

Computed Discourses

Essays on the intertwinings of computation, language and expression.

Foreword

The *Computed Discourses* seminar connected two considerations: language enables discourses, and computers manipulate language.

Starting from discourses as a frame for knowledge and media as a frame for expression, we discussed the specificities (or lack thereof) of computation as automated, dynamic calculation on real-world entities. Particularly, we paid attention to how computation *affects* discourses, by delimiting how we say things, and how computation *embodies* a discourse, enmeshed in high-modernist and rationalist logics.

This booklet collects the final essays of the participants in the seminar.

You can find all of the course materials at: gitlab.com/periode/computed-discourses

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Apple's promise of 'creativity'

Eunseong Park

This article begins with the question of whether Apple's brand philosophy of creativity is actually limiting the creativity of its users through its hardware and software. Through a few examples of how Apple devices have enabled and constrained users' creative activities, this article aims to expose the friction between Apple's claimed creativity and the actual creativity of its users. What is creativity in today's capitalism, with its emphasis on aesthetics and personalized value consumption? According to sociologist Andreas Reckwitz, creativity is the activity of discovering dramatic newness and the capacity to receive sensory and emotional stimulation from new human-made objects. Apple claims to provide the tools and environment for creativity through its marketing and its ecosystem, but at the same time, it operates in a closed loop to ensure the consistency of its system and has a monopoly on the market.

On the other hand, it can also be argued that creativity requires limitation, as without a framework of conceptual and conventional restrictions, the creative act itself would not be possible. For example, in painting, the constraints of flatness and size of the canvas were both a limitation and a creative field for the artist. So, just as artists have traditionally assumed certain costs to create - tools, space, materials - Apple's devices, software, and terms of use can be understood as necessary costs of creativity. Instead of seeing the constraints of a particular platform as an oppressive framework, can we embrace them as another condition of creation? What is the difference between buying a paintbrush and buying an Apple Pencil?

Working and creating within Apple - what does Apple mean by "creativity"?

First, we need to define what creativity is and how it affects us. In the act we call creativity, we envision an innovative shift beyond the status quo. In *The invention of creativity*, Andreas Reckwitz explains that creativity historically emerged from countercultural movements in the Western art movement. From modern to contemporary times, creativity has moved from artistic practice to become a core principle that increasingly influences labor and economic systems. In the modern era of the 1980s, creativity is firstly the act of making something new, and secondly, it is linked to the image and aesthetic sensibility of the modern artist. The creative output

is perceived as aesthetically beautiful, a source of renewed vitality and pleasurable stimulation. Accordingly, the artist who produces the creative product is symbolized as the creative identity. This trend toward individualized creative selfhood has led to changes in the forms of labor and organization. Repetitive physical labor and desk-based activities have gradually been replaced by new forms of producing signs and symbols, such as texts, images, communications, procedures, aesthetic objects, and body modifications.¹ Reckwitz points out that creativity has become a societal obsession, and both individuals and societies are constantly striving collectively to become more creative. He explains that *The creativity ideal of the once marginal, utopian, aesthetic-artistic opposition has percolated up into the dominant segments of contemporary culture to condition the way we work, consume and engage in relationships, and it has undergone a sea change in the process.*², emphasizing that creativity in contemporary society now operates systemically across all areas of life. The following two cases illustrate the conflicts faced by users who want to experience Apple's creativity in practice or enter the Apple platform. They show the tensions of creativity in the Apple ecosystem. By comparing Apple's idea of creativity with the creativity of its users, and how these two concepts differ in practice, the meaning of creativity can be explored.

Creative software

Since Apple promotes creativity as a central part of its marketing, it also provides a range of creative software tools recognized by professionals. Final Cut Pro and Logic Pro are professional-grade, paid programs used for video editing and music production, while iMovie and Garageband are free alternatives. In addition, iWork's pages, keynotes, and numbers are free built-in programs that let you create documents, tables, and presentations, just like Microsoft's word processors. All of these are either made by Apple or acquired by Apple, and together with Apple devices and software, they make for a professional-level creative environment. It's interesting to note that both Garageband/Logic Pro and iMovie/Final Cut Pro are video and sound creation programs, while image software like drawing, 3D, and animation rely on external apps (Adobe, Blender, Procreate, etc.). So why does Apple develop music and video production programs in-house, but rely on external software for image creation? This is still hypothetical, but I think it has to do with Apple's content distribution platforms, Apple Music and AppleTV. In music and video, Apple controls key parts of the ecosystem, while other areas, such as image creation, rely on third-party software. In fact, the introduction of the iPod changed both the supply and demand side of the music industry. Previously, music was shared unauthorized through the peer-to-peer file-sharing application Napster, which was eventually shut down due to copyright violations. The iPod bridged the gap between the convenience of listening to music when and where one wants it and legal distribution, and iTunes was indispensable for listening to music on the iPod. Music could only be transferred

to iTunes, and within it, digital rights management (DRM) enforced legal music purchases and drove them into the Apple ecosystem. *Until now, Apple has facilitated its market dominance by deliberately limiting interoperability with non-Apple devices and non-Apple online music stores for iPod and iTunes Music Store ("iTMS") users.*³ Shoshana Zuboff summarizes it this way. *Napster hacked the music industry, but Apple appeared to have hacked capitalism.*⁴ Apple TV has also created a revenue structure that combines hardware, appleTV, and software through subscriptions. By providing creative tools directly to its platforms, Apple is re-emphasizing its core identity of "creativity" and integrating it as part of its ongoing revenue structure.

Human Design Guidelines: Designers and Developers Entering the Apple Platform

Apple's interface is a WIMP (window, icons, menus, pointer) model, which is one of the most popular graphical user interface (GUI) formats, modeled after the paper-based office. The introduction of the Macintosh computer in 1984 marked a turning point in user interface (UI) that made it easier for non-computers to use. With it, various functions were integrated, GUIs became the default for systems, and consistent UI design standards were established.⁵ Kaspar Visnapuu compares Apple's Human Interface Guidelines, Google's Material Design, and IBM's Design System, focusing on three keywords: Consistency, Efficiency, and Scalability, and analyzes how each company's design experience was built in different directions.⁶ All three companies adopt these three elements as the core principles of their interface GUI design. Apple in particular values consistency and maintains its brand identity by controlling various elements such as the San Francisco typography, color scheme, icons, and layout. This coherent design ensures that users continue to experience the immersive feeling of the Apple ecosystem even when using different apps. On the other hand, while this aesthetic and functional consistency creates a sense of security for existing users, it can also be criticized as a barrier to entry and confusing for those unfamiliar with the Apple experience. Visnapuu suggests that Apple's design guidelines can have ethical implications beyond aesthetics. This impact is not limited to the Apple ecosystem, but extends to the outside world as well. One Reddit user recounts a conflict with a boss who insisted on using Apple's design guidelines. The perception that Apple's design is "better" has led to a tendency among many tech companies to blindly follow it. As a result, Apple's UX reputation is seen as an *absolute standard*, and the culture of uncritical conformity has spread to many companies.⁷ In another example, Hey, a subscription email app developed by Basecamp, was rejected from the appstore. The reason given was that Hey didn't follow section 3.11 of apple's guidelines. The problem was that Hey didn't offer in-app purchases and only offered subscription payments through its website. This was because Hey didn't offer in-app purchases and only drove subscription payments

through its website.⁸ This escalated into a public debate when Basecamp's CEO took to Twitter to criticize Apple's guidelines and review policy. The design guidelines for entering the Apple ecosystem limit creative flexibility and create a structural disadvantage that requires a large amount of intermediary costs compared to other markets to gain a presence in the App Store. These costs are often passed on to the end user rather than being borne by the developer or designer, leading to consumers paying relatively more to use apps on Apple devices. Visnapuu emphasizes the role of the community as a possibility to address this imbalance. Software developers, designers, stakeholders, and end users are key components of the community, he suggests, and can influence design systems and trends. Based on this, it can be speculated that creativity at Apple is tied to profitability. As Reckwitz describes creative activity as a constant striving for novelty by individualized groups, based on a model of the creative self, Apple's creativity, in this sense, anticipates and promises the freedom of self-actualization to create novelty, but it is organized around a profit-oriented system to deliver on that promise. And individual users have a metaphor of creativity within that system by purchasing a device. The core services of music and video are again used as a promotion of creativity and as a means of communicating the value that individual users can create their own content. Apple's guidelines imply a framework of *allowed creativity* in that users are encouraged to focus on programmatic creation within the bounds of the Apple platform, without compromising the aesthetic prescribed by the Human Interface Guidelines. This is problematic in that it stifles the flexibility of activity and design for third-party brands, including communities within Apple's platforms.

What it means to have an Apple-exclusive experience: Apple's magic and dark hardware

Apple is one of the most influential tech companies, developing and producing modern computers and other devices. In 1977, Apple entered the personal computer market with the Apple II. It was a low-barrier personal computer for first-time computer users and hobbyists. Apple has since expanded its product line with the introduction of the iMac in 1998, the iPhone in 2007, and the iPad in 2010. Since then, the hardware has been upgraded almost annually, with better display quality and more advanced, safer materials. Along with high-end, stylish hardware, Apple has built operating systems like MacOs, iOS, and iPados, as well as its own UX/UI, to ensure both technical reliability and an aesthetic user experience. Furthermore, Apple has expanded into a software-based cultural content curation company. By integrating hardware, software, apps in the app store, and a variety of content such as Apple Music, Apple TV, and Books, Apple has made a huge impact on users' work and leisure.

The emotional satisfaction that comes from the experience of using Apple products can be described as the technology of Enchantment in Alfred Gell's Technology and Magic. From an anthropological perspective, Alfred Gell does not view technology as merely the invention of tools. He understands technology as a network of social relations that shape the processes by which goods are produced, distributed, and consumed. In these technological acts, technical means are used in creative and circuitous ways to reach desired ends. Gell categorizes technology into three domains. First, Technology of Production is the universal system of producing materials; second, Technology of Reproduction is the technology based on kinship, which serves to maintain social systems through the reproduction and domestication of human beings. And third, the Technology of Enchantment is a technology that works on the inner minds of others to realize its own social benefits. These technologies appear magical because the structure of the technical act is symbolized and codified. Like the imaginative play of a child moving a model airplane and saying, "It flies," performance and commentary work together to construct reality in a symbolic and idealized way. By concealing the laborious process of reality and framing it as a symbolic and idealized technology, the effect is more dramatic. Gell expands on this structure of imaginative play to explain how technology can be made to appear magical, using product advertisements as a prime example. The ads present the product in flattering images and motivate potential customers through a mystified narrative.⁹ I found this technique to be deeply connected to the way Apple presents its products.

Apple utilizes the 4Ps marketing strategy (Price, Product, Place, Promotion).¹⁰ The first is Price, where Apple sells devices with its latest technology at a premium price to justify the high specs and services that go along with it. It builds a brand image of providing value for the high price and continues to attract a loyal customer base. The company also launches low-end models for beginners and consumers with limited budgets, providing price points to suit a wide range of consumer preferences. Product is about bringing products to market that meet consumer demand, including striving to exceed expectations with sleek design, integration into the Apple ecosystem via iCloud, and superior performance. Place refers to the overall distribution strategy, including the online and offline distribution channels and global store network utilized to reach target markets. Promotion focuses on building and maintaining Apple's strong brand image. Promotion emphasizes Apple devices' stylish imagery, cutting-edge technology, intuitive interfaces, and seamless integration of hardware and software, with minimalist but powerful copy that appeals to consumers. Apple's slogans, such as "think different" and "If you can dream it, Mac can do it," create an expectation that users will experience Apple devices like never before, and ultimately inspire them to imagine that their creativity can be realized. Apple's ability to build brand loyalty with users is a combination of high quality products, reliable distribution and after-sales support, strong connectivity in the Apple ecosystem, and effective promotions.

Apple has always fostered continuity and connectivity between devices through a tight combination of hardware and software and its own ecosystem (Universal Control, AirDrop, Handoff, screen mirroring, etc.). By establishing the reliable connectivity of Apple computers as a work environment, the concept of the Apple ecosystem emerged. The system has expanded with each new device release, and features such as AirDrop and Universal Clipboard, among others, utilize Bluetooth and wifi-based technologies to seamlessly transfer documents and data between devices. With iCloud, the data on each device is synchronized in real time, and a single task can be continued on multiple devices. In the end, the Apple ecosystem is a network of Apple devices that *work together* and *feel like one*, seamlessly connecting Apple devices to each other without distinction and without interruption.

The tighter Apple products are connected, the more closed they are, making cross-use between Apple and non-Apple products more difficult. For example, transferring data between an Android smartphone and a MacBook requires a separate app and a wired connection, whereas iPhones and MacBooks can transfer files wirelessly with AirDrop. The difference between the ease of connectivity between Apple devices and the inconvenience of connecting with non-Apple products is what drives "biased consumption," which is the tendency to buy more Apple products. According to data journalist Felix Richter, iPhone users are more likely to buy accessories and peripherals from Apple, such as the Apple Watch and AirPods. 79% of iPhone users use an Apple Watch, compared to only 22% of Android phone users. In other words, once users start using Apple's products, they are easily drawn into the Apple ecosystem¹¹.

I like to use the term "dark hardware" to describe their exclusivity, in reference to the concept of "dark patterns." Whereas "dark patterns" are designs in the UI that force users to take certain actions (like uninstalling an app on a Mac requires you to manually go into a folder and delete the files), "dark hardware" are lock-ins and exclusivity at the hardware level that limit your choices and force you to make additional purchases. For example, Samsung's S Pen is compatible with Galaxy devices and Third parties while Apple Pencil only works with the iPad. This raises the question of why the Apple Pencil can't be used on an iPhone, or even more so, why it can't be used on a MacBook?

This strategy is also evident in the way Apple launches products and expands its ecosystem. They assign clear roles to different sized devices and then expand the ecosystem by emphasizing the connections between them. One of the strangest examples of this is the MacBook-ization of the iPad, where Apple introduced the Magic Keyboard, a detachable keyboard that magnetically attaches to the iPad. Combine the iPad Pro with the Magic Keyboard for iPad Pro, and it's actually a MacBook-like form factor. While this shows a commitment to maintaining the character and role of each device, it also reveals a waste of resources and money. This is the opposite direction Apple has taken with the Lisa project. Whereas in the

past they tried to make things simpler and more user-friendly by integrating features, now they've shifted to a strategy of separating devices and leveraging hardware dependencies.

So how does the seamless connectivity of Apple's ecosystem impact creativity? The benefits of Seamless include the ability to seamlessly switch between devices, allowing for scalability that removes physical and systemic limitations from the creative space. The freedom to work on creative programs when and where they want, on any device, is maximized. It's a scalable environment for creative work. Mirroring and screen scaling between Macs, iPads, and iPhones, as well as Universal Control, which allows a single cursor to move across devices, make the creative experience more organic. But the premise is *owning multiple Apple devices*. In the first place, all that connectivity and continuity is only available to those who can use multiple devices simultaneously. Compared to the days when we started with a single computer, we've moved into an era where a single creator needs to own, connect, and switch between multiple devices. If you can do everything with one device, you may not need most of the scalability that comes with seamlessly connecting multiple devices. This leads us to ask whether seamless connectivity actually liberates creativity, or whether it limits it by forcing us to operate within a set framework. In the end, the question of *what's the difference between buying an Apple pencil and buying a brush?* shouldn't be about the cost to a single creator, but about the conditions of creativity that a platform creates. Ecosystems may not really be the tools of our choice, but rather the result of the structural mechanisms that drive justified consumption.

Conclusion: What terrain are we creating/working in?

In *The Future of the Internet*, Jonsthan Zittrain compares the iPhone to the Apple II. He describes the Apple II as a generative technology, functioning as a platform that *invites* users to experiment, while the iPhone is a pre-programmed, unproductive and "sterile" technology. Since Apple had the power to modify the iPhone system. *The machine was not to be generative beyond the innovations that Apple (and its exclusive carrier, AT&T) wanted. Whereas the world would innovate for the Apple II, only Apple would innovate for the iPhone.*¹² Zittrain analyzes this change as a result of Apple choosing stability and control over freedom because of the problems that came with the openness of the Apple II - viruses, spam, identity theft, and system failures. Constraints and controls were necessary in order for the system to be predictable and stable. And as technology evolves, such defensive and controlling systems are likely to become more and more prevalent in the future.

In the midst of these systemic changes, we, as users and producers, need to ask the question of what kind of terrain are we creating in? Creativity is not only about the ability to create something new, but also about the system within which that creativity

is enabled and *under whose control*. Technology and design are increasingly driven by consumer demand and corporate profits. Big tech-centered design has become a trend, and users and third parties follow along. Apple users' creating infrastructure is deeply embedded in the social and economic structure of creativity, and is subject to the logic of corporate profit. But even within this limited technological structure, new expressions of creativity continue to emerge.

Creativity, to me, is an event where novelty and admiration meet. It has to be something that is both new and meaningful in a communal context. Creativity requires spatial and temporal conditions, a historical context, and an audience. Creative objects often emerge more strongly when an opposing order or convention first exists. The subject practicing creativity must be able to look at an existing issue in a different way, to recognize a problem in it. When the result is perceived by others as something new and meaningful, we call it creative. What I believe is that we can frame new conditions for creativity, set up new audiences, and create events that cause a shift in our senses. We may not be able to flip the whole structure on its head, but like the caterpillar in the apple, we can be the ones to climb the cracks between the subscription model and open source, to gnaw, climb, and shake the system. Developers, designers, creatives, casual users, and legislators are forming small communities to break free from the gravitational pull of big tech. Could there be a time when it's okay to not choose to be creative? A world where we don't have to feel frustrated or defeated for not being creative.

Notes

1. Andreas Reckwitz, *The Invention of Creativity: Modern Society and the Culture of the New* (Cambridge: Polity Press, 2017), 2.↵
2. Reckwitz, *The Invention of Creativity*, 4.↵
3. Nicola F. Sharpe and Olufunmilayo B. Arewa, "Is Apple Playing Fair? Navigating the iPod FairPlay DRM Controversy," *Northwestern Journal of Technology and Intellectual Property* 5, no. 3 (2007): 333, [<https://scholarlycommons.law.northwestern.edu/cgi/viewcontent.cgi?article=1144&context=njtip>]↵
4. Shoshana Zuboff, *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power* (New York: PublicAffairs, 2019), 28.↵
5. Jakob Nielson, "Macintosh: 25 Years", *Nielson Norman Group*, February 1, 2009, [<https://www.nngroup.com/articles/macintosh-25-years/>]↵
6. Kaspar Visnapuu, *Consistency, Efficiency, and Scalability in Design Systems: A Comparative Analysis of Material Design, Apple's Human Interface Guidelines, and IBM Design Systems* (Bachelor's thesis, Jönköping University, 2023), [<https://www.diva-portal.org/smash/get/diva2:1802144/FULLTEXT01.pdf>].↵
7. See the discussion on the following pages: [https://www.reddit.com/r/androiddev/comments/hziqnm/blindly_following_apples_design_guidelines/]↵
8. Chance Miller, "Hello, Goodbye: App Store rejects previously-approved 'Hey' email app from Basecamp", *9to5Mac*, June 16, 2020, [https://9to5mac.com/2020/06/16/hey-email-app-app-store-basecamp/?utm_source=chatgpt.com]↵

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[<https://www.statista.com/chart/31973/likelihood-of-iphone-users-using-other-apple-devices/>]↵
12. Jonsthan Zittrain, *The Future of the Internet*, (YALE UNIV PR, 2009), 2-3.↵

Talking in the Internet

Soo Youn Bae

I was born in South Korea in 1997. The year 1997 is often referred to as the worst year in South Korean history. The reason is that shortly after being classified as a developed nation by the IMF, South Korea faced a foreign exchange crisis, leading to a series of bankruptcies among large corporations and a sharp increase in unemployment, marking the country's first major crisis (sentence needs revision). However, at the same time, the financial sector introduced the first internet home trading service, allowing people to check stock prices from home. It was also the end of the era of the N-generation, or network generation, born between 1977 and 1997, a time of coexistence between analog and digital technology.

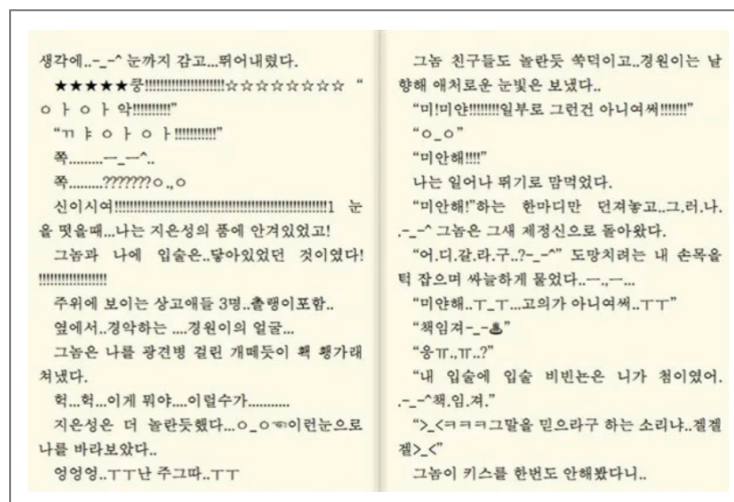
1997 was a subtle year. It was the year when the internet began to be widely adopted in households, *Sailor Moon* was officially broadcast in Korea¹, and the movie "Access," about a love story that began through PC communications, was released. In Japan, *Princess Mononoke* and *Evangelion* were released in the same year. In the UK, Radiohead's *OK Computer* and Aqua's *Barbie Girl* were released, and in the US, sci-fi films like *The Fifth Element* and *Men in Black* hit theaters. It was the end of the century, a time when anxiety and curiosity about the future coexisted. Amidst these emotions, new technologies and forms of communication entered our lives.

The internet, which spread during a time of chaos, became a refuge for people who were confused, but it also became a symbol of that chaos. As people who had been living their own lives through digital machines called computers became connected, new relationships that had not existed before were formed, and new ways of communicating emerged due to the characteristics of digital machines. From the beginning of this new way of life to the present, people have faced various changes and difficulties. Going forward, I would like to discuss how we can survive in this era without being swept away by the flood of data.

Digital Writing

Born and raised in such a chaotic situation, the boundaries between everything are blurred. I am not sure when I first used a digital device, nor when the country began to recover from its decline. All I know is that at some point, computers began to appear in homes, and everyone started indulging in luxury again. Still, I clearly remember the first time I saw and used an emoji. It was through an internet novel I

read in elementary school. At the time, internet novelists were like Shakespeare and George Orwell to teenage girls. We learned about love, friendship, and the world through their novels. Among the many writers, the most successful internet novelist was “Gwiyeoni.” Her works were characterized by the excessive use of emojis and punctuation marks. While some criticized her writing style as “language destruction,” it was simply the way teenage girls in the 2000s communicated online. As computers and smartphones became ubiquitous in the 21st century, they felt the limitations of communication through text alone and sought ways to express emotions using emojis and memes, gathering together to create new cultures and methods of communication.



A web novel featuring early emojis

With the everyday use of the internet and mobile devices, writing has become divided into formal and informal categories. Writing such as emails and documents follows a certain format, but the most commonly used informal writing circulates on the internet in an unrefined state. Printed texts are revised by multiple editors and distributed as well-organized final versions, but texts written on the internet retain the possibility of eternal revision². In her book *Because Internet*, author Gretchen McCulloch divides internet users into old internet people, semi internet people, full internet people, pre-internet people, and post-internet people.

In her book *Because Internet*, author Gretchen McCulloch divides Internet users into old Internet people, semi-Internet people, full Internet people, pre-Internet people, and post-Internet people. The criteria for this classification are not based on age, but rather on what people do on the internet. Among them, semi internet people are those who began using the internet for formal writing for work purposes. They soon expanded their use of the internet to include reading news, searching for information, and shopping, but they used and perceived it in much the same way as they did print media. Therefore, the way of thinking and usage of post-Internet people, who have grown up connected to the internet since birth, is difficult for them to understand.