Speculations on Metaflat

How KUMALEON Embodies a More Purely Artistic Approach to NFT Art

by hasaqui

1. Introduction

Less than a year after the "NFT summer" of 2021, interest in non-fungible tokens and crypto in general began to dramatically cool off at the end of May 2022, triggering a "crypto winter." Although it is a challenging time for NFT projects, a more subdued market may provide the breathing space needed to properly reconsider the value of NFTs. Even in a bear market, NFTs continue to produce significant economic effects that have had enormous impact—an aspect covered in an article by Joi Ito, ex-director of MIT Media Lab, where he describes the parent company behind the Bored Ape Yacht Club NFT collection as "the next Disney."[1] Young entrepreneurs, artists, art collectors, and investors continue to actively support Web3 efforts.

KUMALEON is a project that was released in the dead of this crypto winter. Inspired by the things that Web3 technologies have made possible—as well as the idea of a *metaflat* artistic movement that embodies these possibilities—KUMALEON delivers a message: you can be anything you want to be. It is a work of art that blends 3D computer graphics, generative art (or "gen art"), and smart contract technologies—but what sort of impact will it have on the world? From a contemporary art perspective, KUMALEON suggests a Web3 update to Takashi Murakami's superflat art

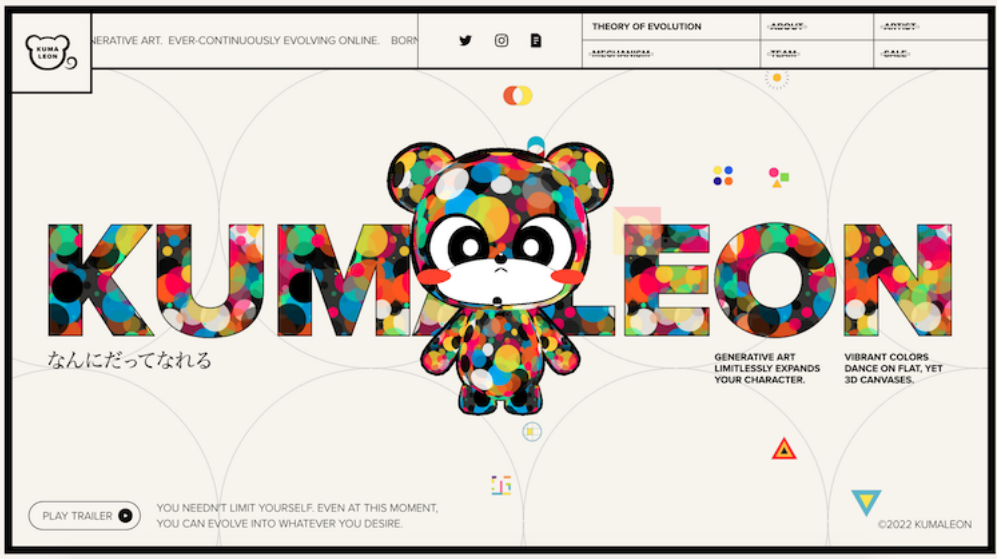
1. Ito, Joi. "Kyushin 'Nekusuto Dizuni' ga Nihon wo Sekken suru Hi: Sonzaikan o Masu 'Posuto GAFA' no Shotai" [The day the rapidly growing "next Disney" takes Japan by storm: exploring the nature of the increasingly ubiquitous 'post GAFA']. *Toyo Keizai Online*, Jun. 20, 2022. https://toyokeizai.net/articles/-/592381

movement—a new artistic possibility that fuses gen art with pop art.[2] In this book, I will incorporate opinions I have formed based on interviewing the KUMALEON development team to analyze the concept of metaflat and the key qualities of KUMALEON.

I will start by pointing out that metaflat, as defined by the development team, is not just another way of saying "generative art." Not all aspects covered in this book are necessarily part of the KUMALEON concept developed by the team.

Ref. A: Illustrations of KUMALEON

2. As I will explain in more detail, metaflat incorporates elements of both Takashi Murakami's superflat art movement—one of the most important drivers of Japanese pop art this century—and Midori Matsui's subsequent micropop art movement. Although time will tell what impact metaflat will have on the world, I feel that there is great potential in this movement, even as there is a wide range of challenges that it needs to overcome before establishing itself. However, this goes without saying for any new art movement, and I would prefer to focus instead on the qualities that compose the backbone of KUMALEON.



Ref. B: The KUMALEON website, with graphic patterns that transform from moment to moment

2. What is Metaflat?

> As Gen Art evolves
> So will our new Culture of Composition.
> This is Metaflat.
>
> —From "Theory of EVOLUTION" on the KUMALEON website

When a work by digital artist Beeple was auctioned at Christie's in March 2021 for the third-highest price in history, the market was already ripe for an NFT boom, thanks to the increasing amount of time people were spending online due to the COVID-19 pandemic. The rise of NFT art brought digital art the kind of attention it had never enjoyed before, which in turn led to new developments in programming-based digital art. One successful example is Art Blocks, a platform for 100% on-chain NFT art that hosts gen art works such as Dmitri Cherniak's "Ringers" and Tyler Hobbs's "Fidenza." Both were actively traded in secondary markets at high prices. Not only was Art Blocks financially successful, the platform also helped inspire a reassessment of creative coders and older works of computer art that had never seen the light of day. For example, a Herbert W. Franke solo exhibition was held in 2022 in Linz, and a Vera Molnár exhibition is being scheduled at the 2022 Venice Biennale. There is even a gen art magazine, *ARTCODE*, published by Redlion News.[3]

KUMALEON is a character created by generative artist and creative coder Okazz. It is a 3D model that wears a graphic pattern—a randomly generated work of gen art—that is constantly changing. Okazz and his development team describe metaflat as follows:

> Metaflat is a new philosophy that combines the ideas behind superflat—the Japanese art concept that holds that any subject, whether high or low culture, can be flatly depicted through two-dimensional expression such as manga and anime—with contemporary technological thought. We are on the verge of establishing a new economy called VR where anyone can maintain their anonymity. Here, it will be possible to use blockchains to build the ideal DAO (decentralized autonomous organization): a world that is more transparent, more equal—flatter. Metaflat borrows these technological concepts and the ideas behind superflat to espouse an artistic philosophy of flatness that goes beyond physical flatness.

3. *ARTCODE*, which is built on NFT technology, is free to read. Issue #2 is the latest. http://redlion.news/studios/artcode-1

This description makes it clear that metaflat has inherited the DNA of Takashi Murakami's superflat art movement. But it also explains that metaflat deals with an altogether different kind of flatness, one made possible by the path paved by superflat but which also incorporates Web3 technologies related to blockchains, extended reality, and other areas.

It may be possible to describe today's NFT art world as the realization of one aspect of the superflat art movement that Takashi Murakami developed in the late 1990s and introduced to the Western art world this century. Superflat brings context to the distinctive flattened forms found in Japanese art throughout history while also embodying the lack of hierarchy in Japanese culture—that is to say, that there is no high or low culture. Superflat played a key role in introducing these ideas to the West, and we will take a closer look at this movement in chapter 5.

Look at today's NFT art, and you will find traces of superflat.[4] You can see it in the way a variety of NFT projects—from blue chip NFTs to outright scams—are presented in a flat grid in the OpenSea marketplace, in the way variation in a work's attributes (metadata) can create rarity among profile picture art (PFP), and in the character illustrations that seem inspired by manga and anime.

PFP art in particular calls to mind the color variations found in many of Andy Warhol's silkscreens. Even the multi-eyed mushrooms of all sizes featured in Murakami's *Super Nova* (1999; fig. 2-1) look simply like variations of the same PFP character. However, I would argue that the most distinctive trait of PFP art is the use of generative elements to produce thousands of character variations, each with a unique set of attributes—as in the case with CryptoPunks. In 2000, Murakami published *Superflat*, a deep dive into the titular movement.[5] Featured in the book is "chappie33" (1998; fig. 2-2) by groovisions, which is one in a series of character illustrations that use the same base character but add variations in clothing and other elements—an eerily prescient work that seems to predict NFT art. In *Otaku: Japan's Database Animals*, cultural critic Hiroki Azuma—who also contributed an essay for

---

4. This trend probably has less to do with Murakami than with the global spread of Japanese anime, manga, and video games. Since 2000, otaku culture—a term generally used to describe interests in anime, manga, video games, and computers—has become more accepted by the general public and has even become a topic of academic research. As a result, manga, anime, and video games enjoy acceptance among a much wider demographic than in the past, with interest in such content spreading rapidly around the world as well. Having said all this, Murakami should still be given considerable credit for providing the art world with a philosophical framework for these subcultures at a time when they had not quite taken off overseas.

5. Murakami, Takashi. *Superflat*. KaiKai KiKi, 2019. (The first edition in 2000 was published by Madra Publishing.)

Superflat—writes in depth on this kind of generative character art.[6] (The book is often referenced in discussing Japanese postmodernist art.)

He argues that while modern art contained elements of a large, shared narrative that viewers could refer to in understanding the work, in the postmodern age, where there are no such larger narratives, the viewer must refer to their own experiences and memories—a database of narratives that have become fragmented, flattened, or manifold over time—to apply their own interpretation to the work. So, someone may find deep meaning behind some random attribute imbued in a character illustration and develop a sense of deep affection or desire for the character—a prominent trend occurring in PFP art. The major difference is that in PFP art, it is the rarity of the attribute that gives the work its value, and one might argue that any attraction someone may feel for the character is artificially driven by this scarcity. However, we are also seeing trends of people minting NFT art featuring characters with attributes they normally would not find attractive—but developing affection for the characters anyway. This may have more to do with how the work's detailed transaction history can enhance its uniqueness, but it is an interesting trend that should be studied in more detail from psychological and other perspectives.

One other noteworthy point about NFT-based PFP art is that many of the projects have developed personal visions that promote a new "flatness" in the world. For example, there is *Shinsei Galverse* (fig. 2-3), which originated in Japan and uses motifs from 1990s anime to promote strong female figures. This project could be described both as a much needed addition of a female perspective to the superflat art movement, as well as a female-centric version of superflat. Commentary in the late 1990s and 2000s on female anime and manga characters tended to focus too much on their attractiveness to men. *Shinsei Galverse* is attempting to rectify this by providing a perspective based on the female gaze—especially valuable today, when much Japanese PFP art tends to focus on *kawaii* female characters.

6. Azuma, Hiroki. *Otaku: Japan's Database Animals*. Kodansha, 2001.

Fig. 2-1: Takashi Murakami, *Super Nova*, 1999.

Figure 2-2: Part of groovisions's *chappie33* (1998)

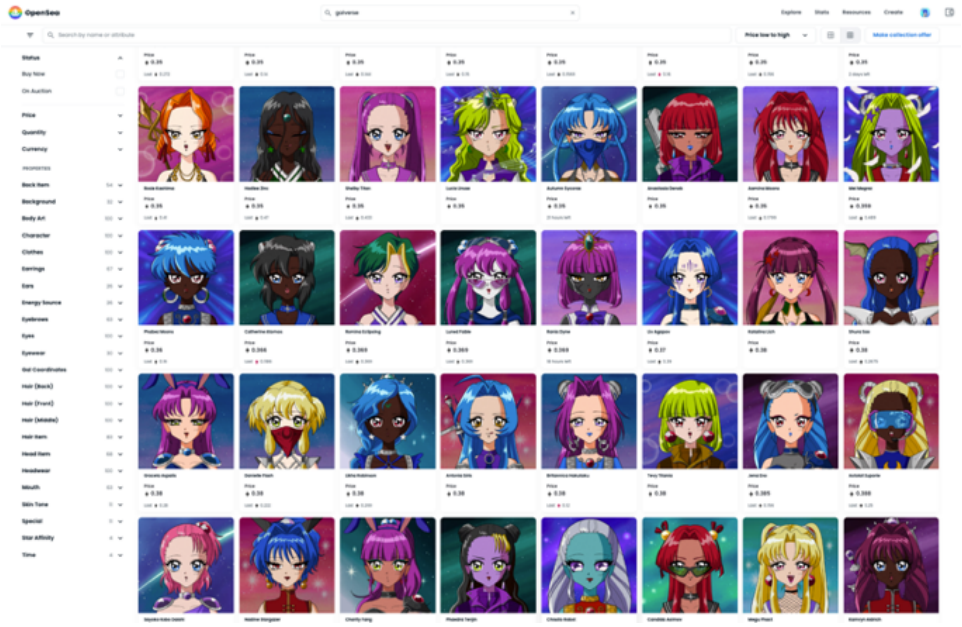


Figure 2-3: *Shinsei Galverse* works are listed for sale in the OpenSea marketplace in this screenshot taken in 2022.

Like many of these NFT art projects, KUMALEON was born from the understanding of the possibilities promised by the new ground broken by NFTs and is attempting to both live up to the potential of NFTs and empower people.

While the major elements of the project—those directly related to the metaflat concept—are technologies developed in the Web3 era, the core concept of the project is about having fun, something that Okazz says he experiences every day through his work as a creative coder. Through creative coding, Okazz has discovered fun in his life and has connected both with members of the coding community and—after getting into NFTs—art collectors. The KUMALEON team has used Okazz's personal experience as a starting point to spread fun throughout the world, in the form of a cute and iconic NFT pop art sculpture. Next, I would like to take a closer look at the specific technologies the team has employed to achieve this goal.

The technological aspects of metaflat

Metaflat, as defined by the KUMALEON team, involves two technological aspects.

The first is gen art. One of the most famous platforms for presenting and sharing gen art is OpenProcessing, which allows for both the code and the resulting visual creation to be shared. This means other creative coders are free to borrow a piece of code and incorporate it into their own program (what is known as "forking"), tweaking

the original code to see how it affects the visual creation until they have produced something entirely new. In this way, the viewer and screen are working off of each other—a different dynamic than the postmodern narrative database model described by Azuma. Because gen art is digital art, Azuma's metaphorical database is now a physical thing, a visible system composed of code that is visualized on-screen. Let's take a look at the OpenProcessing UI as an example.

On OpenProcessing, works uploaded by creative coders are presented in a flat grid. Viewers can view an individual work and its code side by side and are even allowed to tinker with the code. In other words, both the database of narratives—an element that isn't visible in the Azuma model (fig. 2-4)—and the visual presentation of the database are present on-screen (fig. 2-5, 2-6). And the viewer is free to edit both elements.

Being able to view the work of a creative coder as well as the code behind the work means getting a more fully encompassing view of the work and gaining insight into the skills and perspectives of the artist. By viewing or forking the code, the viewer gains the opportunity to incorporate the artist's perspective into their own worldview or their own work. If we were to use the Azuma model as a base, we can develop a new model that consists of numerous Azuma models arranged in a database, with the narrative elements visible to all. In this model, viewers are given full access to the visual presentation (and code) of the work as well as the perspectives (and skills) behind the work, which they can then apply to their own creative works. This establishes a network of cocreation that would fundamentally be sustainable in perpetuity. One might say that this combination of transparency, full access, and constant growth is a key factor in the new flatness embodied by metaflat. And one might further say that this new flatness has been facilitated by evolutions in gen art and gen art platforms (or, in general, advances in software engineering) since the publication of Azuma's *Otaku: Japan's Database Animals* in 2001, as well as by burgeoning interest in programming art due to the arrival of NFTs.

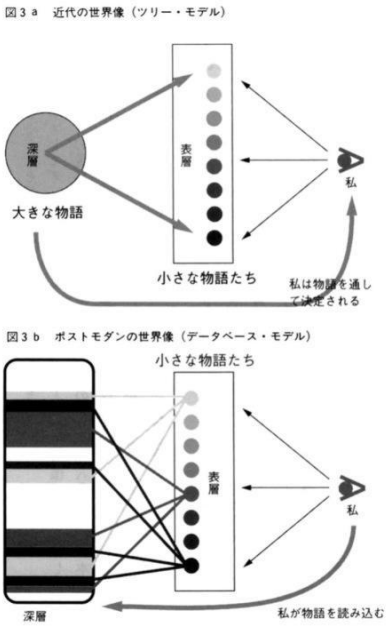


Fig. 2-4: The modern narrative tree model and postmodern narrative database model as depicted in Azuma's *Otaku: Japan's Database Animals*.

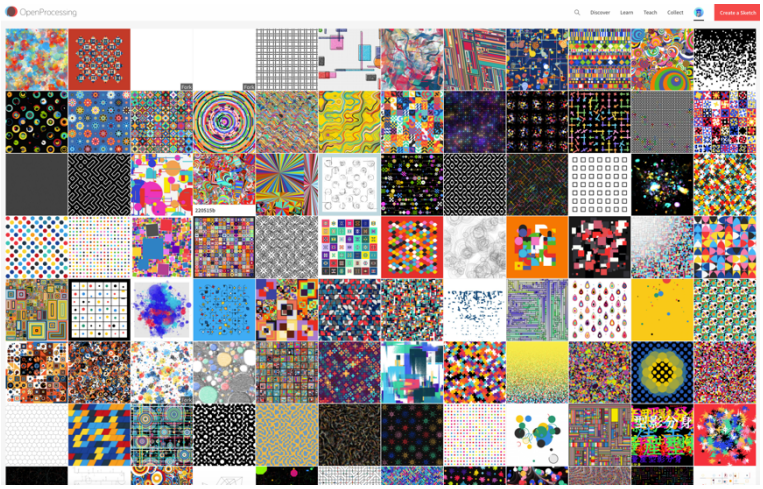


Fig. 2-5: Okazz works, as presented on OpenProcessing. The works of other creative coders can also be viewed similarly as a database in which the code of each work is visualized.

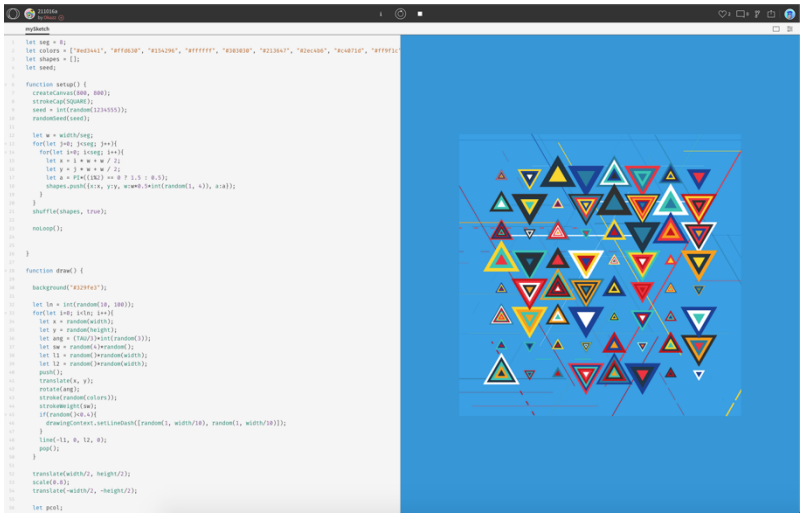


Fig. 2-6: On OpenProcessing, one is able to simultaneously view both the work's code and its visual implementation. Featured here is a work by Okazz.

The second technological aspect of metaflat involves smart contracts and blockchains. The smart contract code and blockchain transaction history saved on an NFT are both transparent and can be viewed on-screen via Etherscan. According to the KUMALEON team, "metaflat" is not just another word for "gen art"; the concept applies to more than just a single artistic genre. It is more about the multiple levels of transparency offered by NFT technologies and the flatness that defines the human network that revolves around NFTs—that is, a level playing field where artists, viewers, collectors, and other stakeholders can all become major players.

I would like to also add that KUMALEON possesses elements of contemporary art, media art (gen art), and NFT art and thus has the potential to demonstrate a flatness that is not limited to a single artistic genre. (Full disclosure: This is the working thesis of this paper.) It also possesses permanence and a (at least, theoretically) permanent, transparent transaction history, two elements that can describe NFTs as a whole. This allows it to demonstrate a flatness that is unaffected even by the passage of time.[7] In

7. Unlike with most contemporary art, NFT artists do not have to fight over limited display space to ensure their works are remembered by later generations (or in art history). In contemporary art, the value of a work was once found in its ability to make its mark in the narrow confines of art history—limitations that the art world had set up without necessarily having intended to do so. But with NFT art, all a work needs to do to be remembered is to exist (although there is debate about the actual permanence of NFT art). Without a need to appeal to contemporary gatekeepers, NFT artists are free to create art for whomever they want—even those living far into the future. Of course, ignoring contemporary opinion is not that simple, but having the freedom to do so is the quality that defines NFT art as a medium, and it has the potential to change the way artists approach their work.

other words, it becomes easier to treat the assessment of the work given by contemporary gatekeepers as a relative opinion.[8]

Let us now take a look at KUMALEON's message—that anyone can be anything they want to be—through the technology behind smart contracts. KUMALEON applies the ERC-998 NFT standard. This standard allows the user to designate an NFT as a parent token that can own other NFTs (child tokens). There are very few projects that involve this standard, but one example is MoonCats, which the KUMALEON team says they have used as a reference in implementing their project.[9] A rare example of an artist applying this standard is *Tokens Equal Text* (2019) by Rhea Myers, who has long been known as a blockchain artist.[10] The KUMALEON team has also studied the concept behind this work.

In the case of KUMALEON, the 3D model has been designated an ERC-998 NFT, to which the team has given ownership of the ERC-721 NFT that covers the gen art patterns that decorate the model. The model itself has a web safe color (fig. 2-7), but because it owns a gen art pattern NFT, it is capable of changing its own pattern. In other words, it can be anything it wants to be. According to the KUMALEON team, the gen art—produced by Okazz and owned by the 3D model—has not been minted yet and will only get the chance to be minted once the model has "shed its skin," to use the team's terminology. Once the model has shed its skin, it can acquire and shed other skins, including NFT gen art produced by other artists. Okazz has even illustrated this process (fig. 2-8).

Let us take a closer look at this expression of "shedding its skin." Characters designed with 3D graphics are often created for use as avatars, their ubiquity giving rise to the idea of "dividuals"—characters into which we split our identities so we can simultaneously exist in multiple virtual worlds.[11] There is something of the dividual in KUMALEON, but the work is less about compartmentalizing our identities than it is about metamorphosis—shedding our skin. Like the new flatness that the team seeks to promote through this project, the metamorphosis they have in mind is, I suspect, not limited to the physical transformation of a work of NFT art or the new perspective

---

8. This statement is based on the tendency for the value of a work of art ("Is it art or not?") to be defined by contemporary gatekeepers in the art world based on a vague set of criteria.

9. https://mooncat.community/about

10. *Tokens Equal Text* features a parent token (an ERC-998 NFT) that owns an ERC-721 NFT consisting of text fragments in Vaporwave font and colors. https://rhea.art/tokens-equal-text

11. The book *Metabasu Shinkaron* [The metaverse evolution] (Gijutsu-Hyoron, 2022) by VTuber Baacharu Bishojo Nemu (or Nemu the Beautiful Virtual Girl) explores what it means to be a dividual. Such studies suggest that the dividual is widely recognized as the fulfillment of an avatar's potential or one that gives avatars meaning.

the work may inspire in another artist or collector. It is likely to be more comprehensive, about greater change among all the work's stakeholders and in society as a whole. Furthermore, the ERC-998 NFT designation allows a token to both own and be owned by other tokens, which makes the work both technologically open and highly composable. For example, one could designate one's virtual room as an NFT and have it own the KUMALEON model NFT, which would allow it to implement KUMALEON as a room décor.

Fig. 2-7: The KUMALEON 3D model, featuring a single web safe color

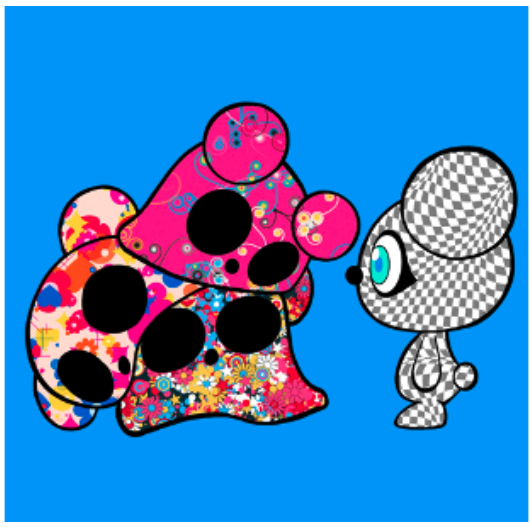
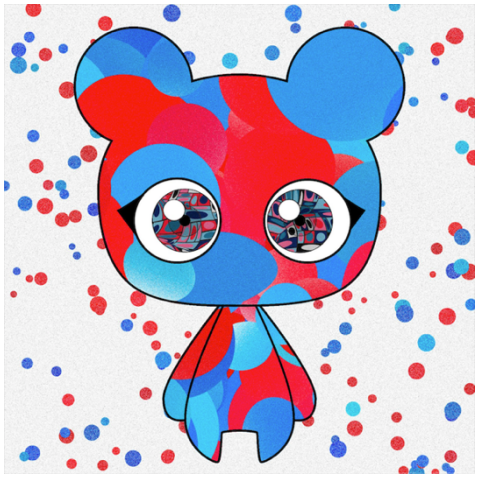


Fig. 2-8: An illustration by Okazz demonstrating the idea of KUMALEON shedding its skin



Ref. C: Old concept art for KUMALEON before it even had a name

3. The Link Between Generative Art and Character Art and Pop Art

KUMALEON is a work that fuses a 3D computer graphic form with gen art patterns. In this section, I would like to take a look at an important element that ties gen art with pop art and particularly character art.[12]

Any discussion of comic book characters in Japan must start with Mickey Mouse. Animation made in the United States, from *Mickey Mouse* to *Felix the Cat*, flooded the Japanese market in the 1930s and was pivotal in the development of homegrown comics and animation for children. One of the earliest Japanese comic book characters whose form resembled those of Mickey and Felix was Norakuro, an anthropomorphic dog created by Suiho Tagawa (né Nakataro Takamizawa). In *Mikkii no Shoshiki: Sengo Manga no Senjika Kigen* (The Mickey template: the wartime origins of postwar manga), Eiji Otsuka explains how Japanese manga artists and animators thoroughly analyzed how to draw Mickey.[13] For example, in a Mickey manual written by the animator Noburo Ofuji (fig. 3-1), Mickey's form is interpreted as a construct of circles. Otsuka also points out that before becoming a manga artist, Tagawa was an avant-garde artist, and that even after he began writing comics, he continued studying Disney from a constructivist perspective, in the process developing the foundations of today's manga. In other words, Otsuka argues that Tagawa saw manga as an extension of avant-garde art. This constructivist template of Mickey Mouse went on to influence Osamu Tezuka, widely recognized as "the god of manga," and thus formed the foundations of today's character art. (Otsuka also provides examples of Tezuka characters that are composed of circles; see fig. 3-2.)

By coincidence, the contemporary artist Yoshitomo Nara tweeted in June 2022 (fig. 3-3) that he himself constructs his characters from circles—almost ninety years after Japan began importing US animation. Considering the circular movement of our wrists, arms, and other parts of our body, it does feel natural to construct a human character out of circles; yet the fact that this trend remains unchanged after almost a century is certainly fascinating. Now, going back to gen art, one of the most essential functions in this medium is a command for drawing circles. This is the link that connects gen art and character art. (On a side note, there is one artwork that makes the connection between Mickey and circles blatant: Damien Hirst's *Mickey*; see fig. 3-4.)

---

12. Op art could also be described as a bridge between pop art, to which its name seems to pay homage, and gen art, to which it is similar form-wise. However, while there are many textural similarities between gen art and the optical illusions created by Bridget Riley and other op artists, there is very little artistically that connects pop and op art.

13. Otsuka, Eiji. *Mikkii no Shoshiki: Sengo Manga no Senjika Kigen* [The Mickey template: the wartime origins of postwar manga]. Kadokawa Sosho, 2013.

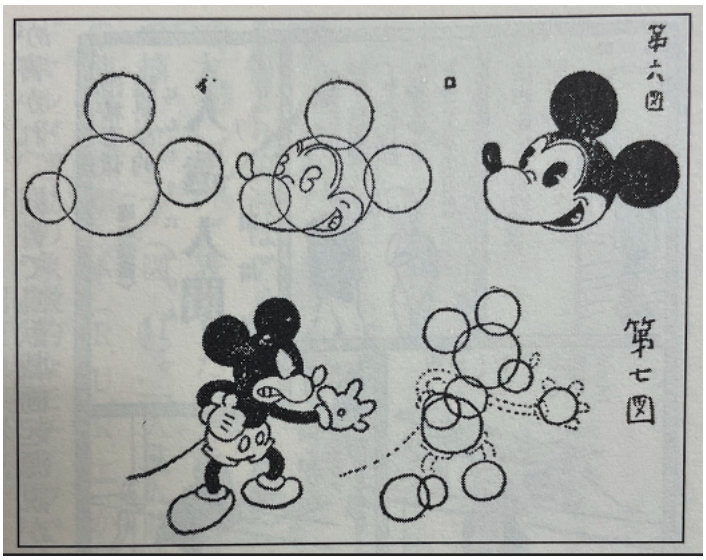


Fig. 3-1: Ofuji, Noburo. “Manga no Kakikata” (How to draw comics). *Pathéciné*, May 1937.

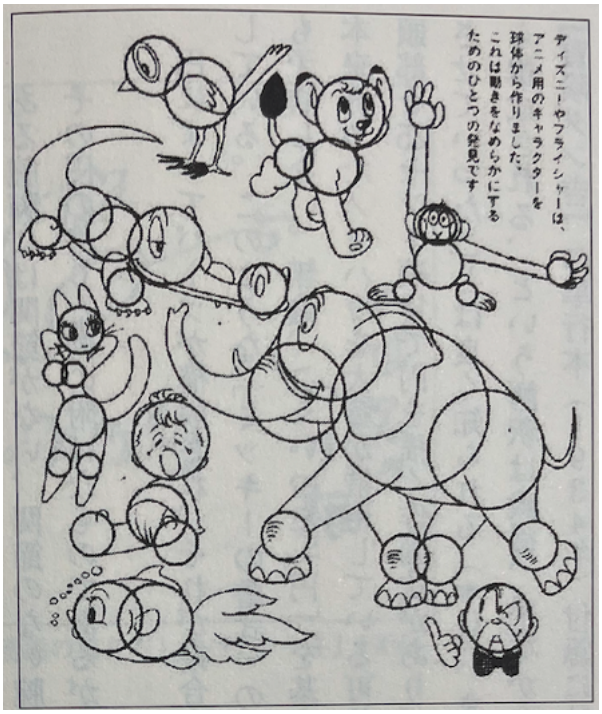


Fig. 3-2: Tezuka, Osamu et al. *Juninin no Sakka ni yoru Animeshon Firumu no Tsukurikata* (How to make an animated film, according to 12 animators). Shufunotomo, 1980.

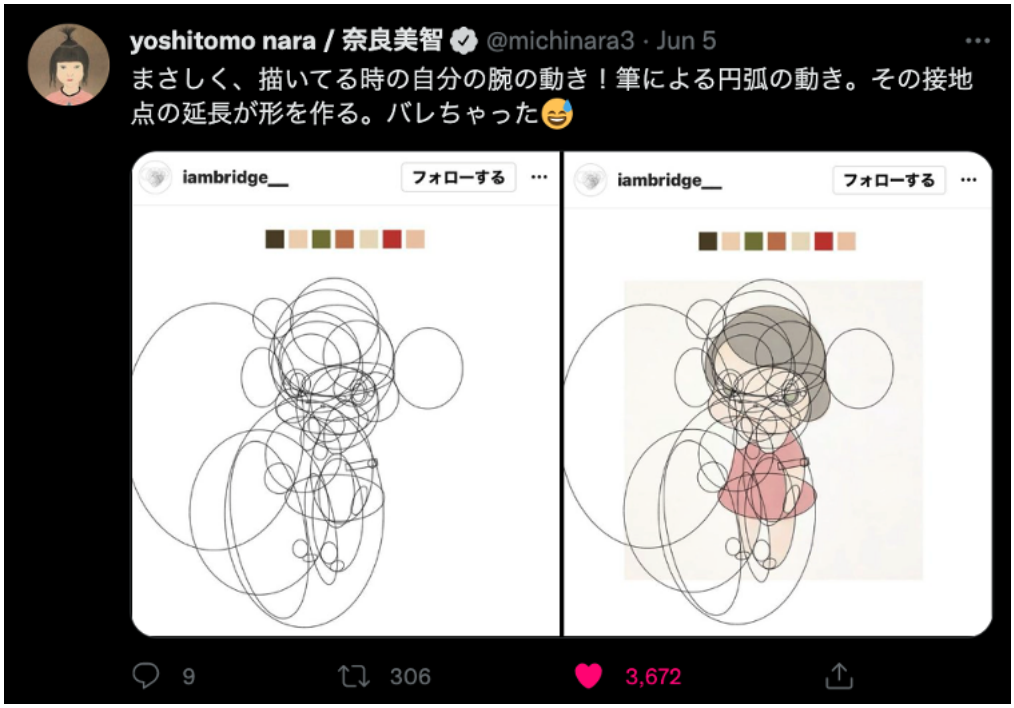


Fig. 3-3: A tweet by Yoshitomo Nara on June 5, 2022

Fig. 3-4: Damien Hirst, *Mickey*, 2012.

A song that functions as gen art

One example that illustrates the link between gen art and character art is a song that was once well known among Japanese children: "Doraemon no Ekaki Uta" (A song on how to draw Doraemon).[14] The lyrics are written as playful instructions that can be followed to draw the titular manga and anime character, who is immensely popular in Japan (fig. 3-5). Gen art is often compared to Sol LeWitt's *Wall Drawing* series and is frequently discussed in terms related to that work of conceptual art. This is because in LeWitt's work, the instructions used to produce the drawings are the actual work, similar to how the code is considered the work in a gen art piece. In the case of "Doraemon no Ekaki Uta," the song is generative in two ways: it both encourages the drawer to sing the song to remember the instructions and guides the drawer towards creating an illustration of Doraemon. Since Doraemon is composed of simple circles, arcs, lines, and dots, even children can easily draw him through this song.

It is true that the song is too abstract to function strictly as a set of instructions; in reality, one would need to see someone drawing Doraemon while singing the song and then imitate them in an act of mimesis. In fact, when the second animated TV show based on Doraemon was launched in 1979, it featured a segment in which the original manga artist, Fujiko F Fujio, drew Doraemon to the lyrics of the song. However, what is important is the element that ties this song with gen art code—its ability to allow anyone to replicate a work of art, no matter how much time has passed. It is what the artist Akihiro Kubota describes as an "implementary value" of code in his book, *Media Ato Genron* (The basic concept of media art).[15] This unique artistic quality allows for replication in a way that is also educational, while also allowing the work to remain impactful and able to attract interest no matter how much time has passed.

As mentioned earlier, gen art code is publicly available on OpenProcessing and other platforms, from where other coders can fork the code into their own work. A coder can study pieces of code written by their predecessors to learn how to use the basic functions of the coding language and then repeatedly implement the code to see how these functions work in practice. In the process, they can discover hints on what it is they want to create and begin experimenting. Okazz, who is a fan of Pokémon, has created a work that depicts Pikachu with only circles and ellipses (fig. 3-6), as well as a work that dismantles the drawing (fig. 3-7). Both works are available

14. "Doraemon no Ekaki Uta" was written by Takumi Kusube, composed by Shunsuke Kikuchi, and performed by Nobuyo Oyama (who also voiced Doraemon in the anime series).

15. Kubota, Akihiro, and Hatanaka, Minoru. *Media Ato Genron: Anata wa Ittai Nani o Sagashi Motomete Irunoka* [The basic concept of media art: what is it that you are searching for?]. Film Art, 2018.

on OpenProcessing. Each was created with about a hundred lines of code that are easy to decipher even for beginners—similar to the lyrics of "Doraemon no Ekaki Uta." In fact, they have come to be recognized as something of a beginner's guide to gen art coding in the OpenProcessing community.

On June 23, 2022, the KUMALEON team announced that they were organizing a coding challenge.[16] For the challenge, the team created an environment open to the public that allowed anyone to apply their own gen art patterns to the KUMALEON model, provided in a 3D file format known as GLB (fig. 3-8). In essence, coders were invited to use the KUMALEON model as a canvas for their own gen art work. One can only speculate on how this challenge will affect the future of gen art, but I would like to surmise that it will further integrate gen art and pop art. If this were to happen, we can expect new developments in both the art world and the computer art world—or "Duchamp-land" and "Turing-land" as once categorized by Lev Manovich in his 1996 essay, "The Death of Computer Art."[17]

Fig. 3-5: This scene from a TV broadcast of "Doraemon no Ekaki Uta" shows manga artist Fujiko F Fujio drawing his character to the lyrics of the song.

16. The challenge is available on OpenProcessing: https://openprocessing.org/curation/79035#
17. Manovich, Lev. "The Death of Computer Art." Rhizome, 1996. https://rhizome.org/community/41703/

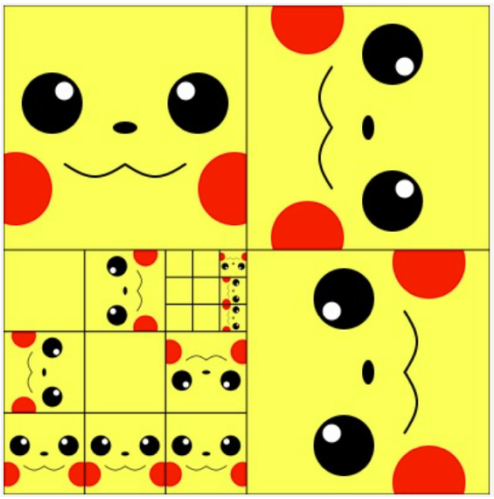


Fig. 3-6: Okazz, *Pikachu*.

Fig. 3-7: Okazz, *200804a*.

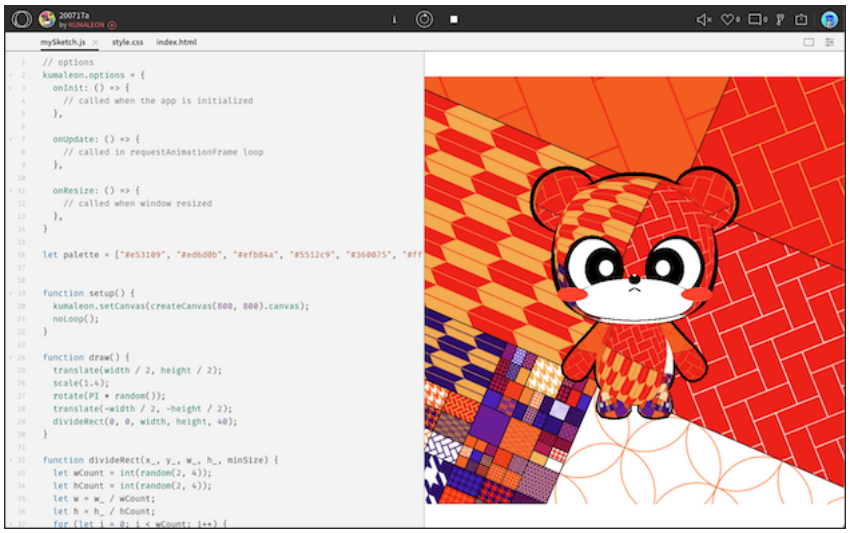


Fig. 3-8: A coder has applied their own gen art patterns to KUMALEON as part of the coding challenge prepared by the KUMALEON team. Anyone is free to render their own gen art onto the KUMALEON 3D model.

4. Okazz and the NFT Art Scene

So far, I have focused on the conceptual elements of KUMALEON. I would like to now explore Okazz as an artist through a selection of his works.

Very little is known about Okazz. What we do know is that he was born in 1991 and has been submitting work to OpenProcessing as a creative coder for many years. When Art Blocks was launched in 2021 and became a successful platform for 100% on-chain NFT art, Okazz's gen art works began to enjoy increased interest. Passionate collectors snatched them up on every marketplace, from function draw()[18] to Foundation[19] to fxhash.[20] The works on Foundation—which feature particularly high-resolution graphics (see *Assembly*, fig. 4-1)—quickly sold out.

Although the popularity of his works speaks to their quality, one could also argue that it is an indication that Okazz's many years of activity on OpenProcessing have been recognized.[21] In interviews with Okazz conducted by a producer and engineer involved with KUMALEON, he mentioned how aspects of his work are influenced by manga, anime, and video games. He also talked about how he has been influenced by Takashi Murakami (specifically *Geijutsu Tosoron* [The theory of competition in art] and the lecture that the book expands on). Okazz indicated that he is motivated to create works that are "cool" or "kawaii," and he is open about the joy he experiences from losing himself in his work. One factor that differentiates Okazz from other creative coders is that he uses the p5.js programming library to create both logical and "cool" works as well as more accessible pop cultural works, such as characters. One might argue that it is because he is capable of producing both types of computer art that he was able to establish something like the KUMALEON project.

---

18. See Okazz's function draw() page: https://okazz.on.fleek.co/#/

19. See Okazz's Foundation page: https://foundation.app/@okazz_

20. See Okazz's fxhash page: https://www.fxhash.xyz/u/Okazz

21. Another Japanese artist whose gen art works are highly praised overseas is takawo (Shunsuke Takao), whose 10,000 *Generativemasks* sold out just a few hours after being released in August 2021. In interviews, takawo has mentioned that one reason he was able to sell his works so quickly was that overseas creative coders who knew about his work from OpenProcessing's Daily Coding Challenges recommended his *Generativemasks*.

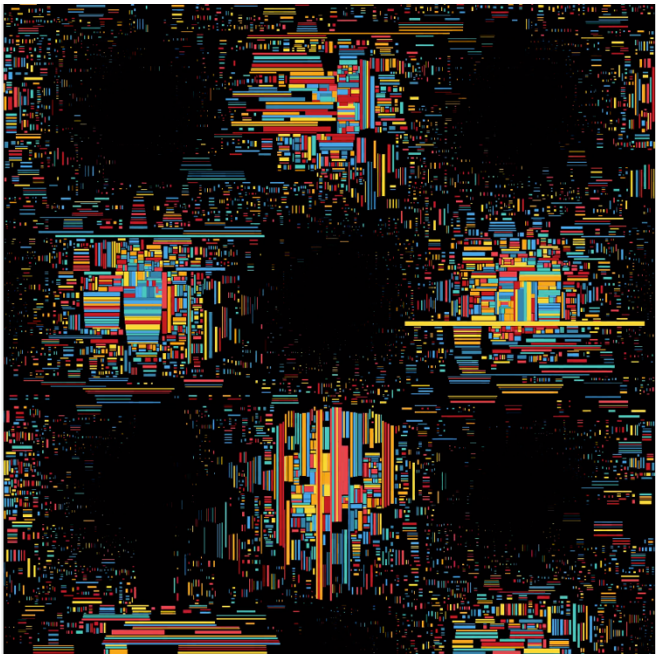


Fig. 4-1: Okazz, *Assembly*, 2021. The work was sold on Foundation.

Okazz, Kandinsky, and circles

Okazz's gen art works tend to feature basic shapes such as circles, triangles, and squares, as well as highly vivid primary, secondary, and tertiary colors—the twelve colors of a typical color wheel. The simplicity of these elements gives Okazz's works a distinctive power. Meanwhile, his compositions of basic shapes and colors call to mind the works of Kandinsky, Mondrian, Klee, and other Bauhaus artists. In fact, one of Okazz's creative coding works (fig. 4-2) is a reproduction of Kandinsky's *Circles in a Circle* (1923), and he himself has mentioned in the interviews I mentioned earlier that he was influenced by a Mondrian exhibition.

When viewing a Kandinsky such as *Several Circles* (fig. 4-3) from a contemporary perspective informed by the rise of gen art, it becomes immediately apparent that flowing deep inside gen art is a current that shares many of the same elements as Kandinsky's shapes and compositions. This becomes even clearer as one reads his book, *Point and Line to Plan*.[22] There is a drawing, "Diagram 1: Point - Cool tension toward the center," which is a composition of multiple dots (i.e., points) that resemble the numerous circles that tend to appear in gen art works. Meanwhile, the section titled "Repetition," which examines a group of lines spaced at equal, uniformly changing, or unequal intervals, has some similarity with the coder's dilemma of whether to apply the "random" function to space out their lines or not. Kandinsky's

22. Kandinsky, Wassily. *Point and Line to Plane*. Dover Publications, 1979.

use of figures and diagrams to accompany his explanations can also be seen as a template that has been employed in beginner's guides for the Processing programming language, such as Matt Pearson's *Generative Art: A Practical Guide Using Processing*.[23]

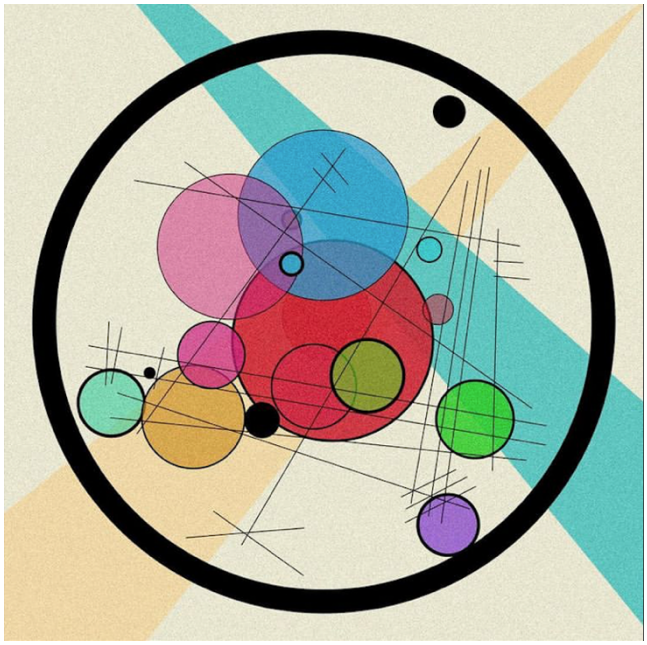


Fig. 4-2: Okazz posted this reproduction of Kandinsky's *Circles in a Circle* on his Instagram account on Feb. 1, 2019.

23. Pearson, Matt. *Generative Art: A Practical Guide Using Processing*. Manning, 2011.

Fig. 4-3: Wassily Kandinsky, *Several Circles*, 1926.

Okazz, Damien Hirst, and circles

One of the most prominent users of circles in contemporary art is Damien Hirst. Since 1986, Hirst has continuously produced a series called *Spot Paintings*, in which he paints colorful circles (i.e., spots) on a white canvas. In many of the works, the circles are placed equally apart from each other. In these works, it is clear that Hirst had in mind the flatness and grid-like compositions favored by modernists: each monochromatic circle serves as an important building block of the work. It is difficult to pin down the nature of the circles—they are flat and visually lighthearted, yet they also seem to possess a deeper meaning. In 2021, Hirst produced an NFT work based on the series: *The Currency*.[24]

Okazz has not mentioned Hirst in discussing his work, but he has created several works that feature circles in a grid formation—on first glance, they recall Hirst's *Spot Paintings*. He has also produced works with circles that, in a screenshot, may appear to be organized in an orderly way but actually involve a variety of randomized

24. For this project, Hirst first produced a series of 10,000 works featuring a dense mosaic of colorful dots that covered the entire canvas. He then offered buyers a choice: they could either purchase the original, physical work, or have Hirst burn the physical work so they could only own the work in NFT form. The NFT versions of the work feature detailed analytical information, such as the density of the dots and frequency of each color, which provide the works with parameters that determine their rarity.

movement when seen in its entirety. For example, *211116a* (fig. 4-4) features monochromatic dots in a grid—but there are also smaller dots rotating around the larger dots along three-dimensional paths. In *220501a* (fig. 4-5), the colors of the circles change in a way that gives the illusion that the circles are rotating, and in *210114a* (Fig. 4-6), the colors drip off the dots like wet paint. The use of movement to add a twist to well-worn pop art tropes is one of attractions of Okazz's art and of gen art in general.

On a side note, so-called "art that moves" exists in a variety of forms, from Jean Tinguely's kinetic machines to Davide Boriani's use of magnets to move around iron sand to Alexander Calder's kinetic art. What ties all these works is the presence of a device that creates this movement based on a specific type of logic. In the case of gen art, there is no device per se (other than the computer on which the artist produces the work), but the genre provides a greater amount of freedom in the movement the artist can express. In 1961, the Japanese art critic Shuzo Takiguchi decided to bring Gruppo T, an Italian art collective with a focus on "art that moves," to Japan based on a recommendation by the Italian artist Bruno Munari. However, he encountered difficulty in devising a way to display and introduce their work; after all, for centuries, the art world held an unshakeable belief that art was supposed to be still and that even movement was to be conveyed through stillness.[25] This belief was popularized by Johann Joachim Winckelmann, the German art historian who espoused the "noble simplicity and quiet grandeur" of Greek art as an ideal. In today's art market, the easiest works to sell are mostly still works; even in Art Blocks, artists are required to make their works "deterministic" (i.e., produce the same initial output) based on a single hash function, as well as "dimensionless" (i.e., scale seamlessly to any size of display). These signs indicate that stillness is still highly valued in today's art world. But the freedom offered by digital art must surely have increased demand in the NFT art scene for new terminology and evaluation baselines that allow for a proper assessment of the many video works and other "art that moves" that have come out of the scene.

25. Takiguchi, Shuzo. "Ugoku Geijutsu" [Art that moves] from *Ten* [Point]. Misuzu Shobo, 1962.

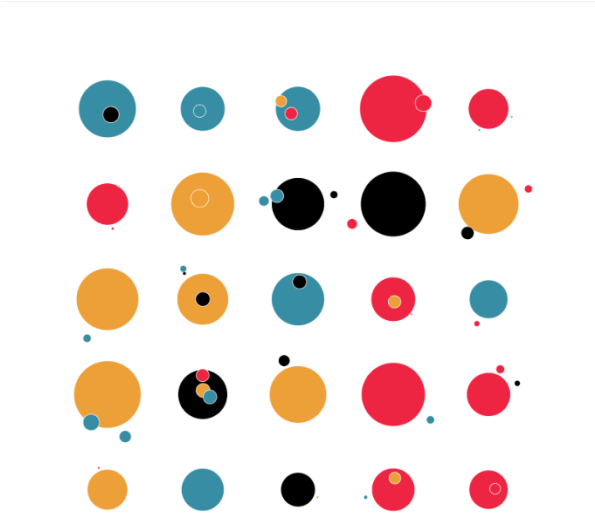


Fig. 4-4: Okazz, *211116a*.

Fig 4-5: Okazz, *220501a*.

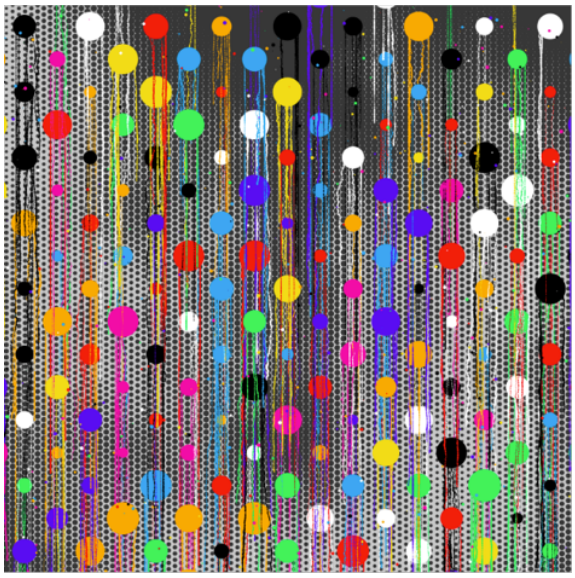


Fig 4-6: Okazz, *210114a*.

Fig. 4-7: One of Damien Hirst's *Spot Paintings*

Okazz, Takashi Murakami, and eyes

As mentioned earlier, Okazz has listed Takashi Murakami as one artist who has influenced him. From his numerous works on OpenProcessing featuring eye and

flower motifs, one can surmise that Okazz has closely studied Murakami's method. These include *200912a* (fig. 4-8) and *210206b* (fig. 4-9)—which feature numerous eyes created with the "eyes" and "draweyes" functions—and *200620a* (fig. 4-10), which features a floral motif. Okazz has also created the faces of a variety of characters using the p5.js library. It is interesting to note that in *Geijutsu Tosoron*, Murakami features a chart (fig. 4-11) showing variations in eye designs—each a series of concentric circles—that he presents as a tool he used in creating *727*, one of his best-known works. Viewing this chart makes one realize that the concentric circles that Okazz frequently features in his work (see fig. 4-12 and 4-13) are derived from the basic design of manga and anime eyes. In other words, Okazz's repeated use of concentric circles in his compositions can be analyzed similarly as Murakami's use of eyes, which possess conceptual significance in superflat.

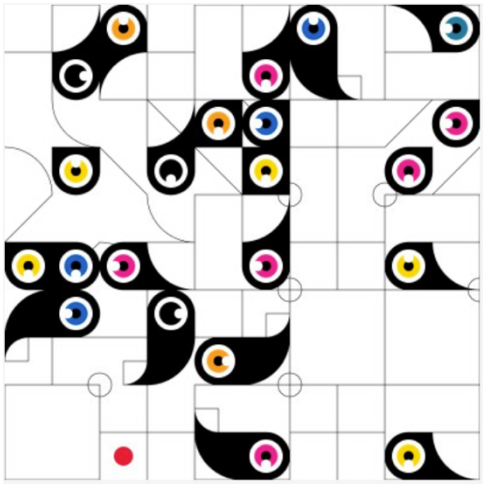


Fig. 4-8: Okazz, *200912a*.

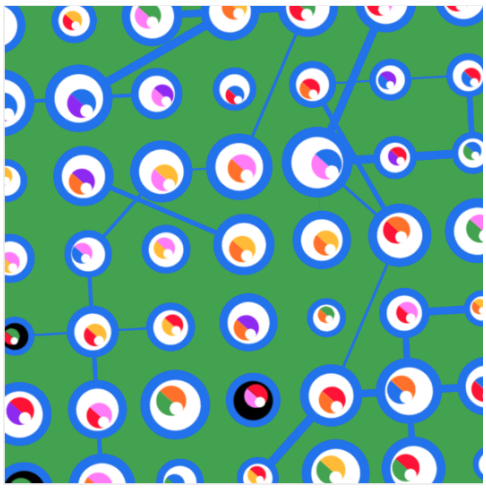


Fig. 4-9: Okazz, *210206b*.

Fig. 4-10: Okazz, *200620a*.

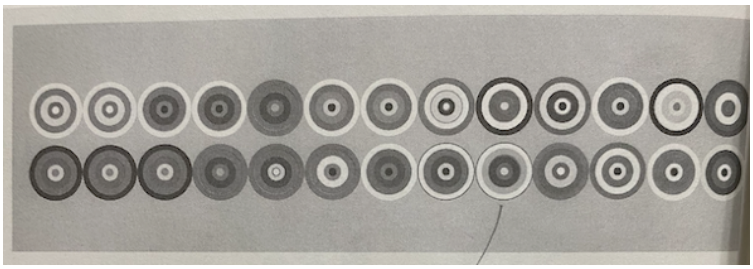


Fig. 4-11: A chart of eye design variations Murakami employed in making *727*, as published in Murakami's *Geijutsu Tosoron*.

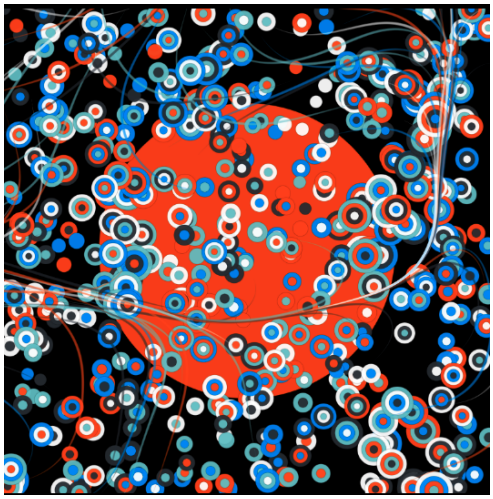


Fig. 4-12: Okazz, *19_12_10a*.

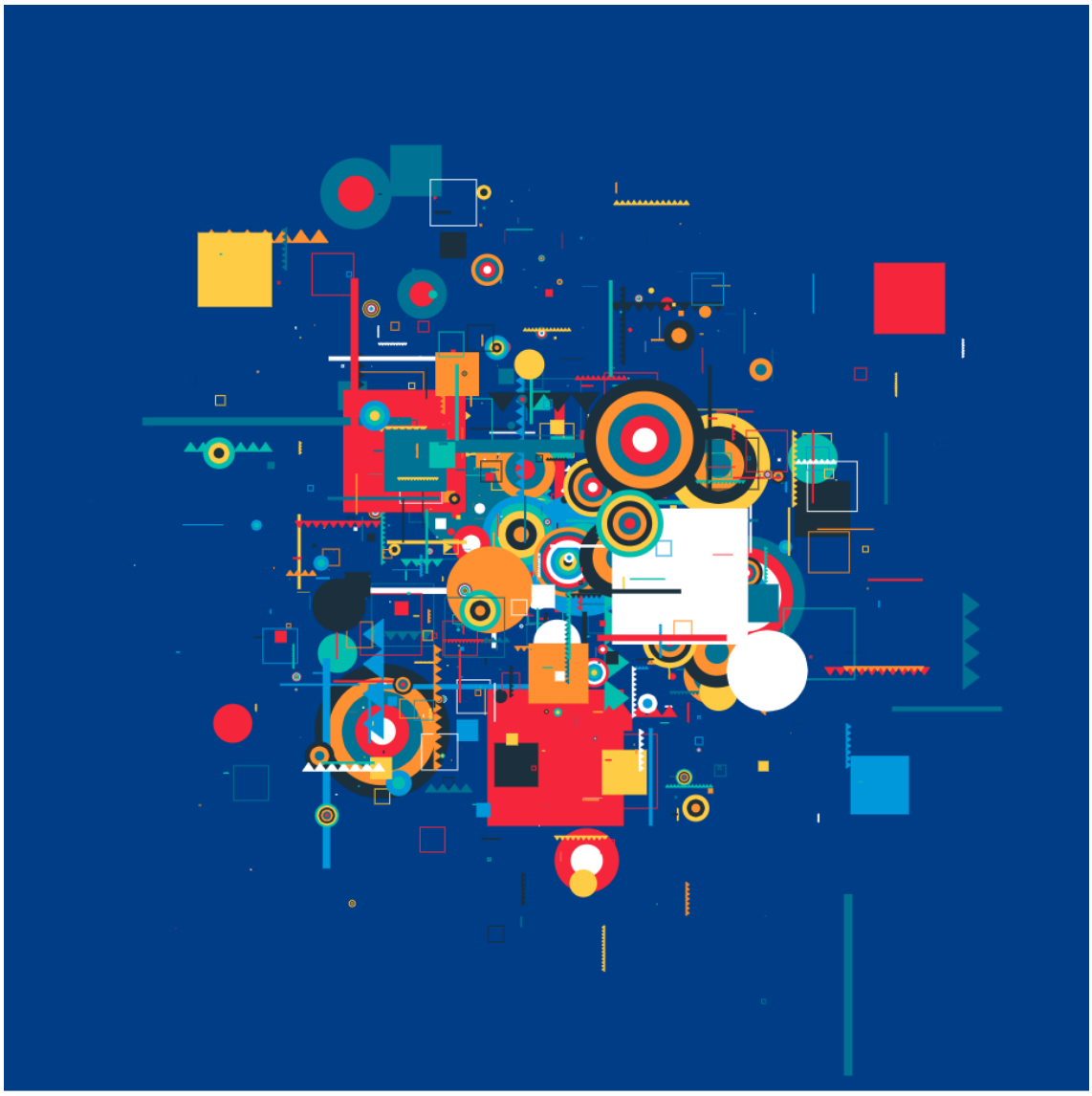
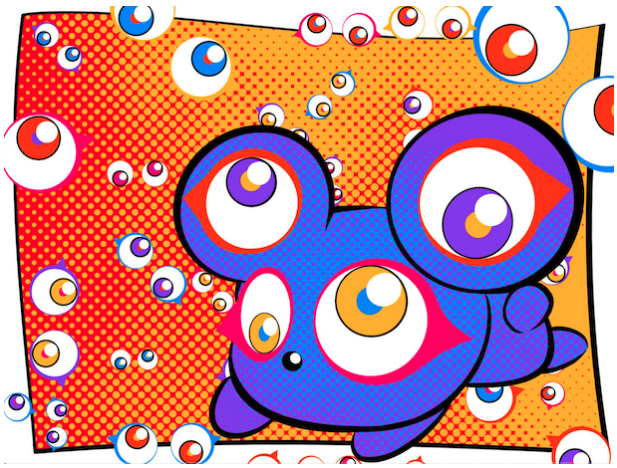
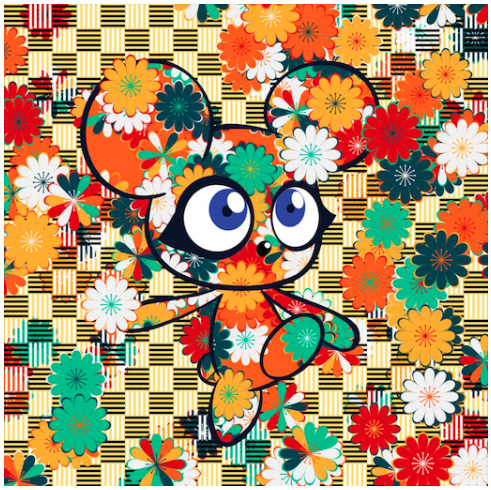


Fig: 4-13: Okazz, *First Ignition #6*, 2022.





Ref. D: KUMALEON illustrations featuring eye and flower motifs

Flatness and grids in generative art

The art critic Clement Greenberg valued works that display a sense of control and authenticity and criticized works that offered only the illusion (or imitation) of depth, which he considered to be in conflict with true flatness. While adopting his appreciation of flatness but rejecting many of his other views, Rosalind E. Krauss espoused the idea that the geometric, grid-like compositions in modern art possessed both inimitability and flatness.[26]

Because so much gen art and digital art is created with the expectation that it will be displayed on flat screens, these genres can be considered extensions of two-dimensional art. Digital images are nothing more than compositions of pixels—

26. Krauss, Rosalind E. *The Originality of the Avant-Garde and Other Modernist Myths.* MIT Press, 1986. See “Grids” and other sections.

produced by a matrix of electronic digits—that spread out over a two-dimensional plane. Even 3D computer graphics are flat collections of pixels laid out along a simulation of a three-dimensional space. However, the addition of a virtual *z* axis provides us with the illusion of depth—and, in a VR space, the illusion of interaction.

I would like to take a moment to explore the issue of space as depicted on a digital screen. In a collection of essays published in 2007, Hiroki Azuma explores why we keep imagining the distribution of digital information as a kind of space.[27] The term "cyberspace" was coined by William Gibson, who expanded on the concept in his 1984 novel *Neuromancer*, in which the characters "travel" back and forth between the real world and cyberspace. Azuma argues that the term is a clever metaphor that allowed Gibson to depict a world that exists only in our heads in a way that complements our understanding that a person can only do one thing in one place at a time.[28] I do agree that "space" is simply a metaphor for the internet that was popularized by science fiction works. The same applies to the word "sculpture" as used to describe digital objects and works like KUMALEON that are rendered in 3D graphics. These works are simply the result of lights flickering on a screen and are neither objects in a physical space nor sculptures. However, the use of this term may suggest that we have begun to change the way we view computer graphics due to increased interest in digital objects since the post-internet art age of the 2010s. There are many terms used indiscriminately in both the real and virtual worlds, and perhaps it is time to reconsider their usage—to determine how the usage differs (or overlaps) between the two worlds and whether a different word should be used in the virtual world. In particular, we may need to reconsider the use of the word "space" to describe the internet when in the near future we begin enjoying these virtual worlds not through our screen but through video projected directly onto our retinas—and eventually, onto our brains.

Let us now explore how the grids in gen art compare to the grids in modernist paintings, specifically by examining the code Okazz uses to place images upon a grid. In *219191a*, the code creates a variable that represents the width of each column in the display field, calculated by dividing the width of the display field by a random

---

27. Hiroki, Azuma. "Saiba-supesu wa Naze so Yobarerunoka" [Why is it called "cyberspace"?] from *Joho Kankyoron-shu: Azuma Hiroki Korekushon S* [Essays on the information environment: the Hiroki Azuma collection vol. S]. Kodansha, 2007.

28. Azuma also brings up the fact that *Neuromancer* takes place in Chiba Prefecture, Japan, and that the movie *Bladerunner* takes place in a Los Angeles that has adopted a heavy Asian aesthetic to point out that another common element in the depiction of cyberspace is an aesthetic that marries the East with information and media technology. He brings up that such depictions have been criticized as "Techno-Orientalism"—a term based on Edward Said's concept of Orientalism.

number between 4 and 7. Using this variable and a “for” statement that repeats specific actions, the code determines the *x* and *y* coordinates of each image to be placed on the display field. The coordinates are then fed to a “circle” command and a function called “form” that Okazz defines within the code. This produces a number of different circle-based images that are equally spaced from each other. The process does not draw an actual grid on the screen like a painter might on the canvas before creating the work; in fact, there is no need, as gen art places images on the screen relative to the size of the screen. (This is not to say that gen art is the only medium that does this.)[29] In other words, a work of gen art can adapt itself to any size of screen—and, by extension, to any randomly generated pattern. In this way, gen art by definition possesses a kind of flatness that is not beholden to a specific display, as a painting would be to a physical canvas.

```
let seg = int(random(4, 7));
let w = width / seg;
for (let i = 0; i < seg; i++) {

    for (let j = 0; j < seg; j++) {

        let x = i * w + (w / 2);
        let y = j * w + (w / 2);
        fill(random(colors));
        noStroke();
        circle(x, y, w * random(0.1, 0.5));
        form(x, y, w * random(0.6, 0.95))

    }

}
```

An extract of the code for Okazz’s *219191a*
https://openprocessing.org/sketch/1051300

In KUMALEON, the patterns are rendered over the 3D model using this kind of a flat digital grid. Naturally, the three-dimensionality of the model warps the flat image, which in turn transforms our visuality—“the visual perspective from which certain culturally constituted aspects of artifacts and pictures are visible to informed viewers,”

29. For example, there is responsive web design, which is about designing web user interfaces that are not dependent on device settings or specifications.

as defined by Whitney Davis. In *Techniques of the Observer*, Jonathan Crary explores the paradigm shift that has occurred in the nature of visuality, starting with the camera obscura. At the beginning of the first chapter, he writes the following:

> The rapid development in little more than a decade of a vast array of computer graphics techniques is part of a sweeping reconfiguration of relations between an observing subject and modes of representation that effectively nullifies most of the culturally established meanings of the terms *observer* and *representation*. The formalization and diffusion of computer-generated imagery heralds the ubiquitous implantation of fabricated visual "spaces" radically different from the mimetic capacities of film, photography, and television.[30]

As Crary points out, computer graphics have clearly changed our visuality. However, academia has not kept up, and humanistic fields such as art still have not developed the theoretical groundwork for discussing, for example, 3D computer graphics. With VR technology and the metaverse enjoying increasing attention, there would seem to be an urgent need to find some way to discuss these subjects at an analytical level. I will further discuss the relationship between KUMALEON and 3D computer graphics in chapter 6.

30. Crary, Jonathan. *Techniques of the Observer*. MIT Press, 1991.

5. Takashi Murakami's Superflat and Subsequent Developments

The superflat concept

Takashi Murakami is the rare artist who has found success both in contemporary art and NFT art. His contributions to the latter include *Murakami.Flowers* and *Clone X*, the latter a collaborative effort with the creator-led organization RTFKT. Both are relatively new works and cannot be fully appraised at this point, but both have made enough of a wave to be called successes. Murakami has described NFT art as "simply art."

In his 2000 book *Superflat*, Murakami begins with "The Super Flat Manifesto," which I partially quote below:

> The world of the future might be like Japan is today—super flat.
>
> Society, customs, art, culture: all are extremely two-dimensional. It is particularly apparent in the arts that this sensibility has been flowing steadily beneath the surface of Japanese history. Today, the sensibility is present in Japanese games and anime, which have become powerful parts of world culture. One way to imagine super flatness is to think of the moment when, in creating a desktop graphic for your computer, you merge a number of distinct layers into one. Though it is not a terribly clear example, the feeling I get is a sense of reality that is very nearly a physical sensation. The reason that I have lined up both the high and the low of Japanese art in this book is to convey this feeling. I would like you, the reader, to experience the moment when the layers of Japanese culture, such as pop, erotic pop, otaku, and H.I.S.-ism, fuse into one.
>
> Where is our reality?
>
> This book hopes to reconsider "super flatness," the sensibility that has contributed to and continues to contribute to the construction of Japanese culture, as a worldview, and show that it is an original concept that links the past with the present and the future.

The manifesto makes clear that Murakami established the superflat movement to connect Japanese subcultures to Western art contexts. Supposedly, the term "superflat" comes from a phrase that a gallerist used to introduce the Murakami works they were handling. Even before then, Murakami had considered it important to come up with a term that defined Japanese pop culture—at one point, he was using the

word “poku,” which combines “pop” with “otaku.” This indicates that Murakami thought it essential that whatever term he came up with should reflect the subcultures that developed in postwar Japan; it needed to be a term that differentiated Japanese pop culture from Western pop culture. This brings us to superflat. The concept was widely discussed—positively and critically—by Japan’s art critics and philosophers, allowing its subcultural origins to also gain a wider audience. For example, the art critic Noi Sawaragi wrote:

> The term “superflat” has a dual purpose. The first is to superimpose the flatness of the worlds in Japanese paintings prior to modernism with the superficial, depth-less, iconographic worlds of today’s anime, and in so doing draw attention to the diversity found in contemporary subcultures and otaku cultures (i.e., to point out the nihonga-ization of anime and the anime-zation of nihonga).
>
> The second purpose is to tie postwar Japanese culture—which developed in an environment free of history, markets, or hierarchies and thus never grew into the kind of art industry found in the West—to the idea that subcultures are simply the flip side of the coin of high art and, by extension, to the idea that all cultural images, no matter the genre, are equal.[31]

In this way, Murakami used the superflat concept to primarily communicate two points to the Western art world. The first was that the flatness in otaku culture, especially in anime, is a continuation of a legacy established by artists throughout Japanese art history. For example, in his book *Kiso no Keifu* (The legacy of the Kiso school), the art historian Nobuo Tsuji attempted to demonstrate the similarities between the compositions of the ukiyo-e artists in the so-called Kiso school—Ito Jakuchu, Soga Shohaku, and Kano Sansetsu—with the depictions of explosions in anime created by the animator Yoshinori Kanada (such as in *Galaxy Express 999*.)

The second point Murakami wanted to convey was the link between Japan’s defeat in World War II and the development of the country’s subcultures. Due to policies enacted by the United States during its occupation of Japan, high and low culture lost their distinctions—every person became middle class. It was in this environment that anime, manga, games, and other subcultures (or otaku cultures) were born. In order to make the Western art world understand his works, Murakami (as well as the scholars who discussed his works) needed to introduce them in this context. By successfully conveying these points to the West, he hoped, as stated in his declaration, that the

31. Sawaragi, Noi. *Bakushinchi no Geijutsu* [Art at ground zero]. Shobunsha, 2002, p. 242.

superficial sense of juvenility and the lack of hierarchy that defined the cultural values of postwar Japan would come to define "the world of the future."

Murakami eventually made a concrete effort to convey these points to the Western art world through the catalogue of his *Little Boy* exhibition—the title a reference to the atomic bomb dropped on Hiroshima.[32] The catalogue included English translations of essays discussing the superflat concept from a variety of angles, written by Noi Sawaragi, Midori Matsui, and other art critics. These essays pointed out that Japan's manga subculture bloomed after World War II. In fact, Fujiko A Fujio—one of the artist duo behind *Doraemon* and a leader in the golden age of postwar manga—begins his autobiographical fiction manga, *Mangamichi* (The way of the manga), at the end of the war. As Fujiko's manga stand-in listens to a radio broadcast of the emperor declaring Japan's defeat, his first thought is whether the Americans will allow him to draw manga.

Enough time has passed since the publication of *Superflat* for there to be more objective analyses of the examinations and arguments made of the movement in the 2000s. However, this has been made difficult by the fact that Murakami continues to be a dominant presence in the Japanese art world. Murakami made some interesting observations throughout *Superflat* and the *Little Boy* catalogue. For example, he not only compared the work of Yoshinori Kanada with the ukiyo-e of the Kiso school artists, he also pointed out similarities between Kanada's animation and the B-side of Aphex Twin's *Windowlicker* single, "$\Delta M_i^{-1} = -\alpha\Sigma_{n=1}^{N} D_i[n]\,[\Sigma_{j\in C[i]} F_{ji}[n-1] + F\mathrm{ext}_i[n^{-1}]]$" (also known as "Formula"). Such observations deserve a deeper analysis as part of a more comprehensive review of superflat. However, we may have to wait a little longer before critics feel confident enough to take on such an endeavor.

Perhaps one of the most famous artists to feature character art in their work before Murakami is Jeff Koons, known for paintings and giant sculptures that incorporate kitsch. One edition of his *Rabbit*—a series of three identical stainless steel sculptures of a balloon rabbit—sold for over $90 million as recently as May 2019. Koons has also dealt with characters other than his own in his art, notably in *Popples* (1988; fig. 5-1), a ceramic version of the popular stuffed toy. Coincidentally, Mike Kelley produced an eerie work featuring stuffed toys around the same time. In both works, critics saw a depiction of the character as a product of a consumerist society, the fetishism inspired by such characters, and the transitional role they play in childhood. One can argue that Murakami's *Superflat* and his late-1990s character Mr. DOB were made possible by the groundwork laid by this particular Western art scene (although many

32. Murakami, Takashi, ed. *Little Boy: The Arts of Japan's Exploding Subculture*. The Japan Society, Yale University Press, 2005.

have pointed out that Mr. DOB is influenced more by Japanese characters such as Doraemon, Sonic, and Mario).

Fig. 5-1: Jeff Koons, *Popples*, ceramic, 1988.

Post-superflat movements and the NFT scene

I would now like to touch upon the Japanese response to Murakami's success, starting with micropop.

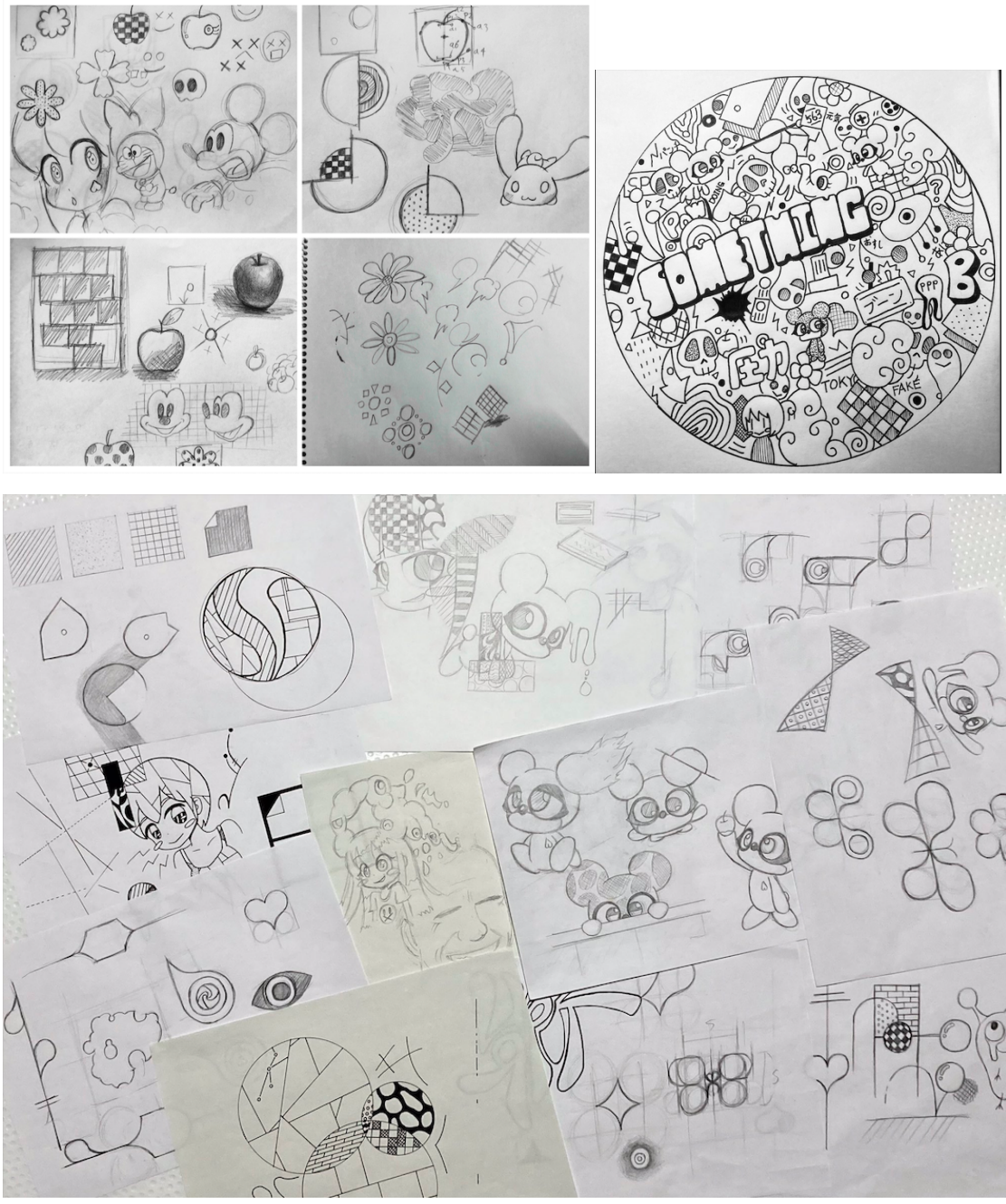
The term was coined in 2006 by Midori Matsui, who contributed to the *Little Boy* catalogue with an essay that explored the history of kawaii culture in depth. She said it was a new art movement being espoused by young artists such as Koki Tanaka and Hiroshi Sugito—who later went on to earn renown overseas as well—and described it in the following way:

> Micropop is not about relying on institutional logic or major ideologies. Instead, it is about consolidating fragmentary ideas picked up from a variety of sources to create one's own lifestyle, path, and aesthetic.
>
> It is the creative approach of those who are in a minority position compared to our major cultural institutions. Those who are forced to operate within such institutions without having adequate tools to do so will attempt to do their best using whatever they can get a hold of, employing their playful imaginations to cover for their material poverty and social disadvantage.
>
> Micropop is about noticing places that have been forgotten and ideas and objects that no longer fit the times. In those locations, micropop artists discover small truths that reveal the hidden significance of those locations. Based on these truths, micropop artists reconfigure people and objects into a new series of relationships and then develop games and other events that encourage communication in hopes of nurturing a new understanding of humans as a collective.[33]

This idea of artists placed in a position of "material poverty and social disadvantage" using any material they can get their hands on to create art in a way that is both "minor" yet accessible can arguably be applied to today's creative coders as well. Okazz, for example, has only worked in easily accessible physical mediums such as drawing, as well as digital mediums such as creative coding and OpenProcessing—there is something of the micropop artist in him. And then there is takawo, who despite competing regularly in OpenProcessing's Daily Coding Challenges, has kept his work small-scale even as digital art has become increasingly business-oriented. Even his first solo exhibition was titled *Tiny Sketches*.

---

33. Matsui, Midori. *The Age of Micropop: The New Generation of Japanese Artists*. Parco Publishing, 2007.



Ref. E: Okazz's drawings

Murakami's success was hugely consequential in Japan. While some artists—including those introduced as part of the micropop movement—attempted to develop styles that either rejected or competed against superflat, the movement enjoyed the support of numerous followers who began creating artworks based on subculture characters.

For example, in 2006, Chim↑Pom—one of Japan's more prominent art activists—presented *Super Rat*, a work for which the artist stuffed a rat he caught in one of Tokyo's most popular hangout spots for young people and then painted it to look like Pikachu, the world's most popular Pokémon character. The title has a dual meaning: it is a nickname that some pest controllers use to describe a breed of rat that is immune to rat poison, but it is also a very obvious homage to "superflat." (The Japanese title, スーパーラット, is almost exactly the same as the Japanese rendering of superflat, スーパーフラット, but with one character missing.)

Since the late 2000s, character art in Japan has hewed closely to the Murakami template. However, the 2010s saw the emergence of artists who created character art that treated the character as material that could be ripped out of its original context. For example, Kazuki Umezawa—a member of the Chaos*Lounge collective who once closely worked with Murakami before their relationship deteriorated—has created works in which he takes characters from the popular 2007 anime *Lucky Star* and uses them as materials for his digital art collages. This almost violent severing of character and context can widely be seen in contemporary art—what Lev Manovich calls "Duchamp-land"—notably in works by Western artists that completely decontextualize Mickey Mouse. In a recent exhibition in Japan for which Daniel Arsham collaborated with Pokémon, the artist imagined what Pikachu (fig. 5-2)[34] and other Pokémon would look like if unearthed a millennium from now as broken, worn-down artifacts.[35]

Although character art had long been a minority field in contemporary art, as pointed out by Midori Matsui, there was one early artist who elevated character art from being a tool for social criticism into a pure aesthetic pursuit: Yoshitomo Nara.[36] Nara is a bit of a special case—he found fame without producing a strategically splashy manifesto like Murakami. However, he along with Murakami helped influence today's trend of artists who create works based on their own original character art. These include *Companion* by KAWS, who has also applied his signature style to

---

34. The works were displayed at the *Relics of Kanto Through Time* exhibition at Parco Museum in Shibuya, Tokyo.

35. Manovich coined the terms "Duchamp-land" and "Turing-land" to define, respectively, the contemporary art world and the computer art world. He described the former as "self-referential and often literally destructive towards its material" and the latter as "oriented towards new, state-of-the-art technology," "simple," and serious about their work functioning as intended. A predecessor to Arsham's work in this exhibition is *Treasures from the Wreck of the Unbelievable*, a series of works by Damien Hirst that are part of a fictional conceit that Hirst recovered the objects from a shipwreck that he excavated with his own funding.

36. Matsui, Midori. *The Age of Micropop: The New Generation of Japanese Artists*. Parco Publishing, 2007, p. 240.

characters from *The Simpsons* and *SpongeBob SquarePants* (fig. 5-3); *Uterus Man* and other characters that Lu Yang created from 3D computer graphic scans; and the various ghouls and goblins featured in the VR content and 3D computer anime that Ho Tzu Nyen created for *Night March of Hundred Monsters*, which uses supernatural elements to explore recent Southeast Asian history.

Another contemporary artist who is part of this trend is Kazuki Takakura, who recently produced a series of NFT artworks that feature pixel-art illustrations of the Mahayana Buddhas. In a recent panel discussion, Takakura mentioned that it has become easier to promote original character illustrations as art.[37] One could argue that PFP art is the apex of this growing trend. While the trend certainly has been impacted by the growing acceptance of Japanese manga, anime, and games—primarily in the West but also in the rest of the world—since the 2000s, it was Murakami who created the foundation that has allowed characters to be accepted as art. In an interview with *WWD*, he described NFT art as a historically significant movement that would open up new possibilities for young artists:

> I don't think there is any conflict or boundary between physical art and digital NFT art. For Japanese artists, the New York contemporary art scene always felt like it was out of reach. Growing up, I was under the impression that art was about drawing or painting well, or about producing work that was both high in quality and meticulously crafted. Contemporary art turned that idea on its head and created a revolution by saying that concept was everything. We haven't had a significant art movement since pop art, but I believe that the NFT art movement is on that level. We might start seeing young artists and art school students making their name on the NFT scene and simultaneously holding exhibitions at galleries. We might begin to see this trend as early as the fall. I may have been a little ahead of my time, but I think things are finally moving in the direction I predicted. [38]

37. From a discussion organized by Polygon ($MATIC) Japan on Twitter Space on June 11, 2022.

38. "Murakami Takashi ga Kataru NFT no Kanosei ya Berunaru Aruno to no Kankei: '30-nen Mae no Bijon ga Ima Jitsugen Shiteru' [Takashi Murakami talks about the potential of NFT art and his relationship with Bernard Arnault: 'My vision from 30 years ago is finally being realized']. *WWD Japan*, June 14, 2022. Link: https://www.wwdjapan.com/articles/1375313

Fig. 5-2: Daniel Arsham, *White Crystalized Pikachu*.

Fig. 5-3: In this collaborative work, BE@RBRICK's signature anthropomorphized bear doll is given a design scheme based on KAWS's Companion character.

By Manovich's criteria, Okazz would be considered a denizen of Turing-land (the computer art world.) Turing-land artists value the correct implementation of code and

shun the kind of destruction seen in contemporary art. They possess sensibilities that are straightforward manifestations of media art culture. This is probably why Okazz was able to approach Murakami-esque shapes simply as creative coding exercises that he could incorporate into his own distinctive work, even as many Japanese artists were trying to differentiate themselves from Murakami. It is a straightforward approach that contemporary artists find impossible to employ; and this straightforwardness is also reflected in the circles, arcs, and vivid colors that Okazz enjoys incorporating in his work. Art that features straightforward expressions, created with a universal programming language, has the capability of reaching people around the world. Although it is too early to assess the success of Turing-land art, as I earlier mentioned, gen art collectors see a lot of value in these works.

6. KUMALEON as a 3D Sculpture

During my interviews with the KUMALEON team, what I found most interesting was how they referred to their character not as an avatar, but as a "sculpture" or "support medium." To them, it was both a type of canvas and a work of art. This reminded me of how Takashi Murakami extends his paintings to the sides of the canvas stretched over the frame because he considers them sculptures instead of two-dimensional images.[39] According to Murakami, he developed this perspective partially to prevent his work from being criticized based on theories of painting that still have a strong influence in Japan. These paintings-as-sculptures often come in the form of shaped canvases (such as fig. 6-1). (Murakami surmises that KAWS's shaped canvas works featuring character illustrations were influenced by his approach.)

With its cel-shaded form and clearly delineated outline, the KUMALEON 3D model has the look of a shaped canvas for gen art. In fact, the warped appearance of the gen art applied to the model—an inevitable consequence of stretching 2D art over a round 3D form—also has a lot in common with Murakami's work.

When Hiroki Azuma contributed an essay for *Superflat* in 2000, he was already a known name in contemporary thought despite still being in his 20s. His essay, "Super Flat Speculation," applies Jacques Lacan's analysis of Hans Holbein the Younger's *The Ambassadors* (fig. 6-2) to Murakami's works. Lacan describes the distorted skull in the work as the deliberate insertion of a space that is not "castrated" (i.e., an anamorphic image based on projected geometry) into a space that is "castrated" (i.e., an image based on a single-point perspective) to criticize the uniformity of works that have been deprived of power by their reliance on methods and spaces based in single-point perspective. Azuma applied this analysis to *In the Deep DOB* (fig. 6-3), one work in Murakami's Mr. DOB series. He interprets the use of anamorphic imagery and numerous eyes to destroy any sense of space within the work as embodying the same ideas as in *The Ambassadors*: "castrating" the viewer's field of vision to remove its power and removing any sense of space.

If the 3D model used in KUMALEON serves as a support medium, it is one that transforms the gen art work applied as a pattern into an anamorphosis. In the case of Okazz's gen art work (such as fig. 6-4 and 6-5), composed of multiple circles, the circles get distorted into forms (fig. 6-6) that seem inspired by the multiple eyes in Murakami's works. As mentioned earlier, in his book *Geijutsu Tosoron*, Murakami introduces the tools he used to create his well-known work, *727*. One of these is a chart showing variations in eye designs. Viewing the chart, it becomes clear that

---

39. From a discussion organized at the Yokohama Museum of Art in relation to the exhibition, *Takashi Murakami's Superflat Collection: From Shohaku and Rosanjin to Anselm Kiefer*. Link: https://www.youtube.com/watch?v=LM-dbkIV5pg

Murakami's eyes are simply colorful compositions of circles—or, to put it in a gen art context, the result of a "draw circle" command loop. As mentioned earlier, this use of circles is what ties gen art to character art and, by extension, Okazz to Murakami. The gen art woven into KUMALEON's 3D body expands beyond the limits of its two-dimensionality as it gets "drawn" onto an entirely new topology. In this way, the work deconstructs the order of the world—that is, anything that can hinder the goals of what I earlier introduced as "metaflat."

Fig. 6-1: Takashi Murakami, *Untitled*, 2019.

Fig. 6-2: Hans Holbein the Younger, *The Ambassadors*.

Fig. 6-3: Takashi Murakami, *In the Deep DOB*, 1999.

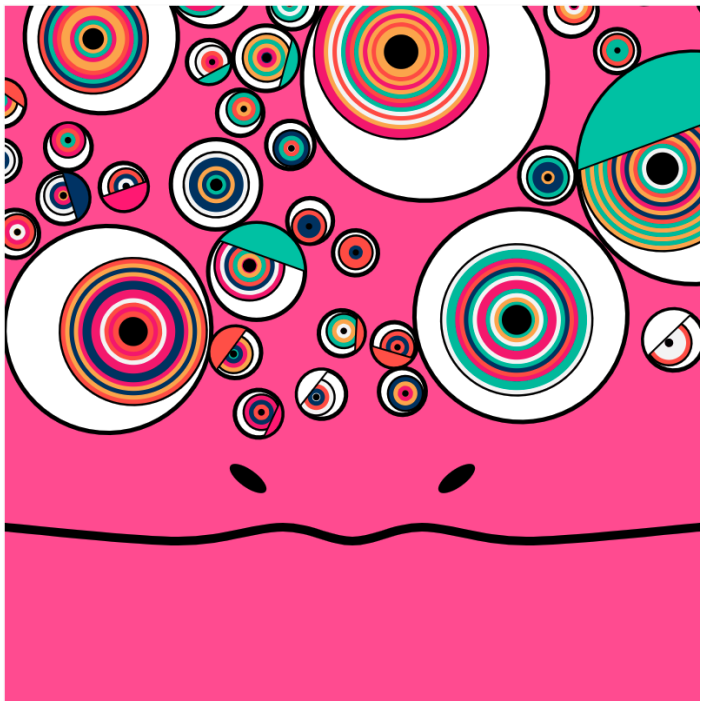


Fig. 6-4: Okazz, *200411a*.

Fig. 6-5: Okazz, *200628a*.

Fig. 6-6: Okazz's gen art rendered on the KUMALEON 3D Model, as displayed on the KUMALEON website.

KUMALEON's form

KUMALEON has a form that many would describe as cute: a head as big as its body, similar to Hello Kitty, one of the most popular characters in Japan.[40] But it also

40. In the *Little Boy* catalogue, Takashi Murakami introduces Hello Kitty as follows:

features another quality often described as cute: rosy, red cheeks, which can also be found in other popular characters such as Pikachu and Kumamon, a mascot character for the Japanese prefecture of Kumamoto. Interestingly, in her book *Anime from Akira to Princess Mononoke*, Susan Napier notes that the fundamental factor that attracts Americans to anime is not the Japanese-ness of the content but rather its Otherness.[41] Because anime takes place in fictional worlds that are different from reality, they function as cosmopolitan artworks onto which anyone of any nationality can project themselves. In fact, it is widely noted how non-Japanese viewers and readers do not perceive race in anime and manga characters and can see themselves in any character. In other words, the subcultures introduced through superflat are both Japanese and global, allowing them to impact countries around the world.

Getting back to cuteness, *The Power of Cute* author Simon May has commented that cute characters such as Hello Kitty have the power to destroy ingrained dichotomies such as adult and child, masculine and feminine, and being and becoming.[42] He says that cute "is a will to liberation from the power paradigm that many. . . might be expected to affirm as an antidote to a century and more of unparalleled brutality." As an example of work that "perfectly exemplifies the spirit of cute," May mentions Jeff Koons's *Balloon Dogs*.

The KUMALEON team have created a 3D model that possesses this kind of manga- and anime-inspired cuteness, but they see their creation as a work of sculpture. To them, it is neither an avatar nor a virtual pet. It is a work of art onto which one may

---

"A cute white cat with a red bow on her head, the character Hello Kitty was developed in 1974 by Sanrio, a company at the forefront of the character business. She is by far the most beloved and successful of Sanrio's characters, generating a huge portion of the company's nearly one billion dollars in sales during 2003. Approximately fifty thousand Kitty products—ranging from little girls' purses, toys, and clothing to stationery, foodstuffs, and electric appliances—have been sold in some sixty countries worldwide by Sanrio and by several hundred licensed companies in Japan and abroad.

"Hello Kitty was a harbinger of Japan's burgeoning consumer culture in the 1970s. Unlike Mickey Mouse or Snoopy, she was developed expressly as a marketable icon unconnected to the world of manga and anime. She also became an emblem of Japan's cute culture and helped transform young girls into avid consumers at a time when the country began to enjoy the material wealth brought about by the miraculous economic growth of the 1960s.

. . .

"With no visible mouth, Kitty remains mute; her inordinately short limbs render her incapable of any lively action, and her blank, simple features deny her any emotional display."

41. Napier, Susan. *Anime from Akira to Princess Mononoke*. Palgrave Macmillan, 2001.

42. May, Simon. *The Power of Cute*. Princeton University Press, 2019.

project themselves; but it also a support medium. It may also be a transitional object like a stuffed animal toy.

After Pixar released *Toy Story*—the first full-length animated movie to be created entirely with 3D computer graphics—in 1995, an increasing number of both live action and animated movies began to employ such graphics. Today, its use in commercial movies has become mainstream. Although the same trend can be seen in the fields of contemporary and media art, there are very few examples of works that have used 3D computer graphics for a kawaii effect. I would like to take a look at a few of these works.

The first is *Metaverse Petshop (Beta)* (fig. 6-7), a pet-themed 3D computer graphic work by media artist duo Exonemo. The work was exhibited in New York in such a way that screens displaying virtual pets were locked inside cages. Visitors to the exhibition were presented with a QR code, which they could scan to free the Metaverse Pets from their cages. If the visitor did not purchase the pet within ten minutes of freeing them, the pet changed into a different form determined by an AI. In other words, the pet experienced a digital demise—a notion that is very familiar in gen art. The randomization code implemented in a gen art work is complex enough that there is almost no possibility of a generated image to ever reappear. For this work, Exonemo designed some relatively realistic-looking pets, possibly so visitors would more likely form a real bond with the pets and, consequently, think more deeply about the idea of digital death.[43]

Computer-generated digital pets are not new—*PostPet* (fig. 6-8), developed by media artist Kazuhiko Hachiya, was a commercial hit in 1997. However, it was not an artwork but an email client released by Sony Network Communications that featured a virtual pet called Momo—a pink anthropomorphized bear that fits into the kawaii category.[44] In fact, there are very few examples of computer-generated kawaii characters that were created as works of art; many were created for video games, TV shows, and other commercial content aimed at a wider audience.

---

43. Update: While working on this paper on July 3, I learned from information made public by Kensuke Sembo of Exonemo that those who purchase a dog from the Metaverse Petshop can turn it into an NFT—but on the condition that they "skin" their pet to create a 2D pattern. They will lose the 3D model of their dog and gain an NFT in the form of a 2D construct of their skin. The information reveals that Toshi and wildmouse—two members of the KUMALEON team—have been providing technical advice for the smart contract related to this NFT conversion.

44. I'm not knowledgeable enough about video games to say for sure, but I suspect that the virtual home where Momo lives created a template for living spaces in later video games such as *Animal Crossing*.

Fig. 6-7: A virtual pet from Exonemo's *Metaverse Petshop (Beta)* (2022)

Fig. 6-8: A screenshot of *PostPet*, which was launched in 1997

But what about overseas? Although few, there are some examples of 3D computer graphic characters presented as works of media art. One can be found in the pages of *Art and Electronic Media*, edited by the historian Edward A. Shanken.[45] One section of the book explores the creatures in *TechnoSphere* (fig. 6-9), a virtual world developed by Jane Prophet and Gordon Selley in 1995. The creatures were odd-looking and roughly rendered, which made them appear free-spirited compared to the realistically rendered environments in which they lived.

Another example is David OReilly's *The External World* (2010; fig. 6-10), a 3D computer graphic animated short. It features numerous strange-looking characters created through what seems to be a deliberate attempt to distort the grammar of form, many of them containing references to other characters (such as a Pikachu-like character wearing a Mickey Mouse-like mask). The characters act in ways that are

45. Shanken, Edward A., ed. *Art and Electronic Media*. Phaidon Press, 2009.

impossible in the real world: sometimes oddly and unbound by natural laws, sometimes violently, and sometimes sexually.

Many of OReilly's works are focused on how the freedom offered by 3D computer graphics can be translated into artistic expression. *RGB XYZ* (2005) is an animated short made entirely with primitive polygon graphics; *Everything* (2017) is a game that allows the player to control every living creature on the screen ("you can be anything you want to be," indeed). Among Japanese media artists, Akihiko Taniguchi has a similar focus on freedom in his 3D computer graphic works.

In his essay "Basic Animation Aesthetics," OReilly contends that as long as the 3D computer-generated world is coherent in all aspects, the observer will seek out meaning in it, even if the world is as primitive as in *RGB XYZ*. He has also pointed out that unlike hand-drawn animation, computer graphics are not imbued with the mark of their creator, allowing computer-generated animation to attain a kind of untouched wildness—not belonging to any person or thing.[46]

From an OReilly-ian perspective, the 3D model used to build KUMALEON could be described as a sculpture possessing a similar wildness, symbolizing the idea of being able to be whatever you want to be. This KUMALEON in the wild is embedded with a work of gen art determined by the seed value at the time that the work is minted; it then gives birth to new life through the "draw" function in the work's code.

Fig. 6-9: This is a creature created within the world of *TechnoSphere* (1995), developed by Jane Prophet and Gordon Selley.

46. In discussing OReilly, I have referenced Nobuaki Doi's *Niju-isseki no Animeshon ga Wakaru Hon* [A book that explains 21st century animation], as well as OReilly's "Basic Animation Aesthetics."

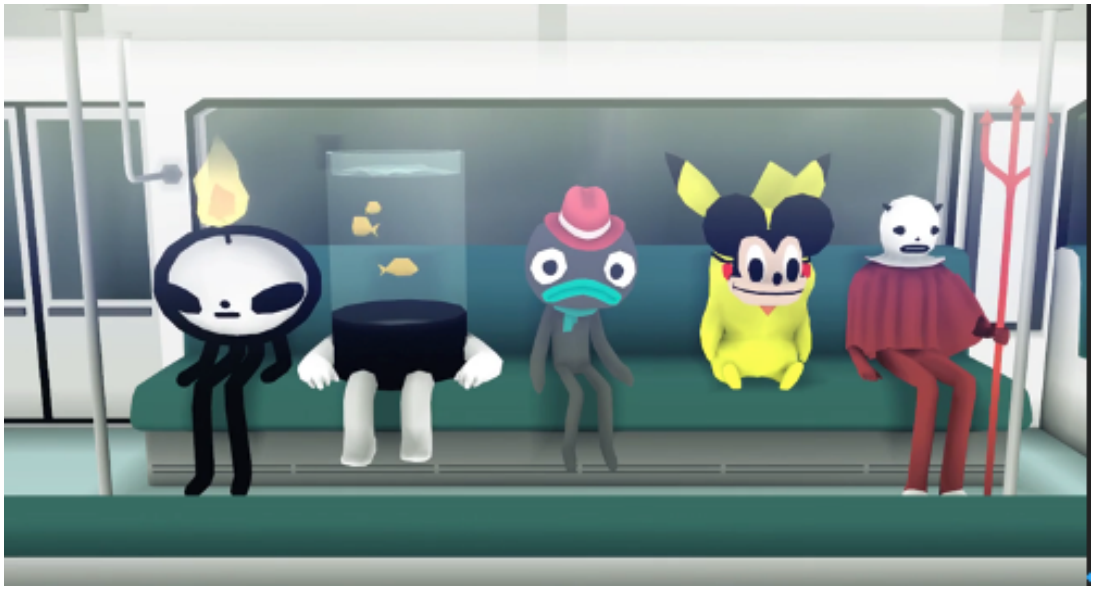


Fig. 6-10: David OReilly, *The External World*, 2010.

7. You Can Be Anything You Want to Be

I would like to conclude this paper by returning to the idea of "being able to be anything you want to be." According to the KUMALEON team, this concept is about how one can change through intellectual curiosity and the creativity one employs in their daily lives. It is the philosophy behind KUMALEON, one that grew out of Okazz's actual experiences.

As mentioned earlier, this philosophy can also be found in the openness of gen art and other forms of digital art, which allow anyone to become a creator and easily share their work over the internet. And now, thanks to NFTs, this openness has acquired an economic aspect that is accelerating developments in digital art. One could argue that this golden age of digital art serves as an alternative to contemporary art, which has become tied down by too many rules that have made it overcomplicated and overly market-based.[47] Additionally, the visual feedback provided by the tools of gen art and digital art have been found to be effective in teaching programming to children—Scratch is a good example.[48] In this way, gen art and creative coding have the power to encourage many people to lead creative lives or at least to make them aware of the possibility of such a life. And furthermore, it is fun—an element that facilitates the kind of network-building that can lead to sustainable social and professional relationships and a continuous feedback loop between coders and new digital spaces. These are all elements that have long been a part of computer art, and it is thanks to the decreasing price of computers, the increasing ubiquity of the internet, and the introduction of NFTs that we have become more aware of this fact.

One of the earliest computer graphic artists in Japan was Hiroshi Kawano, who also studied aesthetics. He was a big proponent of what he called "experimental aesthetics based in computer science." He explained:

> Much of the writing to date on the delicate essence of art have been dense essays on traditional aesthetics written by aestheticians based on their art experiences. There is much that is interesting and thought-provoking in these essays. But is it possible to use these essays to help people understand the essence of aesthetics, even if they have not shared the same art experiences as these writers? I want to be able to discuss art academically with even artistic "misfits" who work outside of what is considered legitimate art (to be

47. Some have argued that the NFT boom accelerated the marketization of contemporary art, but such arguments have cooled off along with the cooling off of the NFT market.

48. Scratch is an educational programming language and website for children aged 8 to 16. It is jointly developed by the Scratch Foundation and MIT Media Lab.

> clear, there is no such thing as “legitimate” and “illegitimate” art). I want to work with them to create new artistic and creative movements! I would like readers to understand that it is these wishes of mine that have driven me to try something new in this book: to explore experimental aesthetics based in computer science.[49]

He also wrote about the value of computer art:

> [Computer-based art] uses mechanization and mass-marketization to reconstruct art into a more ideal form. It frees art so it can become art for the masses, which in turn can help us build a more powerful society that can actually serve the masses. In that sense, one could argue that CBA has the power to facilitate the realization of an ideal—a new sense of togetherness and harmony for civilized societies where social alienation has become a problem—that could create new possibilities in artistic expression and communication.[50]

Replace “use these essays” in the first quote with “use these pieces of code,” and you are looking at the idea behind creative coding. Because code possesses “implementary value,” it allows coders and non-coders to share artistic experiences and help them understand one another in a way academic essays cannot. With the spread of NFT art, many people might have already noticed this dynamic.

KUMALEON is a canvas for enhancing the essential qualities of gen art and digital art—and could even develop into a symbol of those qualities. KUMALEON has the potential to serve as an icon for the openness of NFT art and gen art and spread its message—“you can be anything want to be”—to a wide audience.

---

49. Hiroshi, Kawano. *Geijutsu no Ronri* [Theory of art]. Waseda University Press, 1983.

50. Hiroshi, Kawano. “Konpyuta ni Yoru Dezain Shimyureshon no Shiso to Hoho” [The theory and method of computer-based design simulation] from *Gendai Dezain o Kangaeru* [Thoughts on modern design], ed. Susumu Hayashi. Bijutsu Shuppansha, 1968.

List of references:

- Lev Manovich “The Death of Computer Art”, Rhizome, 1996 https://rhizome.org/community/41703/
- Kandinsky, Wassily. *Point and Line to Plane*. Dover Publications, 1979.
- Murakami, Takashi. *Superflat*. KaiKai KiKi, 2019.
- Murakami, Takashi, ed. *Little Boy: The Arts of Japan’s Exploding Subculture*. The Japan Society, Yale University Press, 2005.
- Murakami, Takashi. *Murakami Takashi Kanzen Yomihon: Bijutsu Techo Zenkiji 1992-2012* [The complete reader’s guide to Takashi Murakami: All articles published about him in *Bijutsu Techo* from 1992 to 2012], ed. Bijutsu Techo Editorial Department. Bijutsu Shuppansha, 2012.
- Murakami, Takashi. *Geijutsu Kigyoron* [The theory of enterprise in art]. Gentosha, 2006.
- Murakami, Takashi. *Geijutsu Tosoron* [The theory of competition in art]. Gentosha, 2006.
- Matsui, Midori. *The Age of Micropop: The New Generation of Japanese Artists*. Parco Publishing, 2007.
- Matsui, Midori. *Art: Art in a New World*. Asahi Press, 2002.
- Sawaragi, Noi. *Bakushinchi no Geijutsu* [Art at ground zero]. Shobunsha, 2002
- Sawaragi, Noi. *Nihon/Gendai/Bijutsu* [Japanese/contemporary/art]. Shinchosha, 1998.
- Kubota, Akihiro, and Hatanaka, Minoru. *Media Ato Genron: Anata wa Ittai Nani o Sagashi Motomete Irunoka* [The basic concept of media art: What is it that you are searching for?]. Film Art, 2018.
- LaMarre, Thomas. *The Anime Machine: A Media Theory of Animation*. University of Minnesota Press, 2009.
- Kuresawa, Takemi. *Kyarakuta Bunka Nyumon* (An introduction to character culture). NTT Publishing, 2010.
- Krauss, Rosalind E. *The Originality of the Avant-Garde and Other Modernist Myths*. MIT Press, 1986.
- Doi, Nobuaki. *Niju-isseki no Animeshon ga Wakaru Hon* [A book that explains 21st century animation]. Film Art, 2017.
- Otsuka, Eiji. *Mikkii no Shoshiki: Sengo Manga no Senjika Kigen* [The Mickey template: The wartime origins of postwar manga]. Kadokawa Sosho, 2013.
- Crary, Jonathan. *Techniques of the Observer*. MIT Press, 1991.
- May, Simon. *The Power of Cute*. Princeton University Press, 2019.
- Shanken, Edward A., ed. *Art and Electronic Media*. Phaidon Press, 2009.

- Hiroshi, Kawano. *Geijutsu no Ronri* [Theory of art]. Waseda University Press, 1983.
- Hiroshi, Kawano. “Konpyuta ni Yoru Dezain Shimyureshon no Shiso to Hoho” [The theory and method of computer-based design simulation] from *Gendai Dezain o Kangaeru* [Thoughts on modern design], ed. Susumu Hayashi. Bijutsu Shuppansha, 1968.