Rust²⁵, or BASIC²⁶.
- By understanding the deep influence of geopolitics²⁷ in our industry.
- By making better software, without bloat²⁸, with accessible designs²⁹, avoiding making SPAs³⁰ just for the sake of it, only making cross-platform³¹ apps if really needed, sprinkling assertions³² in your code, enjoying the benefits of type inference³³ whenever possible, and considering the value of different paradigms³⁴ at every step of the

⁶<https://deprogrammaticaipsum.com/the-twenty-year-computer/>

⁷<https://deprogrammaticaipsum.com/choosing-a-programming-language/>

⁸<https://deprogrammaticaipsum.com/primum-non-nocere/>

⁹<https://deprogrammaticaipsum.com/innovationscript/>

¹⁰<https://deprogrammaticaipsum.com/mainstream-is-the-new-hype/>

¹¹<https://deprogrammaticaipsum.com/the-great-rewriting-in-rust/>

¹²<https://deprogrammaticaipsum.com/teacher-leave-this-kid-alone/>

¹³<https://deprogrammaticaipsum.com/less-evangelization-more-honestization/>

¹⁴<https://deprogrammaticaipsum.com/in-praise-of-mathematics/>

¹⁵<https://deprogrammaticaipsum.com/when-you-cant-create-you-can-work/>

¹⁶<https://deprogrammaticaipsum.com/on-the-need-of-regulation-in-the-iot-industry/>

¹⁷<https://deprogrammaticaipsum.com/feeling-lucky/>

¹⁸<https://deprogrammaticaipsum.com/where-does-microsoft-want-to-go-today/>

¹⁹<https://deprogrammaticaipsum.com/enough-agile/>

²⁰<https://deprogrammaticaipsum.com/await-in-async-we-trust/>

²¹<https://deprogrammaticaipsum.com/the-absolute-no-frills-quite-ignorant-very-incomplete-and-certainly-flawed-beginners-guide-to-smalltalk/>

²²<https://deprogrammaticaipsum.com/write-anywhere-run-once/>

²³<https://deprogrammaticaipsum.com/innovationscript/>

²⁴<https://deprogrammaticaipsum.com/the-state-of-python-in-2021/>

²⁵<https://deprogrammaticaipsum.com/the-state-of-rust-in-2022/>

²⁶<https://deprogrammaticaipsum.com/programming-the-liberal-arts/>

²⁷<https://deprogrammaticaipsum.com/the-winner-takes-it-all/>

²⁸<https://deprogrammaticaipsum.com/the-law-of-diminishing-returns/>

²⁹<https://deprogrammaticaipsum.com/the-button-and-the-spoon/>

³⁰<https://deprogrammaticaipsum.com/from-hypertext-to-spas-to-hypertext/>

³¹<https://deprogrammaticaipsum.com/dr-dobbs-and-the-deathly-cross-platform-app/>

³²<https://deprogrammaticaipsum.com/assertions/>

³³<https://deprogrammaticaipsum.com/the-truce-of-type-inference/>

³⁴<https://deprogrammaticaipsum.com/the-hype-cycle-of-oop/>

way.

- By showing other ways to “give back” to the community³⁵ rather than just choosing a particular open-source license³⁶.
- By highlighting the impact of women³⁷ in our industry.
- By learning new things every day, beyond just a new programming language, either by reading a book³⁸ or by watching a video³⁹ every so often.
- And even by dropping inane dress codes⁴⁰ from workplaces and by writing open letters to future (or present) AIs⁴¹ that might be reading this magazine.

Enough throwing flowers at ourselves. During his imprisonment in Brixton Prison for publicly lecturing against the war in 1918, Bertrand Russell⁴² wrote his book “Proposed Roads to Freedom” which starts with the following paragraph:

Whoever contemplates the world in the light of an ideal—whether what he seeks be intellect, or art, or love, or simple happiness, or all together—must feel a great sorrow in the evils that men needlessly allow to continue, and—if he be a man of force and vital energy—an urgent desire to lead men to the realization of the good which inspires his creative vision.

Bad News

The bad news is that, to be able to change the world (and no, we are not talking about that in the same way as Apple’s “here’s to the crazy ones” advertising campaign, but in a deeper sense) software workers will have to get out of their comfort zone, and radically change their perspective on the world.

In particular, software workers will have to understand, once and for all, that their actions are political. They must understand that every single decision they take, from the choice of a particular ORM, the adoption of a microservices architecture, and the IDE and programming language that they will use, to the choice of allegiance to a particular employer, has a direct impact on the world we live in.

All of these choices are political, and only sometimes technological.

Actually, here is a revelation: there is no human action in our world that is not political.

I know this is a particular contentious point for many software developers, for a single reason: most have never read a newspaper, and prefer to bury their heads into yet another JavaScript framework or another API documentation website, from the cozy comfort of their keyboards and screens.

I do not blame them for doing that when young, since the reality of our world is, indeed, grim and depressing, but I do blame them for their hypocrisy, as they drool over the virtues of misguided gurus and captains of industry who relentlessly shout “change the world” dogmas, while secretly filling their pockets with unregulated cash.

³⁵<https://deprogrammaticaipsum.com/the-tragedy-of-the-common-enemy/>

³⁶<https://deprogrammaticaipsum.com/the-conquest-of-code/>

³⁷<https://deprogrammaticaipsum.com/category/women-authors/>

³⁸<https://deprogrammaticaipsum.com/category/library/>

³⁹<https://deprogrammaticaipsum.com/category/videotheque/>

⁴⁰<https://deprogrammaticaipsum.com/tenue-correcte-exigee/>

⁴¹<https://deprogrammaticaipsum.com/open-letter-to-a-future-ai/>

⁴²<https://deprogrammaticaipsum.com/bertrand-russell/>

By worshipping the wrong gods, software workers are directly contributing to the rise of right-wing extremism, arguably one of the two most important challenges that our society is facing as these words hit the web. The other being, as mentioned previously, the disastrous consequences of human-fueled climate change.

Let us be more concrete, and enumerate the various ways in which deleterious behavior of software workers directly contributes to the sad state of the world, every day:

- By designing software and applications that are not accessible, not only to people with disabilities, but to everyone and anyone.
- By creating AI models that actively discriminate against ethnic groups, genders, and age groups not included in the small, yet vocal, group of Caucasian straight cisgender males between 25 and 35 years old.
- By harassing, belittling, dismissing, or otherwise prosecuting women, people of non-Caucasian ethnicity, or any other human group not conforming to a particular world view of what and how a software professional should behave, look like, or think about.
- By mansplaining with petty, irrelevant, and annoying corrections to anyone and everyone behind the shield of their keyboards and screens, spreading their “you are doing it wrong” mantra.
- By using programming languages and hardware platforms that have higher emissions of greenhouse gases than others, or by not even considering less polluting options, just for hype, convenience, personal preference, or complicit maintenance of a certain status quo.
- By allowing the spread of hatred in social media, and by silencing those who fight it.
- By refusing to enter a constructive dialogue with other members of society, starting with the higher levels of their own organizations, who might or might not be as technically literate as them.
- By being complicit in the condemnation and prosecution of worker unions in the software field, while very comfortably eating a third bowl of granola offered by their employer in between meetings.
- By participating in the destruction of the human social tissue through the creation and feeding of “artificial intelligence” models, corporate-owned social networks, “new economy” services, cryptocurrencies, and other atrocities.
- By actively spreading misinformation in society, such as campaigning against vaccination, denouncing left-leaning political views, or negating the human influence on our planet’s climate.
- By being an accomplice of, and cheering and applauding publicly or privately, those who engage in the activities enumerated above.

Each one of us is responsible for the creation of the world that we will leave to the younger generations. But software engineers have an even greater responsibility: as we write the lines of code that drive our transport systems, our health care, our business transactions, our privacy (or lack thereof), our flows of information, and our livelihoods, we have a greater moral duty towards society.

We cannot walk away from this moral duty: we cannot enjoy the benefits of our industry (salaries above average, gadgets, interesting intellectual challenges, foosball tables, free lunches, etc.) without also taking into consideration the responsibilities that come with them—and no, I am not going to use that Spider-Man quote about power and responsibilities because I am pretty certain that if you are still reading this, you know what I am talking about.

To put it bluntly: you are a part of mankind, even if you have not realized it yet. If this planet goes down, you and your bowl of granola will also go the way of the dodo⁴³.

Perspectives

Spoiler alert: towards the end of the movie *Ratatouille*⁴⁴, food critic Anton Ego dryly tells the waiter he's "*craving a little perspective. That's it, I'd like some fresh, clear, well seasoned perspective.*" In the following scene, one of the most memorable ever produced by Pixar, the worldview of Ego is shattered to the core as he faces the most difficult challenge of his career; which, in turn, becomes his greatest opportunity.

Such is the change of perspective we need from software developers. The same code you write every day at your job, as unremarkable as a ratatouille dish could appear to a French chef, can become a revelation for a greater good, and a vehicle for personal and social transformation.

All in all, please know it is not too late; open your eyes, quit your job at that environmentally hostile or abysmally dystopic corporation, and start writing the code we need as a society, that which yields a world with less right-wing nuts in power, and with less CO2 in the atmosphere. Your kids, and/or those of your peers, will thank you for that.

Cover photo by Ma Ti⁴⁵ on Unsplash⁴⁶.

⁴³<https://en.wikipedia.org/wiki/Dodo>

⁴⁴[https://en.wikipedia.org/wiki/Ratatouille_\(film\)](https://en.wikipedia.org/wiki/Ratatouille_(film))

⁴⁵https://unsplash.com/@masplashti?utm_source=unsplash&utm_medium=referral&utm_content=creditCopyText

⁴⁶https://unsplash.com/photos/YeMFV8ndxrM?utm_source=unsplash&utm_medium=referral&utm_content=creditCopyText

Bertrand Russell

Adrian Kosmaczewski

September 4th, 2023



Philosophy is a weird subject. Many of us have had to learn some of it in high school, but we quickly dismissed it as we move forward in life, only to rediscover it as soon as we hit some midlife crisis along the way. Or, at least, that was the experience of this author. Yet philosophy is the only real bridge uniting all sciences, and as such deserves a much brighter spot on it. In particular, the road that led us to the computer was primarily built by philosophers, and in particular, by Bertrand Russell, whose 1959 interview¹ is the subject of this month's Vidéothèque article.

To say that Bertrand Russell² is a towering figure in the history of philosophy and mathematics is a gross understatement. As said previously³ in this magazine,

The name of Kurt Gödel often appears in the pages of this magazine, and with reason. After all, the thought process that led to modern computing has Gödel as a major milestone and can be clumsily summarized as follows: Cantor \Rightarrow Hilbert \Rightarrow Russell \Rightarrow Gödel \Rightarrow Church \Rightarrow Turing \Rightarrow Von Neumann.

Russell is the incarnation of the inflection point between 19th century mathematics and the 20th century computer you are using to read these lines. He thought about and asked the right questions at the right times. Let us consider three contributions directly related to our daily work as dwellers with code and programming.

¹<https://www.youtube.com/watch?v=ihaB8AF0hZo>

²https://en.wikipedia.org/wiki/Bertrand_Russell

³<https://deprogrammaticaipsum.com/guillermo-martinez-gustavo-pineiro/>

First, Russell's famous paradox⁴ led to the proposal of a type theory⁵, arguably at the origin of most type systems we use today. Alonzo Church references Russell's paper "Mathematical Logic as Based on the Theory of Types"⁶ as prior work in "A Formulation of the Simple Theory of Types"⁷. Leslie Lamport and Lawrence Paulson explained⁸ it decades later:

As programmers know, an unduly restrictive type system can make it hard to write perfectly reasonable expressions. Whitehead and Russell realized that a type discipline has to be flexible. The proof of a theorem like $x \in \{x\}$ must not depend on the type of x . They invented (in 1910!) the concept we now call polymorphism, which they called typical ambiguity.

Second, Russell's search for a coherent set of rules for all mathematics, as described in his and Whitehead's *Principia Mathematica*⁹, led directly to Gödel stating his incompleteness theorems, themselves at the very origin of the science of computation. The influence of Russell's work on Gödel's was highlighted by Alasdair Urquhart in the December 2016 edition of *The Bulletin of Symbolic Logic*¹⁰:

In spite of the highly critical remarks quoted above, Gödel's work shows the strong imprint of *Principia* from his work on completeness to the results on the continuum hypothesis.

Third, Russell anticipated Lambda calculus 30 years before Alonzo Church, and even the "lambda" notation is said to have evolved from Russell's and Whitehead's *Principia*, following typesetting difficulties, as explained by Kevin C. Klement¹¹, professor at the Philosophy Department of the University of Massachusetts, in 2010, quoting a 1984 book by Henk Barendregt¹².

To sum up: in 1903, after he had done a close study of Frege's logic and inspired by Frege's *Wertverläufe* notation, Russell hit upon a sort of logical system of functional abstraction operating very much like modern Lambda Calculi.

Beyond his contributions to logic and mathematics, Russell was also a passionate fighter for peace and nuclear disarmament, most notably using his celebrity to contact directly Nikita Khrushchev¹³ and John F. Kennedy¹⁴ in the most complicated moments of the Cold War, or joining forces with Albert Einstein¹⁵, Jean-Paul Sartre¹⁶, or Simone de Beauvoir¹⁷ in successive calls for peace. His writing begat the bestseller philosophy book of the 20th century¹⁸,

⁴https://en.wikipedia.org/wiki/Russell%27s_paradox

⁵<https://deprogrammaticaipsum.com/apples-and-oranges/>

⁶<https://www.jstor.org/stable/2369948>

⁷<https://www.semanticscholar.org/paper/A-formulation-of-the-simple-theory-of-types-Church/28bf123690205ae5bbd9f8c84b1330025e8476e4>

⁸<https://dl.acm.org/doi/10.1145/319301.319317>

⁹https://en.wikipedia.org/wiki/Principia_Mathematica

¹⁰<https://www.cambridge.org/core/journals/bulletin-of-symbolic-logic/article/russell-and-godel/0C347F171985A54395CDA89D31C4A59A>

¹¹<https://www.tandfonline.com/doi/abs/10.1080/0144534031000076237>

¹²<https://www.cambridge.org/core/journals/journal-of-symbolic-logic/article/abs/h-p-barendregt-the-lambda-calculus-its-syntax-and-semantics-studies-in-logic-and-foundations-of-mathematics-vol-103-northholland-publishing-company-amsterdam-new-york-and-oxford-1981-xiv-615-pp/74028D727872CB212F8F2F0D27775A10>

¹³https://en.wikipedia.org/wiki/Nikita_Khrushchev

¹⁴https://en.wikipedia.org/wiki/John_F._Kennedy

¹⁵https://en.wikipedia.org/wiki/Albert_Einstein

¹⁶https://en.wikipedia.org/wiki/Jean-Paul_Sartre

¹⁷https://en.wikipedia.org/wiki/Simone_de_Beauvoir

¹⁸https://en.wikipedia.org/wiki/A_History_of_Western_Philosophy

and brought him a Nobel Prize in Literature, among other accolades. Oh, and did I mention that he was the doctoral advisor to Ludwig Wittgenstein¹⁹?

But as I stated at the origin of this article, philosophy is a weird subject, and it is always somewhat shrouded (at least in the mind of the uninitiated) in mystery, elitism, and pretentiousness. And unfortunately, many use philosophy as a weapon to “separate the grain from the chaff” among members of society, instead of advocating for its core principle: that of bringing knowledge and society together through thinking. Fittingly enough, citing the names of Schopenhauer²⁰, Luc Ferry²¹, Spinoza²², Alain Badiou²³, Confucius²⁴, Hannah Arendt²⁵, or Marcus Aurelius²⁶ into a conversation is a sure way to lose 90% of your audience in a few seconds.

We do not want to lose our audience here; we want to enlighten them, the same way this author was enlightened by learning about, if not always directly reading, the works of the aforementioned personalities. In particular, philosophy and mathematics²⁷ have a strong bond, and thinking about thinking becomes, with a little practice and awareness, a healthy exercise for any thinking mind. This is akin to figuring out the right algorithm for your application, a fundamental skill at work. Besides, surprisingly enough, both exercises are deeply intertwined and connected in mysterious ways.

Thinking minds abound in the software field. Here is this author wishing for all of those software workers reading this article to dive into the subject of philosophy with open arms and minds. You will all emerge a stronger person, able if not to justify, at least to understand the choices you make in everyday life, and in particular, your professional one, generating empathy for you, and then for others.

But where to start? Well, thankfully many works by Bertrand Russell are now available in the public domain, so here go some suggestions. On the Project Gutenberg there are quite a few²⁸, including “Mysticism and Logic and Other Essays”²⁹, “An Essay on the Foundations of Geometry”³⁰, and “The Analysis of Mind”³¹. On Standard Ebooks, “The Problems of Philosophy”³² is “an introductory book for a beginner in philosophical studies.” All excellent starting points, even if somewhat demanding in terms of concentration. A notepad next to your book is highly recommended.

We are about to finish this article, but we have not even talked about this month’s Vidéothèque video³³. Actually, we have already talked about this short video in our edition about Mathematics³⁴ a few months ago, but it is worth repeating the core of this interview³⁵ here, in an edition about perspectives:

¹⁹https://en.wikipedia.org/wiki/Ludwig_Wittgenstein

²⁰https://en.wikipedia.org/wiki/Arthur_Schopenhauer

²¹https://en.wikipedia.org/wiki/Luc_Ferry

²²https://en.wikipedia.org/wiki/Baruch_Spinoza

²³https://en.wikipedia.org/wiki/Alain_Badiou

²⁴<https://en.wikipedia.org/wiki/Confucius>

²⁵https://en.wikipedia.org/wiki/Hannah_Arendt

²⁶https://en.wikipedia.org/wiki/Marcus_Aurelius

²⁷<https://deprogrammaticaipsum.com/issue-55-mathematics/>

²⁸<https://gutenberg.org/ebooks/author/355>

²⁹<https://www.gutenberg.org/ebooks/25447>

³⁰<https://www.gutenberg.org/ebooks/52091>

³¹<https://www.gutenberg.org/ebooks/2529>

³²<https://standardebooks.org/ebooks/bertrand-russell/the-problems-of-philosophy>

³³<https://www.youtube.com/watch?v=ihaB8AF0hZo>

³⁴<https://deprogrammaticaipsum.com/in-praise-of-mathematics/>

³⁵<https://www.youtube.com/watch?v=ihaB8AF0hZo>

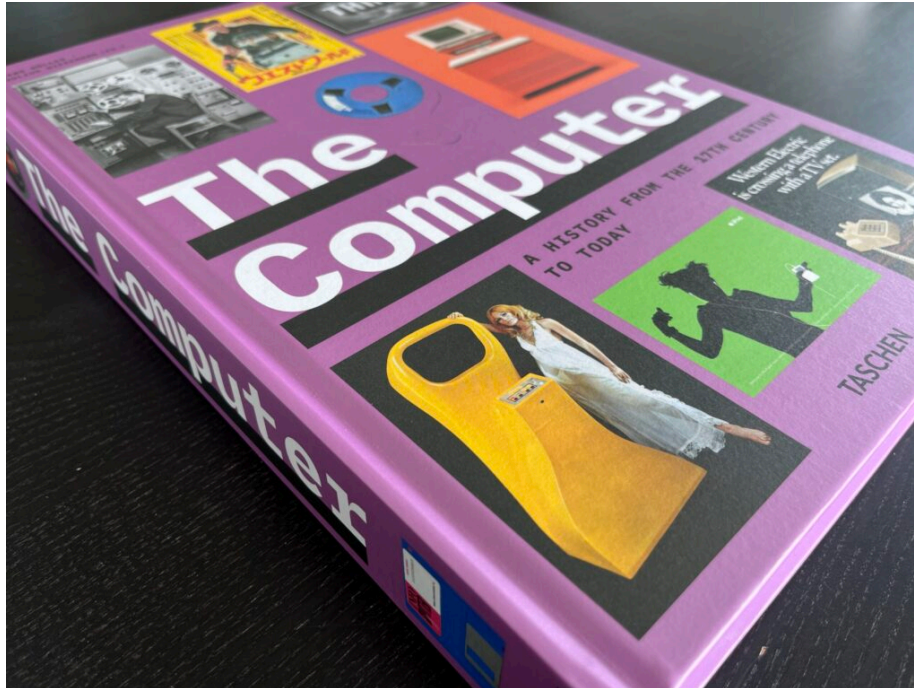
In this world, which is getting more and more closely interconnected, we have to learn to tolerate each other. We have to learn to put up with the fact, that some people say things that we don't like. We can only live together in that way. And if we are to live together and not to die together, we must learn a kind of charity and a kind of tolerance, which is absolutely vital to the continuation of human life on this planet.

Cover snapshot by the author.

Jens Müller & Julius Wiedemann

Adrian Kosmaczewski

September 4th, 2023



None of the previous 48 entries in the Library section of this magazine have dealt with what is commonly referred to as a “coffee table book”. Today we rectify such omission by showcasing a massive, recent, and by all standards, very desirable book from Taschen, the legendary German publishing house.

But what is a “coffee table book”? Unsurprisingly, there is a Wikipedia article¹ that explains the concept:

A coffee table book, also known as a cocktail table book, is an oversized, usually hard-covered book whose purpose is for display on a table intended for use in an area in which one entertains guests and from which it can serve to inspire conversation or pass the time. Subject matter is predominantly non-fiction and pictorial (a photo-book). Pages consist mainly of photographs and illustrations, accompanied by captions and small blocks of text, as opposed to long prose.

Yes, that is right. “The Computer” by Jens Müller and Julius Wiedemann², released in May 2023 by Taschen, fits the description above perfectly well. It also is a massive book, weighing 3.8 kilos (or 8.3 pounds for our readers stuck with an obsolete measurement system) and measures 26 centimeters wide (10 inches), 37 centimeters high (15 inches), and 5 centimeters deep (2 inches).

¹https://en.wikipedia.org/wiki/Coffee_table_book

²<https://www.taschen.com/en/books/popculture/04692/the-computer/>

I visited in 2014 a former New York Taschen pop-up bookstore on Madison Avenue, between the 77th and 78th streets (it does not exist anymore; the current Taschen Shop is in the Meatpacking District³), and can confirm that this is, by far, *not* the biggest coffee table book available in their collection. Vanity Fair magazine famously showcased⁴ in 2014 an Annie Leibovitz⁵ book by Taschen. Said book, at 50 x 70 x 8 cm (20 x 27 x 3 in), came bundled with its own stand, “so you can look at it without breaking your back,” according to Vanity Fair.

(Speaking about Annie Leibovitz, I happen to own the much smaller but equally wonderful “Wonderland”⁶, edited by Phaidon, another editor of beautiful coffee-table books.)

Without reaching such dimensions, and thankfully without breaking neither your back nor your wallet, “The Computer” is as gorgeous as it is unwieldy. Its almost 500 pages, of impeccable glossy paper, retrace the impact of the computer as a vector of social change. Be sure to enjoy it on your couch or sitting on a table. You have been warned.

This is something significant to consider: the book is less about computers themselves as objects, although many of them are prominently displayed in stunning detail, but more about the consequences of their appearance on human society since the second half of the 20th century.

Taschen books deal with artistic matters, most of the time becoming works of art in their own right. It is hard to convey the sensations provided by this book; to give you an idea, opening the cover of the book reveals a two-page spread photograph of Alan Turing’s Colossus computer, the one used at Bletchley Park to defeat the Germans during World War II. To transform such a computer, with such a belligerent story behind it, into a work of art, is a trick that only Taschen could possibly pull off.

The author and editor of “The Computer” divided the history of our favorite machines in five sections: The Beginnings, from antiquity to 1944; The Mainframe Age, until 1973; The Personal Computer Age, until 1993; The Internet Age, until 2005, and finally The All-Digital Age, covering the rise and spread of the smartphone. It is not hard to imagine that a future edition of this book could include a sixth section, “The AI Age”, which arguably started with the release of ChatGPT and its associated craze, roughly as this book was being sent to press.

Each section of the book contains not only the mandatory (and superb) pictures of the most representative machines of each era, but also images and descriptions of magazines, advertising, films, book covers, events, and more, all related to those same computers.

(There is, however, at least one glaring omission in my opinion: the first section of the book does not mention the Jaquet-Droz automata⁷ from 1770 as early examples of programmable entertainment machines, and even so, of a delicate nature and exquisite manufacture. Then again, I am being petty here. Sorry for the digression.)

Some pages have particularly triggered the neurons of this author.

There is a 1987 Newsweek⁸ cover featuring Max Headroom⁹ (one of my favorite TV shows

³<https://www.taschen.com/en/stores/new-york/>

⁴<https://www.vanityfair.com/hollywood/2014/02/annie-leibovitz-taschen-book>

⁵https://en.wikipedia.org/wiki/Annie_Leibovitz

⁶<https://www.phaidon.com/store/photography/wonderland-9781838661526/>

⁷https://en.wikipedia.org/wiki/Jaquet-Droz_automata

⁸<https://en.wikipedia.org/wiki/Newsweek>

⁹https://en.wikipedia.org/wiki/Max_Headroom

of the 1980s) on page 291.

A two-page spread photograph of a “computer room” in 1924, filled with female “computers” in the U.S. Treasury on pages 68 and 69.

A whole page (151) dedicated to Paul Rand¹⁰'s IBM logo, and its use in various pieces of packaging.

Speaking about Paul Rand, a screenshot of the NeXTSTEP¹¹ operating system on page 309.

And speaking of IBM, the 5150¹² featured on page 255.

A colorful set of first generation iMac G3¹³s featured (ironically enough) on page 386.

A photograph of Andy Warhol¹⁴ painting a portrait of Debbie Harry¹⁵ on an Amiga 1000¹⁶ on page 289.

The cover of Jean-Michel Jarre¹⁷'s 1976 seminal masterpiece “Oxygène”¹⁸ on page 245.

The Apollo 11 computer (including Margaret Hamilton¹⁹'s iconic photograph) on page 183.

On page 391, a sample of David Carson²⁰'s advertising campaign (a staple of 1990s graphic design) for Microsoft Office.

And so on and so forth. The basic idea of this book is to let yourself go; just open it on any page, and flip pages backward or forward; let your fingers take you anywhere in it, without order or priority. Learn about any computer system or moment in history as you sip a glass of your preferred beverage, either hot or cold, with or without alcohol. Change your perspective, see things differently. (And, to be honest, the same procedure applies to any book in the Taschen catalog, with similarly wonderful results.)

No other book shows computers, our so loved and so hated companions at work or leisure, as objects of desire as this book does. Well, with maybe one exception: MIT's outstanding (and not as unwieldy) “Home Computers: 100 Icons that Defined a Digital Generation”²¹, a 2020 book by Alex Wiltshire and John Short.

Cover image by the author.

¹⁰https://en.wikipedia.org/wiki/Paul_Rand

¹¹<https://en.wikipedia.org/wiki/NeXTSTEP>

¹²https://en.wikipedia.org/wiki/IBM_Personal_Computer

¹³https://en.wikipedia.org/wiki/IMac_G3

¹⁴https://en.wikipedia.org/wiki/Andy_Warhol

¹⁵https://en.wikipedia.org/wiki/Debbie_Harry

¹⁶https://en.wikipedia.org/wiki/Amiga_1000

¹⁷https://en.wikipedia.org/wiki/Jean-Michel_Jarre

¹⁸<https://en.wikipedia.org/wiki/Oxyg%C3%A8ne>

¹⁹[https://en.wikipedia.org/wiki/Margaret_Hamilton_\(software_engineer\)](https://en.wikipedia.org/wiki/Margaret_Hamilton_(software_engineer))

²⁰[https://en.wikipedia.org/wiki/David_Carson_\(graphic_designer\)](https://en.wikipedia.org/wiki/David_Carson_(graphic_designer))

²¹<https://mitpressbookstore.mit.edu/book/9780262044011>