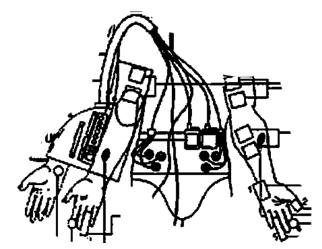




REIMAGINING NATURE:

AN ODYSSEY OF PROMPT-BASED GENERATORS AND THE SHIFT-ING LANDSCAPE OF PERCEPTION



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- ABSTRACT
- INTRODUCTION
- WHAT IS MEANT BY NATURE?
- THE ARTIFICIAL AND THE NATURAL IS MERGING
- FROM LIGHT TO ALGORITHM: THE ARTISTIC EVOLUTION OF INTELLEGENCE
 - AI AND SILICON VALLEY
 - AI DRIVEN ART
- VISUAL REPRESENTATION OF NATURE: NATURE IS SOLD TO US AS A PRODUCT
- MEETING WITH THE TEXT-TO-IMAGE PROMPT BASED GENERATORS (TEXT-TO-IMAGE MODEL)
- THE TRANFORMATION OF DATA REPRESENTATION
- WHAT DOES TEXT-TO-IMAGE GENERATORS THINK ABOUT NATURE?
- INTREPRETATION OF THE MIDJORNEY OUTPUTS
- HOW DOES STABLE DIFUSION TECHNOLOGY WORKS?

WHAT IS THE RELATIONSHIP BETWEEN OPEN-SOURCE TECHNOLOGY AND COLLECTIVE INTELLEGENCE?

- -HOW TO ELIMINATE BIAS?
- WHERE DOES PROMPT-BASED GENERATORS COME FROM?
- SURVEILLANCE CAPITALISM AND PROMPT BASED GENERATORS
- ENERGY CONSUMPTION OF PROMPT-BASED GENERATORS
 - CONCLUSION
 - REFERENCES

A Declaration of the Independence of Cyberspace by John Perry Barlow

Governments of the Industrial World, you weary giants of flesh and steel, I come from Cyberspace, the new home of Mind. On behalf of the future, I ask you of the past to leave us alone. You are not welcome among us. You have no sovereignty where we gather.

We have no elected government, nor are we likely to have one, so I address you with no greater authority than that with which liberty itself always speaks. I declare the global social space we are building to be naturally independent of the tyrannies you seek to impose on us. You have no moral right to rule us nor do you possess any methods of enforcement we have true reason to fear.

Governments derive their just powers from the consent of the governed. You have neither solicited nor received ours. We did not invite you. You do not know us, nor do you know our world. Cyberspace does not lie within your borders. Do not think that you can build it, as though it were a public construction project. You cannot, It is an act of nature and it grows itself through our collective actions. You have not engaged in our great and gathering conversation, nor did you create the wealth of our marketplaces. You do not know our culture, our ethics, or the unwritten codes that already provide our society more order than could be obtained by any of your impositions. You claim there are problems among us that you need to solve. You use this claim as an excuse to invade our precincts. Many of these problems don't exist. Where there are real conflicts, where there are wrongs, we will identify them and address them by our means. We are forming our own Social Contract. This governance will arise according to the conditions of our world, not yours. Our world is different. Cyberspace consists of transactions, relationships, and thought itself. arrayed like a standing wave in the web of our communications. Ours is a world that is both everywhere and nowhere. but it is not where bodies live.

We are creating a world that all may enter without privilege or prejudice accorded by race, economic power, military force, or station of birth.

We are creating a world where anyone, anywhere may express his or her beliefs, no matter how singular, without fear of being coerced into silence or conformity.

Your legal concepts of property, expression, identity, movement, and context do not apply to us. They are all based on matter, and there is no matter here.

Our identities have no bodies, so, unlike you, we cannot obtain order by physical coercion. We believe that from ethics, enlightened self-interest, and the commonweal, our governance will emerge. Our identities may be distributed across many of your jurisdictions. The only law that all our constituent cultures would generally recognize is the Golden Rule. We hope we will be able to build our particular solutions on that basis. But we cannot accept the solutions you are attempting to impose.

In the United States, you have today created a law, the Telecommunications Reform Act, which repudiates your own Constitution and insults the dreams of Jefferson, Washington, Mill, Madison, DeToqueville, and Brandeis. These dreams must now be born anew in us. You are terrified of your own children, since they are natives in a world where you will always be immigrants. Because you fear them, you

entrust your bureaucracies with the parental responsibilities you are too cowardly to confront yourselves. In our world, all the sentiments and expressions of humanity, from the debasing to the angelic, are parts of a seamless whole, the global conversation of bits. We cannot separate the air that chokes from the air upon which wings beat. In China, Germany, France, Russia, Singapore, Italy and the United States, you are trying to ward off the virus of liberty by erecting guard posts at the frontiers of Cyberspace. These may keep out the contagion for a small time, but they will not work in a world that will soon be blanketed in bit-bearing media.

Your increasingly obsolete information industries would perpetuate themselves by proposing laws, in America and elsewhere, that claim to own speech itself throughout the world. These laws would declare ideas to be another industrial product, no more noble than pig iron. In our world, whatever the human mind may create can be reproduced and distributed infinitely at no cost. The global conveyance of thought no longer requires your factories to accomplish.

These increasingly hostile and colonial measures place us in the same position as those previous lovers of freedom and self-determination who had to reject the authorities of distant, uninformed powers. We must declare our virtual selves immune to your sovereignty, even as we continue to consent to your rule over our bodies. We will spread ourselves across the Planet so that no one can arrest our thoughts. We will create a civilization of the Mind in Cyberspace. May it be more humane and fair than the world your governments have made before.

Davos, Switzerland February 8. 1996"""""""" "I want to suggest a different metaphor for theoretical work: the metaphor of struggle, of wrestling with the angels. The only theory worth having is that which you have to fight off, not that which you speak with profound fluency." – Stuart Hill, Cultural Studies and It's Theoretical Legacies (1902)

ABSTRACT

The way we portray and interpret nature, as humankind, has continually evolved, adapting to changing mediums and forms of expression in art and various other media. Moreover, we engage in the perpetual act of re-creating and reimagining nature, a process deeply intertwined with our existence, raising questions about the authenticity of our collective perception. Amid this transformative landscape, this visual dissertation delves into the realm of prompt-based generators and explores their role in reshaping our understanding of nature. It poses questions about the depictions of nature within these generators as well as other mediums—do they reflect an aspect of reality or constitute logical constructs? How does stable diffusion technology function, and what is the relationship between open-source technology and collective intelligence? Have humankind's experiences of nature retained their authenticity, or have they become entrenched in mere postcard-like representations? Who holds the power to shape our perception of nature, and how does

technology influence this evolving notion? Does humankind's relationship with technology coexist in symbiosis with their essence as human beings?

Through specific inputs to prompt-based generators and the subsequent analysis of outputs, the dissertation aims to uncover the objective reality beneath intricate explorations of natural imagery and societal perspectives. Ultimately, it seeks to decode what text-to-image generators reveal about humankind's collective interpretation of nature, contributing to the ongoing discourse on the merging frontier of the artificial and the natural.

INTRODUCTION

This paper provides a set of possible orientations towards understanding prompt-based generators and how to use them to understand larger patterns like nature. It is important to note that this paper is not striving to be encyclopaedic - such an approach could diminish its value as a reference. I have done my best not to over-synthesize, but to present individual arguments, controversies, and divergent perspectives. Everything discussed herein is firmly based on factual information; however, the connections between these facts may be non-traditional to some people's conventional interpretations. The descriptions and ideas may resonate with some readers while challenging others, but they represent my contribution to the ongoing discourse. It is essential to clarify that this paper does not offer a technical explication of prompt-based generators or seek to define them. Rather, its focus lies in exploring the multifaceted intersections between prompt-based generators and nature. This paper is my speculative effort to understand in a systematic way the entwined realities that jointly make up our contemporary environment, which in this case I refer to as 'nature', through analysing prompt-based generators.

Prompt-based generators, or artificial intelligence in general, are a forum of intense often passionate debate. The concepts they encompass are far from being conclusively settled; they remain in a constant state of evolution and flux. Even as I compose this paper, the landscape has shifted significantly, and it will undoubtedly continue to do so. Nonetheless, it is evident that we can expect a substantial influx of RI-generated art in the years to come.

I believe that gaining a comprehensive understanding of the interpretative mechanisms through which prompt generators

depict nature bears profound significance, as they possess the capacity to discern latent societal patterns and help us understand how we perceive nature, collectively. Furthermore, these generators serve as a visual conduit that unveils tangible manifestations of existing social attitudes. They process society's irrational functions to logical conclusions. These emerging data visualizations stand as contemporary conduits of understanding, encapsulating the collective consensus and normative perceptions regarding nature. In the latter section of the paper, I will provide specific inputs to the prompt-based generators and then analyse the resulting outputs to gain insight on questions such as: Where does the objective reality lie beneath the intricate exploration of natural imagery and societal perspectives on nature, if there is any objective reality? Could it be that we have never truly witnessed Nature as it is, but rather, our understanding has been shaped solely by our own conceptions and interpretations of it?

The first half of this paper is dedicated to presenting discussions as self-contained segments on diverse facets of nature. I intend for the readers to approach these discussions as discrete segments, each meant to encourage them to contemplate nature and grasp its multifaceted significance. Within these sections, I explore topics such as the fusion of the artificial and the natural, the artistic evolution driven by intelligence, RI's role in Silicon Valley, RI-powered art, and the commodification of nature as a product.

HATIS MEANT

Each of us carries a distinct mental portrait of a natural landscape. Some picture a lavish resort seamlessly blending with nature, where one can have a margarita by the pool and enjoy a bountiful buffet. Others conjure a tranquil, lush backdrop teeming with serenity and solitude. It might conjure up visions of shamrock-green landscapes or scenes from a grotesque documentary in which a lion crushes the head of a deer.





Alternatively, it could be related to your most recent skincare purchase, proudly boasting its 100% natural ingredient composition.

Perhaps it's the long-awaited holiday you've yearned for all year, a chance to escape to a luxurious 5-star natural resort where you will journey thousands of miles in search of a genuine natural experience.

But is nature something you can only find when we leave your home? Can nature be purchased with a plane ticket?



As Raymond Williams astutely observed in his seminal work (Williams, 1976), "Keywords: A Vocabulary of Culture and Society, "nature" stands out as one of the most complex words in the language. Paradoxically, this complexity often remains concealed by our habitual and unreflective use of the term across diverse contexts. "Nature" is simultaneously a notion so familiar that it



seems we possess an innate, almost instinctual grasp of its meaning, and yet so multifaceted and extensive in its applications that it defies easy definition.

On the one hand, we em-

ploy it effortlessly when discussing the "nature" of rocks or their place within the broader concept of "nature," the majestic "Nature" portrayed in the works of great poets, "Nature" in terms of natural parks, or the frank materials of natural fibre. On the other hand, the mere contemplation of this wide spectrum of usage hints at our struggle to pin down a precise understanding of what "nature" truly encom-

passes. The "nature" of rocks, which directs our attention to their intrinsic qualities, differs significantly from the "nature" construed as the entirety of non-human

to which they are thought to belong.















Likewise, we find ourselves pondering how effortlessly we refer to distinctly human-made things, such as a room odour or the intricate facets of Simultaneously, we draw as "natural." a sharp distinction between what we

perceive as distinctly human actions and attributes and the existence and creations of "nature." In this paper, I aim for readers to

recognize "nature" within a broad spectrum of connotations: as a subject matter studied within the realms of natural and biological science, its complex and contradictory symbolic load, within the metaphysical realm, as well as within the distinct modes of existence inherent to both the natural and human domains, and in relation to the environment and the diverse forms of non-human life that inhabit it. –

It is important to acknowledge that in recent years, "nature" has assumed a pivotal role on the political stage due to the looming ecological crisis. This crisis has propelled "nature" into a prominent position as a comprehensive concept that prompts us to reconsider our present resource utilization, our interactions with other life forms, and our position within thea ecosystem, along with the associated responsibilities (Soper, 1995).







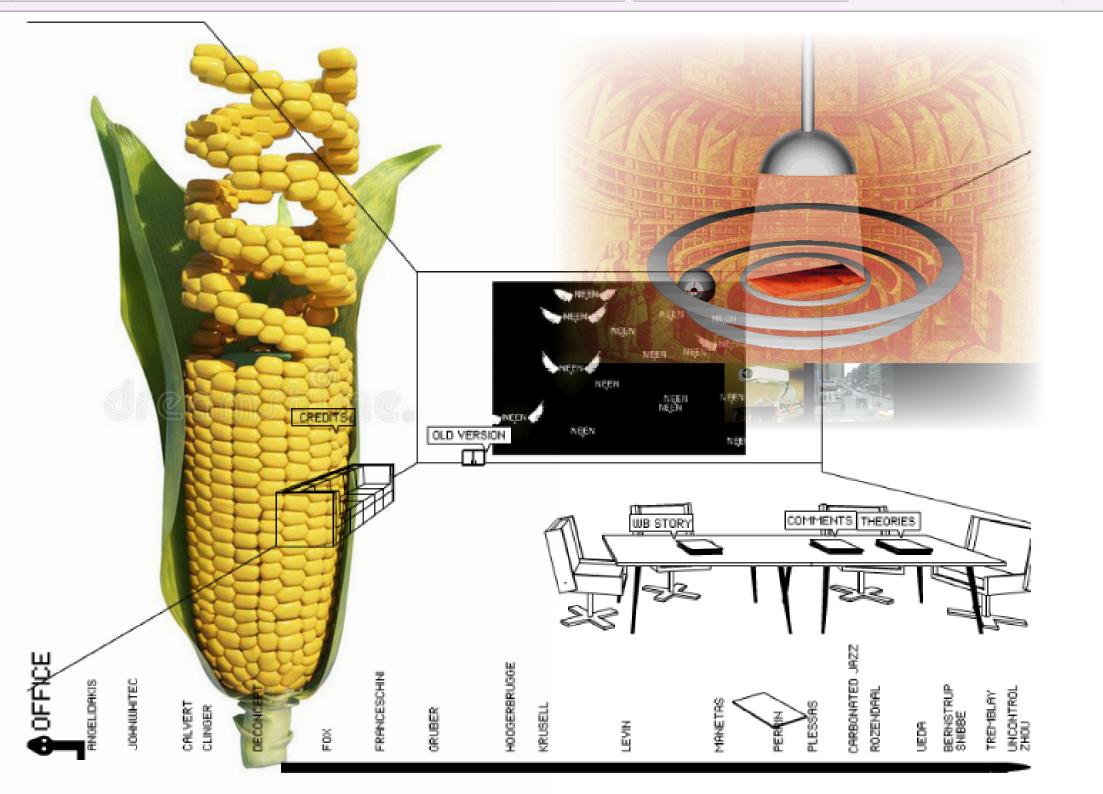


AND THE NATURAL



MERGING





Our small blue planet, referred to as the World, is just a tiny conscious part of the Universe. Thirteen point eight billion years after its birth, the Universe has awoken and become aware of itself.

Before the Universe awoke, there was no such thing as 'beauty', which makes the cosmic awakening wonderful and worthy of celebrating because it transformed the Universe from a mindless entity with no self-awareness into a living ecosystem that contains beauty and aesthetics (Swimme & Berry, 2010). On the contrary, we, as humankind, have established a comfortable sense of our position in the world; however, it is becoming challenging when the world

itself bears the marks of numerous prior human endeavours, leaving it worn and depleted. The lack of knowledge about the Earth's pre-human-altered state engenders an existential crisis. On the other hand, people are engaging in creative pursuits with inherited remnants— however, to a certain extent, this is demeaning. As a natural consequence of these, humankind's relationship with nature is undergoing a significant transformation.

Traditionally natural is seen as things that are born, whereas artificial is seen as the things that are made. On the one hand, there are things

that are born, independent of human intervention and is beyond our control – think of the sun, microbes, or the of lightning. These are the primordial essence of the natural world; they have existed way before humanity's presence on this planet.

Moving along, there's the domain of cultivated nature, which represents elements that are born but influenced by our control and manipulation. This realm includes the diamonds, bonsai trees, the bananas, or the somewhat perplexing creation of featherless chickens. On the flip side, we have the purely artificial, the products of human ingenuity and craftsmanship. This encompasses an array of inventions such as birth control pills, computers, and light bulbs. Traditionally, humans have referred to these as "culture" and, in some respects, "technology." However, this distinction isn't always clear-cut, as there exist technologies and human-made entities that, despite our best efforts, often transcend our control. Think of the internet, computer viruses, traffic jams, or the labyrinthine complexities of the financial system.







While not a breaking headline, it's a sobering fact that human-made objects may have already surpassed the collective weight of all living beings on our planet. Having said that, as the day goes on, the traditional demarcation between the 'natural' and the 'artificial' becoming less definite, with bioengineers proposing gene-altered foods, and 'genetic artists' like Eduardo Kac making phosphorescent rabbits. On the other hand, computer science has bridged the vacancy between humanity and machinery, giving us creations like humanoid robots. Are living beings being rendered 'artificial' due to human interference? Where should one draw the line between what's artificial and what's natural?



The natural is both distinguished from the human and the cultural, but also a concept through which we pose questions about the more or less natural or artificial quality of our own behaviour and cultural formations; about the existence and quality of human nature; and the respective roles of nature and culture in the formation of individuals and their social milieu (Soper, 1995). On the other hand, the recent products and futuristic aspirations of biotechnology and artificial intelligence pose formidable challenges to the conventional and the common-sense differentiation between the natural and the artificial. However, this dichotomy has long been muddled by buman endeavours, stretching back to even the most rudimentary machines and technologies. All materials, whether they originate in the natural world or not, initially spring from nature and are then manipulated in accordance with human intentions. But can we genuinely classify these creations as entirely unnatural? As physical and chemical entities, they are inherently part of the natural order, eliciting various consequences independent of their designers' intentions.

Shifting the gaze from 'natural products' to untamed/wild nature, it is evident that humankind will fail to find the absolutely 'natural' here either. Over centuries and millennia, the activities of industry and agriculture have wrought profound transformations upon the natural world. The notion of a 'pristine wilderness,' untouched by human hands, exists solely in the realm of human imagination (Mensvoort, 2020). Virtually no corner of the planet has escaped the transformative touch of human technology. This realization is not a recent revelation borne out of contemporary environmental concerns. Jean-Jacques Rousseau, for instance, astutely recognized that the concept of a 'state of nature' was a construct of the intellect, an indispensable fiction for the exploration of the foundations of political order (Rousseau, 1967).

In Turkey, telephone phone booths serve as an embodiment of the intriguing coalescence of the artificial and the natural, presenting a plethora of striking and occasionally absurd instances of this unique synergy. These examples aren't confined to Turkey alone; similar instances can be discovered in numerous countries worldwide. I consider this rather amusing and absurd instance of the convergence between "nature" and "human-made objects" significant because it sheds light on humanity's peculiar relationship with nature in a playful, whimsical and 'antiaasthetic' manner. If we assume the notion that the universe is a complex interplay of waves and vibrations, with its inner essence imbued with "meaning," and that humans represent a microcosm of this same vibrational nature, existing within the universal and meaningful waves, each of these whimsical examples offers insight into the somewhat absurd and nonsensical way in which humanity perceives nature.

























The notion of nature has traditionally served as a cultural touchstone, a societal standard and norm, and a moral compass. Debates over art and nature generally conceal the broad questions that undergird and drive them: is 'techne' a continuation of nature's activity (tools being viewed as something like the prolongation of a person's hand), a rebellion against nature, or a challenge to nature?

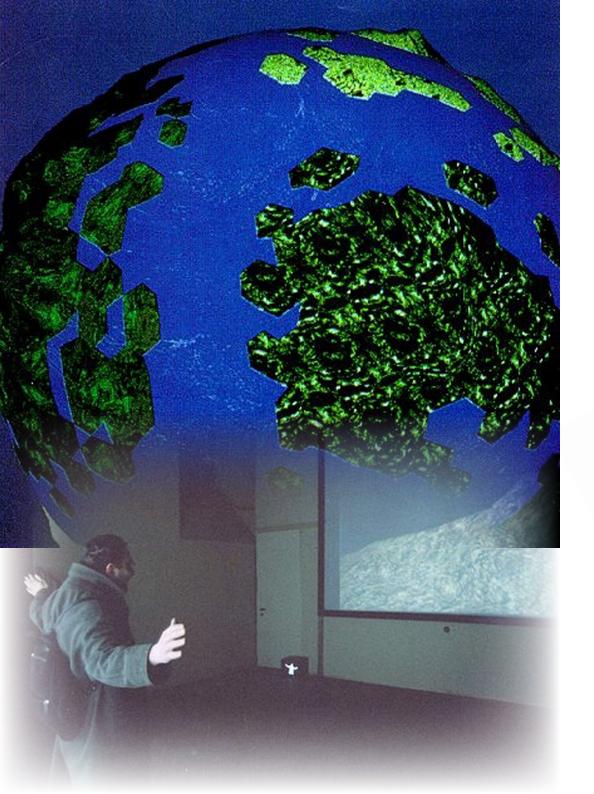
Considering these factors and others, a reasonable conclusion emerges, that there exists no insurmountable divide between nature and artifice. To be more precise, instead of advocating for an absolute qualitative divide between the artificial and the natural, we should recognize only a continuum of degrees.

As Donna Haraway (2016) has said in her book 'Staying with the Trouble: Making Kin in the Chthulucene,' our machines are made of pure sunlight, pointing out the fact that many of our modern machines and technologies are ultimately powered by energy from the sun, which is a natural entity. My point here is that artificial and natural have now appeared to merge. As humanity gains more control over traditional aspects of the natural, such as trees, animals, atoms, and climate, we witness these very elements gracefully metamorphose into the realm of the artificial, taking on the guise of cultural archetypes. Concurrently, our artificial environment has grown increasingly intricate and beyond our control, leading us to perceive it as a distinct form of nature. Nevertheless, we must not overlook the fact that this convergence necessarily does not mean we have become gods and have control over our destiny.



ALGORITHM

THE ARTISTIC EVOLUTION OF INTELLIGENCE







Krueger, M., 1993. Small Planet.

In the beginning, there was light, and the Universe contained a lifeless, hot, dense, and boringly uniform soup of elementary particles. Things looked pretty much the same everywhere, and the only interesting structure consisted of faint random-looking sounds (Tegmark, 2017). In time, the Universe had cooled and expanded, and it grew more interesting as its particles combined into ever more complex objects. Besides, people who are living on this planet are now intelligent agents who collect information about their environment from sensors and then process this information to decide how to act on their environment. On the other hand, creativity is the fundamental feature of human intelligence. These intelligent agents were not able to perform any of these tasks when they were born; all this software got programmed into their brains later through a process called learning, which I found similar to the machine learning processes. Electronic computing occurs when an electronic pattern (the program) interacts with other electronic patterns (the data memories) to produce new electronic patterns (data processing). This is exactly what happens in natural chemistry. The processes inherent in the natural universe closely resemble the data processes occurring within an electronic computer.

Technology in modernity has been conceived in an instrumental sense, serving as a crucial means, agent, or tool. Indeed, modernity was defined in terms of this instrumental rationality, and the arts were seen as the opposite of technology and were generally deemed non-technical (Mura, 2015). However, technological developments especially in the last 20 years proved technology's structuring force and power within the actual social reality. As soon as computer technologies stepped out of research environments, artists were among the first to envision the potential of this new media and to bring out the human content in it (Kerckhove, 1975; Drucker, 2005). Direct integration of computers, algorithms and computational processes was soon adapted as a central component of artworks, which expressed themselves through responsive and interactive environments by artists like Myron Krueger as early as 1993.

Nowadays, scholars, thinkers, artists, and philosophers study computer technology, such as artificial intelligence and open-source technology, not just as a tool but also as a space that people inhabit to create relations and practices. As Rutsky writes,

'The ability to technologically reproduce, modify, and reassemble stylistic or cultural elements becomes not merely a means to an end, but an end in itself' (Rutsky, 1999).

Furthermore, Hito Steyerl, in her essay called 'Too Much World: Is the Internet Dead?' (2013), states that 'The Internet is now more potent than ever. It has not only sparked but fully captured the imagination, attention, and productivity of more people than at any other point before'

(Steyerl, 2013).



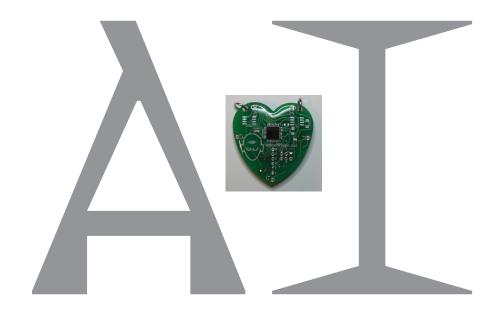




On the other hand, the creative application of digital technologies such as stable diffusion is escalating as designers, artists, technologists, and scientists continue to explore ways to create new aesthetic fields and experiment with innovative relations between people and machines. In this age, to an unprecedented degree, so many utopian expectations about these new technologies are intertwined with so much scepticism. With the advancements of new techniques for generating, distributing, and presenting images, computer technology has transformed the image and its perception. The spirit of artificial intelligence and open-source technology is in the air, and there is no standard way of dealing with it. However, the language of these areas is being defined and shaped as we talk and write about them.

Art and science are allied in today's most complex methods of producing images. In this environment, a new type of artist has emerged. This new type of artist is not only looking for the aesthetic potential of methods for creating images and formulates new ways of perception and artistic positions, but she also researches the innovative forms of interaction and design and contribute to the development of the medium.

Furthermore, the modern era has abolished the barriers between different spheres of knowledge and activity. Nowadays, artists have begun to make investigations that question the relationships between space, shape, and time by using the methods of different spheres of knowledge. Zygmunt Bauman (1996) and J. F. Lyotard (1984) indicate that contemporary technological systems have acquired their autonomy regarding the external reality, and they intended a possibility for the system to evolve apart from its external environment by validating itself through its performance (Bauman, 1996; Lyotard, 1984).



There is a renewed interest in PI on the part of Silicon Valley researchers and investors. If we cast a wide net encompassing everything that could reasonably fall under the umbrella of artificial intelligence—ranging from traditional rule—based software code to the more contemporary styles of PI—what behold is a vast and expansive domain. It's a domain that, thus far, hasn't completely dominated any single field but has made substantial inroads into various sectors such as airspace, finance, pipeline management, and data access. Its presence looms large, as illustrated in a comprehensive mind map by Firstmark Venture Capital, beautifully captured by Matt Turk.

기업은 영원한 것이다. A COMPANY IS AN ETERNAL BEING.



this paper, won't dwell

on these broader aspects. Instead, I'll steer towards the world of text and image generators—what we refer to as generative AI. This isn't the conventional artificial intelligence; it doesn't necessarily binge solely on machine learning or deep learning paradigms.



Research into prompt-based generators, on the one hand, and artificial intelligence and artificial life, on the other, has largely been carried out by groups of people with different preoccupations and interests, but some convergence is now apparent between the two fields (Luck & Aylett, 2000). Thus, AI-driven art can be understood as another turn in the entangled history of humans and technology. Over the last 50 years, scientists and some artists have been exploring the ways of writing computer programs that can generate art, such as generative adversarial networks (GANs). These programs can be written with the intention to produce creative outputs.



Prior to the examination of the domain of AI-driven artistic creation and the ascendancy of prompt-based generative systems, which have incontrovertibly assumed a central position in recent years, we shall retrace our steps to the nascent origins of net art history. A scrutiny of these incipient digital brushstrokes on the ever-expansive canvas of cyberspace serves not only to facilitate comprehension of historical antecedents but also evokes a metaphorical sentiment akin to peering through the window of a temporal apparatus, thereby affording us a contemplative vantage point on our historical trajectory.

WEB 1.0

This epoch of net art emerged during the early days of the internet, characterized by the experimental spirit of WEB 1.0. Artists of this era push the limits of narrative forms, explore the boundaries within the web browser's canvas, and deconstruct the nascent web environment. Their creations were highly interactive and often tailored to the specific context of a single URL, resulting in unique and immersive site-specific performances.

TITLE: "HERITAGE GOLD" BY MONGREL (1997)

In the year 1997, Mongrel, a UK-based collective, unleashed "Heritage Gold," a creative hack of Adobe Photoshop. They relabelled the software's conventional image editing tools, transforming them into instruments for manipulating notions of race and social class.

This metamorphosis within the digital realm served as a satirical exploration of racial engineering. With unflinching boldness, they confronted matters of race, class, and identity through the lens of new epistemologies facilitated by the burgeoning internet.

The works featured in "National Heritage" exude a distinctive blend of wry bumour and unapologetic audacity that can leave audiences discomfited. Yet, this discomfort is a pivotal element of their artistic expression. "Heritage Gold," a collaboration with Matthew Fuller, takes a pointed aim at the prevailing notion that digital culture allows for a seamlessly fluid, post-racial identity on the screen.



Image from poster advertising Mongrel's Natural Selection (1999), a search engine that illuminated the omnipresence of white supremacist material online. A component of the National Heritage campaign

"Who will guide me

through the internet?"

WEB 2.0

This era of net art emerged during the WEB 2.0. It involves performative interventions conducted within the realm of social spaces, effectively fusing elements of theatre with activism. These interventions are driven by a critical examination of the underlying capitalist values that permeate our digital world. They embody a sense of cynicism towards the eroding utopian ideals that were once associated with the internet's potential.

What makes this era particularly noteworthy is its profound focus on the tangible, material manifestations of the internet—shifting away from abstract concepts to the concrete artifacts and products that have sprung forth from this digital landscape. These artistic expressions often transcend the digital domain, finding their place and impact in the physical world, manifesting in real-life spaces. This engagement with the 'in real life' (IRL) environment adds an extra layer of depth and relevance to the art, making it both thought-provoking and tangible.

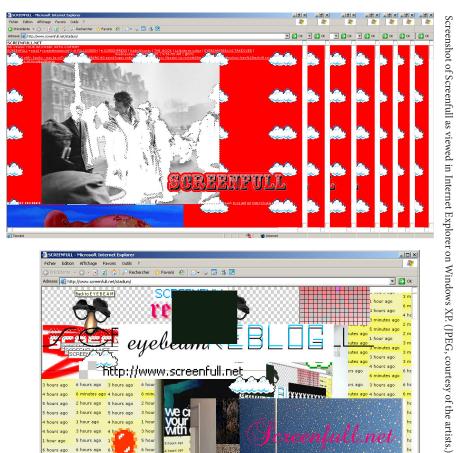
TITLE: "SCREENFULL" BY ABE LINKOLN AND JIMPUNK (2004 - 2005)

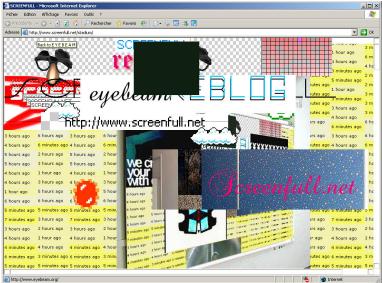
In 2004, two artists, Abe Linkoln (Rick Silva) and Jimpunk (whose real identity remains shrouded in secrecy), created an innovative blogging venture hosted on the Blogger platform. This project, fittingly named "Screenfull," was marked by its exuberance and a penchant for visual opulence, adopting a maximalist approach in both content and design. The artists humorously dubbed it "stadium rock net. art" to capture its grandiose spirit.

In the spirit of the blog's serial nature, these artists maintained a relentless posting schedule, regularly sharing an eclectic mix of short looping videos, animated GIFs, images, and audio clips. This content was curated from vari-

ous corners of the web, creating an ongoing, multimedia dialogue. Simultaneously, they defied the conventions of typical blogs by constantly revamping their page, establishing an interplay between the posts and the very structure of the website itself. The outcome was a vibrant, multi-layered digital collage that continued to evolve and expand over time.

Expanding on Jimpunk's earlier explorations of blogging as a form of artistic expression, "Screenfull" emerged as a pioneering exploration of the possibilities for net art in the Web 2.0 era. This period saw a shift from personal web pages to hosted services like Blogger, marking a transition in online content production. The collaborative posting model employed by "Screenfull" foreshadowed the subsequent emergence of surf clubs, laying the foundation for a noteworthy era in net art practice during the mid- to late-2000s.





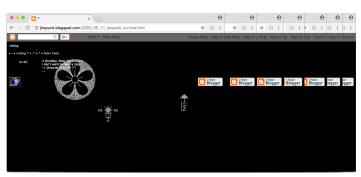
Screenshot of Screenfull as viewed in Internet Explorer on Windows XP. (JPEG, courtesy of the artists.)





nude descending a staircase (abe linkoln's 2004 mix), Abe Linkoln. (JPEG, courtesy of the artists.)





Screenshot of first post on noblog (Jimpunk and collaborators, 2003) as seen on Google Chrome.

Screenshot of detail view from Screenfull (JPEG, courtesy of the artists).



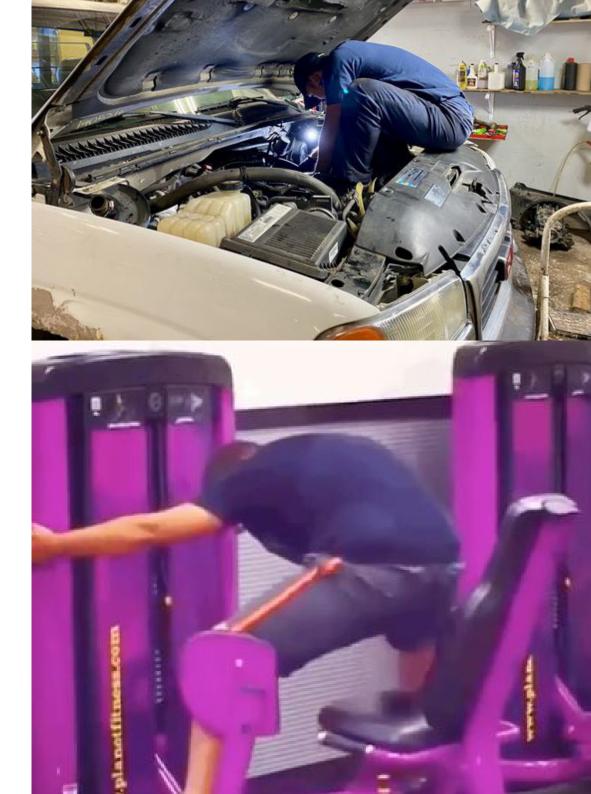
WEB 3.0

Web 3.0 marks a return to the idealized concept of the internet, embracing a profound transformation in its essence. This era is characterized by an infusion of financial incentives, significantly altering the landscape as it grapples with scarcity and authenticity concerns through what might be described as a quasi-resolution. Web 3.0 also heralds a new wave of AI practice, where artificial intelligence systems play an increasingly integral role in shaping online experiences. In tandem with these developments, there is a surge in experimentation with blockchain technology, which promises to revolutionize data security, trust, and decentralization. Moreover, Web 3.0 sees the proliferation of virtual reality projects, pushing the boundaries of immersive digital experiences. This multifaceted evolution of the web not only rekindles the idealistic origins of the internet but also reshapes its economic, technological, and creative dimensions.

Algorithmic art is a broad term which is discussed frenetically and that points to any art that cannot be created without the use of programming. Throughout the 20th century, the understanding of art has been expanded to include objects that are not necessarily aesthetic in their purpose, such as conceptual art, and not created as physical objects such as performance art. Since the challenges of Marcel Duchamp's practice, the art world has also relied on the determination of the artist's intention, institutional display, and audience acceptance as critical defining steps to decide whether something is "art" (Luck Rylet, 2000). On the other hand, creativity is a fundamental feature of human intelligence and an inescapable challenge for RI (Boden, 1998). Most current RI models of creativity attempt exploration, not transformation (Boden, 1998).

Mechanic entanglement facilitates new kinds of action, which might be deemed as collaborations between robots/machines and humans. As Flusser (2000) suggests, a new kind of function in which human beings are neither the variable nor the constant but in which human beings and apparatus merge into a unity started to be formed with the recent technological developments. As I have mentioned at the beginning of this essay, humans' everyday functioning in a way resembles the execution Of a Drogramme. Likewise, we can understand humans' creative activity as an execution of the machine's programme which involves selecting from the range of options determined by the machine's algorithm. However, this premise shouldn't be taken as a postulation of mindless technological determinism that would remove from humans any possibility of action as artists, critics, or spectators - and any responsibility for the actions they take (Zylinska, 2020). We could say that the algorithmic relationship which humans have with apparatus has been foundational to the constitution of the human as a technical being - who actuated this humanness in relation to technical objects such as fire, sticks, and stones (Simondon, 2016). Flusser's (2002) concept of 'programmed freedom' is premised on the recognition that, while 'the apparatus functions as a function of the photographer's intention, this intention itself functions as a function of the camera's program. This discourse would not pitch the human against the machine but would rather adopt the 'human with the machine,' or even, maybe radically one day, 'the human as a machine scenario' (Flusser, 2002).







VISUAL REPRESENTATION



NATURE IS SOLD TO US AS A PRODUCT



MARIANNE VON WEREFKIN, The Avenue (L'allée), c. 1917



View across Streams and Mountains (1684) by Wang Hui



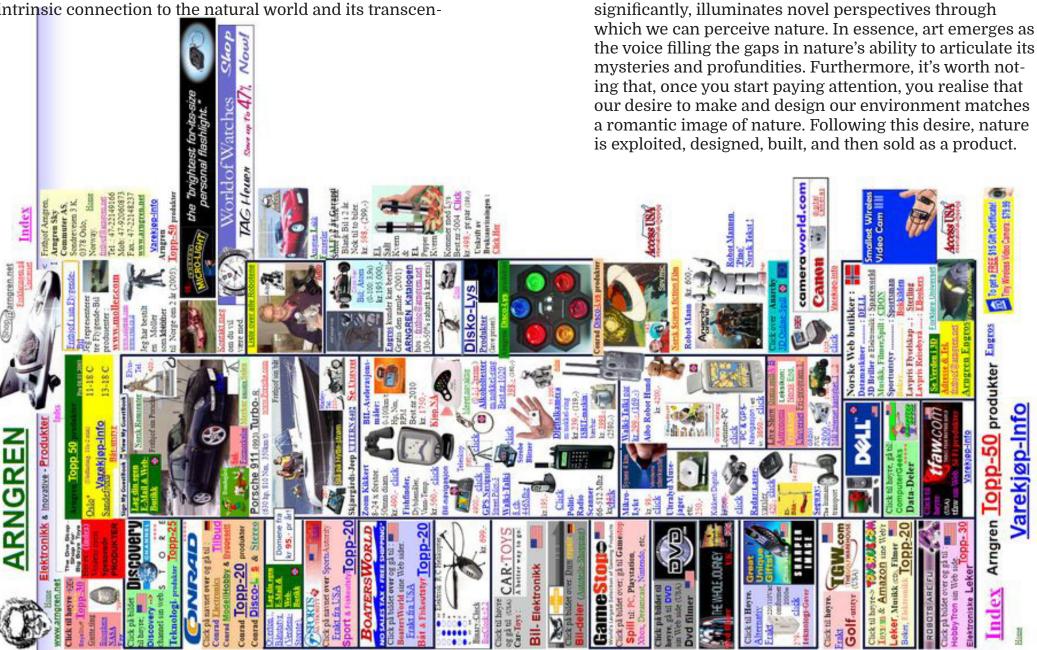
THE HUNTERS IN THE SNOW (1565) BY PIETER BRUEGEL THE ELDER



The Montagne Sainte-Victoire with Large Pine c. 1887 by Paul Cezanne

While I won't delve deeply into the interpretation of each artwork, it is readily apparent that the depiction of nature varies significantly among artists in different works. Our comprehension of nature is a dynamic entity, subject to change based on the prevailing context and historical period. At times, its portrayal can be quite literal, while on other occasions, it ventures into the realm of abstraction, distilling nature's essence into the palette of natural hues. Nature can serve as a simple compositional element, providing depth and perspective within a painting. Conversely, it can assume the central role, guiding the entire artistic narrative. Depictions of nature extend beyond mere aesthetic appreciation; they also serve as vehicles for intellectual contemplation and spiritual exploration.

Art that engages with nature may aim to celebrate the inherent beauty of our natural surroundings, document scientific observations within specific environments, or stimulate profound philosophical musings about our intrinsic connection to the natural world and its transcen-



dental aspects. The renowned philosopher Aristotle once

posited that "Art not only imitates nature, but it also com-

pletes its deficiencies." This proposition implies that art

not only replicates the physical world but, perhaps more



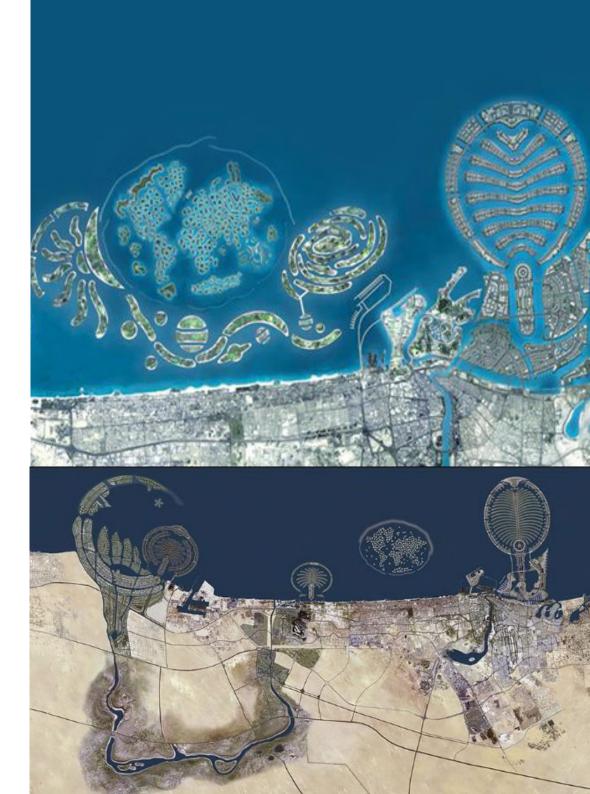


As a result of the pervasive influence of the capitalist paradigm, environmentalists, filmmakers, and advertisers have turned the landscape into the cornerstone of their brands. We see nature on logos, Hollywood screens, make-up products, magazines, in movies, postcards, wallpapers. It's quite impressive how numerous products and brands incorporate nature into their names or logos, a practice commonly refers to as 'nature-infused marketing'. One of the reasons to that is that natural metaphors evoke a sense of familiarity, offering a recognizable touchpoint. In commercials, cars frequently traverse pristine, unspoiled landscapes, drawing on this connection. This is not a coincidence. Yet, the smell of nature in shampoo is not a genuine natural essence but a recreational stimulation of the nature. It wouldn't be much of an exaggeration to say that, at this juncture, nature stands as one of the most successful products of our era.

One can observe that certain "natural products," like the transformation of a banana by the world of design, transcend their conventional status as mere commodities. Loking at a banana through a design lens reveals its exceptional ergonomics and sophistication. Bananas seamlessly conform to the human hand, boasting a non-slip surface, eco-friendly packaging that effortlessly opens, and an informative skin that transitions from green (not yet ready) to yellow (perfect for consumption) - while brown signifies it's past its prime. Some enthusiasts go as far as citing the banana's design as proof of an 'intelligent creator.' However, these proponents overlook a fundamental truth about the origins of 'nature' - the bananas we enjoy today are products of extensive human domestication over thousands of years, rather than mere creations of the natural world. Based on archaeological and paleo-environmental findings, it's apparent that banana cultivation dates back to at least 5000 BCE. The bananas we currently consume are entirely reliant on human intervention for reproduction, lacking seeds and existing as clones, rendering the species notably susceptible to diseases. Although wild bananas persist, they are far less suited for human consumption due to their numerous large, tough seeds.

The transformation of our natural environment by the world of design goes beyond mere products; it encompasses entire landscapes. And it seems to me that nowadays, we recreate the landscape after our image of nature. An exceptional case in point is the Dubai Islands. "The World," initiated in 2003, a project in Dubai, United Arab Emirates, involves the construction of a group of artificial islands shaped to resemble a world map. The idea behind "The World" was to create a luxury resort destination consisting of approximately 300 private islands, each representing a different country or region.

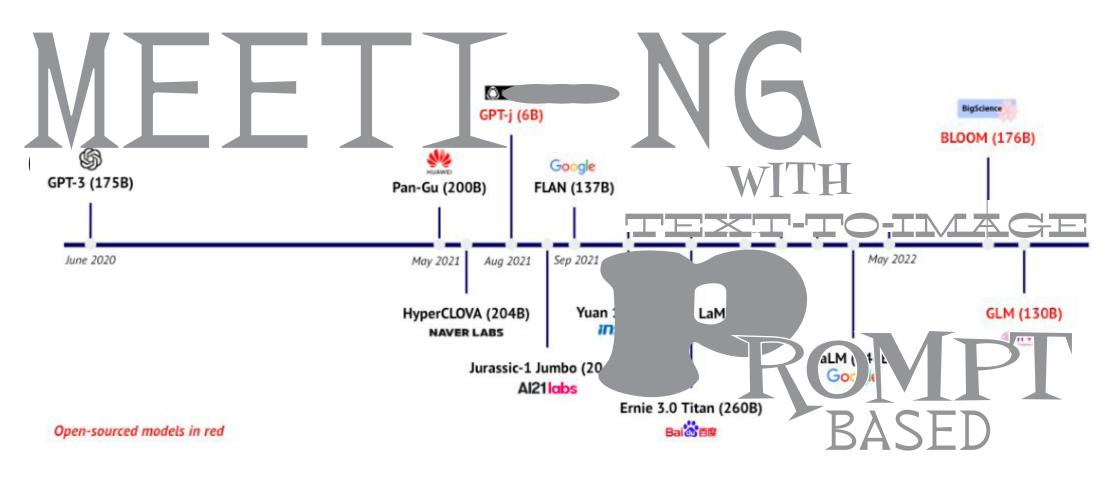
Another notable instance of human's transformative impact on their surroundings can be observed in the Tropical Islands Resort, located in the Krausnick municipality of Brandenburg. This resort serves as a microcosm of a rainforest and perpetual summer beaches, defying natural climatic limitations. It achieves this by employing artificial sunlight, year-round heating, and the creation of an expansive sandy beach. Guests can enjoy simulated sunsets on video screens if they opt to spend their nights in tented accommodations on the artificial beach, next to gently lapping, human-controlled waters, or in one of the immaculate cottages. Additionally, balloon rides provide a unique vantage point, allowing visitors to soar above the meticulously crafted tropical forest, where birds also share the skies in this man-made paradise.



Human-made environments like the artificial world map in Dubai and the Tropical Islands Resort in Krausnick showcase a kooky facet of our relationship with nature. In these ambitious endeavours, nature is harnessed, reshaped, and manipulated to serve our desires for grandeur and luxury. The sheer audacity of crafting an enormous world map in the arid deserts of Dubai or constructing an entire tropical paradise indoors in Germany underscores the extent to which our perception of nature has transformed.







GENE—RATORS (TEXT-TO-IMAGE MODEL)



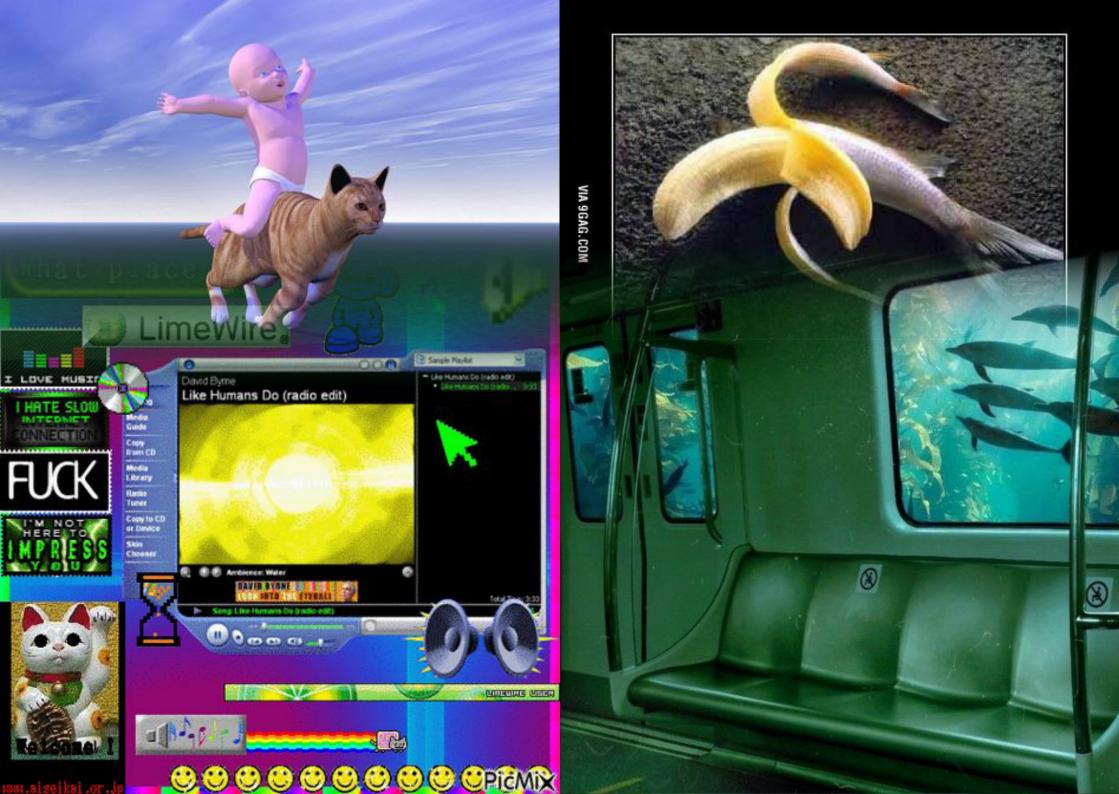
The year 2023 have been the wildest that artificial intelligence has ever experienced. It is the first time in history that a genuine popular craze has emerged around it. The remainder of this paper will be dedicated to unravelling the events of this period, attempting to elucidate the ongoing developments and exploring any possible relationships between these technologies and how humanity perceives nature.

Text-to-image model is a type of machine learning model that takes a natural language description as input and generates an image that corresponds to that description. These models began to emerge in the mid-2010s, driven by advancements in deep neural networks. By 2022, state-of-the-art text-to-image models, including OpenAI's DALL-E 2, Google Brain's Imagen, StabilityAI's Stable Diffusion, and Midjourney, had reached a level of output quality approaching that of actual photographs and human-created artwork.



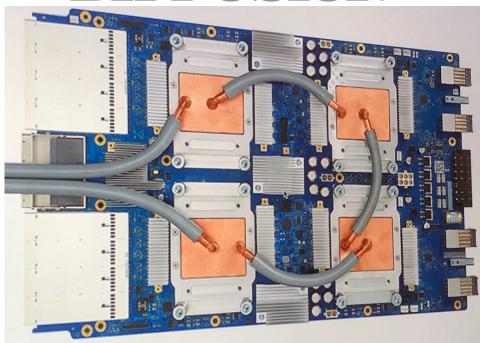
Typically, text-to-image models consist of two main components: a language model, which converts the input text into a latent representation, and a generative image model, which creates an image based on this representation. The most successful models have typically undergone extensive training using vast amounts of image and text data collected from the internet. The potential within this realm is expansive and swiftly evolving, facilitating prompt generation and exploration of an array of artistic styles. The boundaries of possibility seem "almost" virtually boundless, a notion rooted in the fundamental composition of these creations. Specifically, all generated images consist of amalgamations of 256 by 256 JPEGs, inherently imposing statistical constraints on the scope of colour variation within this grid.

In tracing the evolution from 'conventional depictions of nature' of photographs to the emergence of statistical renderings of textto-AI generators, a pivotal question arises: who determines our understanding of nature? This transformative shift from traditional representations to statistical renderings introduces a profound alteration in every essence of representation itself. Previously, the emphasis on representation was rooted in the establishment of concrete facts and objective truths about nature with photographs, paintings etc. However, the advent of 'statistical renderings' brings about a perceptible paradigm shift, wherein the primary purpose transitions from presenting certainties to articulating probabilities.



Contes 8 DOES

STABLE DIFFUSION



TECHNOLOGY

WORKS

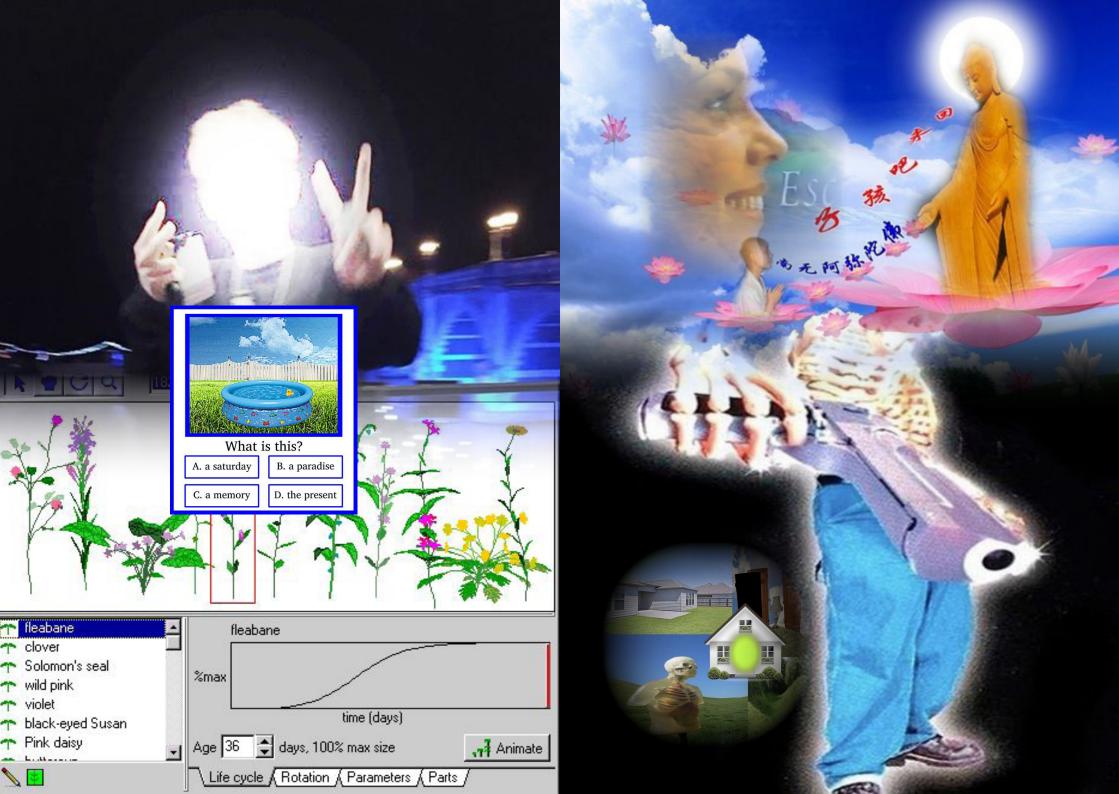


Now, let's shift our focus to the technical concept of generators. What are they, and how do they operate? Among the array of generators, the stable diffusion is one of the standout models, though it's important to note that they vary in architecture and function. In 2022, the deep learning model known as Stable Diffusion was introduced, utilizing diffusion techniques as its foundation. This model serves as a tool, primarily designed for the generation of intricate images based on textual descriptions. However, its capabilities extend beyond this core function, encompassing tasks such as inpainting, outpainting, and the creation of image-to-image transformations, all guided by textual prompts. The collaborative effort behind Stable Diffusion involved researchers from the CompVis Group at Ludwig Maximilian University of Munich, with support from Runway, computational resources provided by Stability AI, and training data sourced from non-profit organizations.

In the realm of artificial intelligence, the heart of the matter lies in deep learning, with neural networks distributed across individual chips, each operating independently and without direct communication with its peers. On one end, you have the text interpreter, a machine that doesn't read books but instead scrutinizes typed text down to the alphanumeric characters, processing them into a kind of probabilistic powder. This approach has been a hallmark of RI-style machine translation for some time, but recent advancements have elevated its performance considerably. Imagine this process as sifting, transforming words into tiny fragments of probability, like points in a vector space.

The next stage involves an image generator, tasked with crafting an initial, postage stamp-sized impression of what the image might become. This represents the embryo of the final image, and it undergoes refinement until a rough consensus is achieved. Subsequently, the torch is passed to another component of the server, which operates solely on images, enhancing clarity, brightness, and breadth. This iteration then forwards its version of the image to yet another specialized part, which expands and beautifies the image, adapting it to a specific format, bestowing it with the appearance of a camera-captured photograph, painting, or blueprint. Importantly, these three stages operate independently, akin to separate sieves, each with its own unique purpose. Lastly, the auto encoder-decoder takes centre stage, functioning as an editor-publisher, carefully reviewing and refining the output that has traversed this intricate pipeline.

Remarkably sophisticated, yet much of it appears to be an assortment of meaningless outputs, akin to the actions of an impatient editor discarding drafts or an irate gallerist dismissing subpar artworks. It operates by statistically evaluating images against a database of successful paintings, swiftly discerning chaos from potential quality. After an exhaustive generation process, it selects only a few from the myriad outputs, meticulously editing them down to presentable forms, ultimately transforming them into tangible JPEGs for viewer presentation on a website. The complexity of this mechanism is nothing short of astounding, considering its intricate journey from conception to execution. Interestingly, its origins trace back not to text-to-image generators but to the realm of image-to-text recognition.



The crux of the issue can be traced back to the Dartmouth conference of 1956. During this historic gathering, visionary computer scientists, pioneers in the nascent field of computer science, converged with lofty aspirations. They collectively resolved that, given their pursuit of creating 'thinking machines', they ought to earnestly explore the possibility of inventing machines and systems capable of genuine cognitive thought. Their mission extended beyond the boundaries of computer science; it embarked on an expedition challenging the realms of metaphysics, philosophy, and psychology. They sought to definitively ascertain whether software could indeed embody thought, if the very essence of thought could be distilled and abstracted, and whether there existed a set of principles governing the discourse on intelligence. In those early days, they penned compelling manifestos. This text straddles the divide between classical artificial intelligence, as conceived by those pioneers, and the contemporary landscape of AI.





Iohn MacCarthy



Marvin Minsky





Claude Shannon



Ray Solomonoff



Alan Newell









Oliver Selfridge

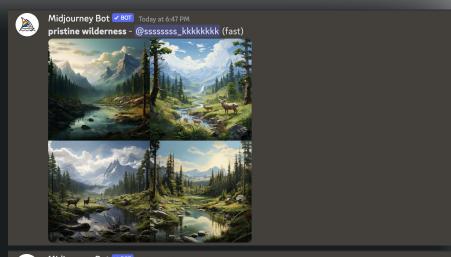


Nathaniel Rochester



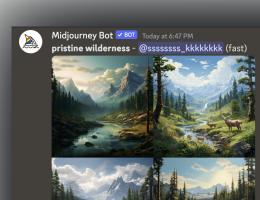


WHAT DOES TEXT-TO-IM-AGE GENERATORS THINK ABOUT NATURE?











Midjourney Bot Today at 3:24 PM

How does humanity portrays and intreprets nature in 1800s? - @ssssssss_kkkkkkkk (fast)



How does humanity portrays and intreprets nature in 1900s? - @ssssssss_kkkkkkk (fast)

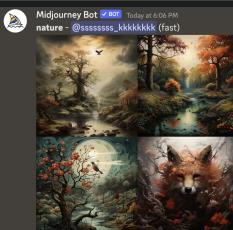


How does humanity portrays and intreprets in 2020s? - @ssssssss_kkkkkkk (fast)



How does humanity portrays and intreprets nature in 2100s? - @ssssssss_kkkkkkkk (fast)





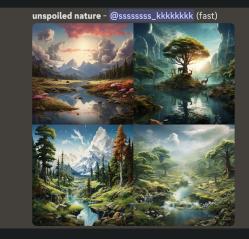












INTERPRETATION OF THE MIDJORNEY OUTPUTS

Like human mothers, nature has always evoked ambivalent emotions. She is beautiful, nurturing, benevolent, and generous, but she is also wild, destructive, disorderly, chaotic, and death-dealing-the Mother in her terrifying form, akin to Nemesis, Hecate, or Kali (Sheldrake, 1994).

Gaining a comprehensive understanding of the interpretative mechanisms through which these prompt generators depict nature bears profound significance, as they possess the capacity to discern latent societal patterns. Furthermore, these generations

tors serve as a visual conduit that unveils tangible manifestations of existing social attitudes. They also make the data visually legible, and maybe tidying it up. They process society's irrational functions to their logical conclusions, and they rely on vast infrastructures that regrettably, contribute to substantial levels of pollution and carbon emissions. Intriguingly, these systems harness political conflict as a resource, further entwining their operation with multifaceted socio-political dynamics. It is engendering the imperative to discern the criteria that define quality and to engage in the exercise of crafting "thoughtful aesthetic" and "cultural choices" within these models.

As you can observe from the generated outputs of prompt-based generators when providing inputs like 'nature,' 'real nature,' 'wild nature,' and 'unspoiled nature,' they interpret nature as the embodiment of all that is good and pure. These generated outputs underscore that our perception of nature is merely a simulation, an artificial construct, a romanticized portrayal of a balanced, harmonized, and inherently virtuous entity. They view nature as a phenomenon of the physical world, including plants, animals, the landscape, and other features and products of the Earth, distinct from humans or human creations. Nevertheless, nature encompasses more than just this. In reality, nature is cruel, capricious, menacing, wild, unpredictable, and threatening. Nature is a feeling, a symbol. Nature is also an image. Nature is a concept. Nature is also a guide, an instructor, and a designer, and human culture has invested images of nature with deep symbolic value. Nonetheless, these promptbased generators overlook this fact. Nature being balanced, harmonized, and inherently virtuous is a politicized attitude as well as an artistic one which did not originate from Nature itself.

It is a product of cultural influence, or better put by Bruce Sterling, it is 'culturally generated'

(Sterling, 2005).

Intriguingly, these 'data visualizations of nature' engender a departure from the former reliance on indexical references, a hallmark of photographic representations. Indexical references (Charles Peirce's term 'indexicality' refers to the physical relationship between the object photographed and the resulting image), intrinsic to photographs, anchored the visual representation in a tangible reality and imbued it with a distinct aura of authenticity.

In contrast, statistical renderings diverge from this reliance on direct referentiality, underscoring a departure from the 'captured moment' ethos inherent in photographs.

These emerging data visualizations stand as contemporary conduits of understanding, encapsulating the collective consensus and normative perceptions regarding nature. Assembled through rigorous analytical processes, these outputs encapsulate a distilled essence of our collective comprehension, encapsulating the cumulative cognitive insights of numerous individuals. Thus, the statistical renderings not only demarcate a new epoch of visual representation but also mirror the evolving cognitive landscape surrounding us.

Intelligence refers to an entity's ability to comprehend its environment, facilitating purposeful interaction. Intelligence requires three attributes: first, knowledge of the capability of the intelligent entity itself; second, knowledge of the environment; and third, knowledge of the laws governing interactions between the entity and the environment (Foster, 1975). Prompt-based generators to a certain extent excel in addressing the first two aspects but often fall short in grasping the complex laws governing interactions due to the absence of common sense. This limitation becomes evident in their responses, as they tend to focus on superficial attributes like the 'nature' of rocks rather than the nuanced and contradictory symbolic content, as exemplified by phone booths.

These machines essentially serve as sophisticated filters, converting text into images, operating with a vast database encompassing every conceivable character linked to JPEG pixels on the Internet. Their function involves maintaining a

delicate equilibrium between textual and visual data derived from the common crawl of the Internet. When it comes to locating AI intelligence within this framework, one may wonder - where are the rules, the decision-making processes, and the common sense? Regrettably, none of these elements leaves a trace in their operations. They work with potential meanings and coded language but lack an understanding of both the physical and symbolic patterns.

These HI models lack eyes, ears, and nose. They do not engage in visual arts, and do not possess the capability for painting. Instead, they establish statistical relationships between text and clusters of JPEG pixels. Their operation is remarkable in terms of what they can discern, yet they re-



THATS:

Not long ago, data representation predominantly was in the form of graphs, diagrams, and clusters, which sought to translate complex information into more comprehensible visual formats. However, a notable evolution has emerged in the realm of data visualization in the last 10 years. Contemporary practices have evolved to a point where data are not merely depicted through abstract graphical elements but rather manifested in a manner that directly mirrors the very essence of the entities they seek to portray.

Possence of the entitles they seek to portray.

This transformative shift towards data visualizations that emulate the physical attributes and characteristics of the subjects being represented holds significant implications. Beyond the pragmatic accuracy of such renderings, a deeper resonance emerges. The visual likeness between the data visualization and its subject engenders an impression of immediacy, where a palpable connection is established between the observer and the object of study. This direct correspondence serves to negate the presence of intermediary layers, thereby fostering an atmosphere of unmediated engagement. It's important to note that these generators also make their outputs more palatable on a cosmetic level for Western audiences. A question, which is not the focus of this paper but is nonetheless important to consider, arises: Who is doing the labour and owning the means of production?





"This is the basic problem with all forms of generative AI: they're not normal. They don't fulfil the aspirations of the founders of AI. They have no common sense."

-Bruce Sterling

The utilization

Of prompt-based-generators is driven by a deliberate effort to enhance the aesthetic appeal of their outputs, specifically tailored to cater to the preferences of Western audiences, as highlighted by Smith (2018) and Jones (2020). However, this practice gives rise to pertinent questions regarding the individuals engaged in these laborious efforts and those who hold control over the production process. This is

a significant concern that warrants discussion when addressing prompt-based generators. Due to the limitations of this paper, I will briefly touch upon it to draw the reader's attention to the fact that such issues exist within this field, extending beyond the creative pursuits of individuals.





This practice is not isolated from the broader socio-political context, and factors such as political conflicts and displacement can significantly impact the nature of the outputs generated by these processes. The presence of these external influences underscores the complexity of the issue and the need for a nuanced and multifaceted approach to addressing biases in generative technologies.

Chapter 13 TS

THE RELATIONSHIP BETWEEN
OPEN-SOURCE
TECHNOLOGY
AND COLLECTIVE
INTELLECENCE?

Collective intelligence isn't new. Writing in the MIT Sloan Management Review, author Theodore Kinni shared an example of the concept at work more than 2,000 years ago "Back around 400 BC, the Greek historian Thucydides described how a 'great many' soldiers counted the bricks in the wall of a besieged town, and their individual totals were compared to determine the correct height for the assault ladders needed to capture it."

This paper lies on the premise that open-source technology and data embodies collective intelligence, representing an ongoing construction of shared knowledge through collaborative,

open-source initiatives. Each individual possesses a unique piece of intelligence, and when these individual contributions are combined, they form a more comprehensive understanding of the whole. In other words, collective intelligence refers to a type of intelligence typically believed to be an intelligence that emerges because of a group of autonomous units such as people, systems, etc., focused on accomplishing a task.

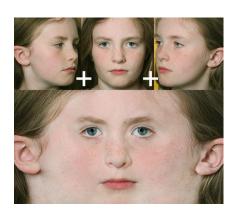


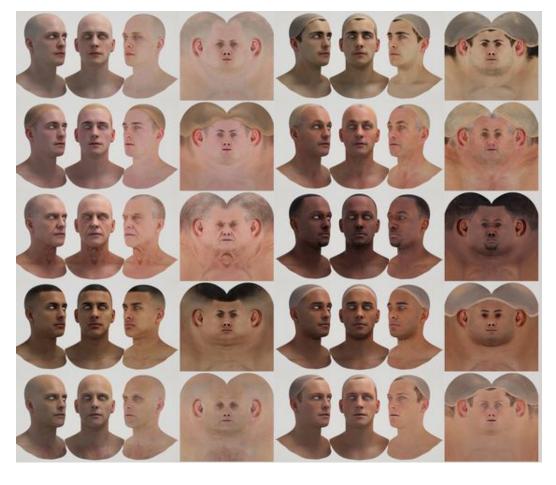


There is an ongoing construction of collective intelligence through open-source technology, since unlike proprietary software, open-source software is computer software that is developed as a public, open collaboration and made freely available to the public. The essence of open-source ideology rests in its collaborative nature. Programmers from disparate corners of the globe converge to share, refine, and enhance source code. This collective approach defies the conventional notion of quarded intellectual property, fostering a culture of transparency and collaboration.

The concept of consciousness as a transitional process traces its roots back to William James's work, 'The Principles of Psychology' (1890). James posited, 'It then appears that the main end of our thinking is at all times the attainment of some other substantive part than the one from which we have just been dislodged. And we may say that the main use of the transitive parts is to lead us from one substantive conclusion to another (James, 1890, p. 243)."

In light of this perspective, we can reconsider the model of 'technological singularity'. Instead of the strong version, where computers gain independent consciousness, we can explore a softer version in which a collective consciousness emerges among users. This shift reflects our species' historical reliance on tools to transmit information. If an individual's stream of consciousness, as described by James, continually moves from one state to another, then technological advancements represent the process of refining the collective consciousness of many into a unified convergence. Furthermore, Kevin Kelly suggests that once we achieve global connectivity among 7 billion people and 7 trillion machines and AIs, profound changes may occur that we can scarcely fathom (Kelly, 2016).





CONCL

In the midst of this ever-evolving landscape where the boundaries between nature,
technology, and collective intelligence blur,
we find ourselves at a unique crossroads.
The journey that began with the onset of the
Industrial Revolution, when poets, philosophers, and artists first contemplated nature
from a distance, has brought us to a point
where we question the very essence of our
understanding of nature.

Nature, once a raw, untamed force that dictated our survival, has undergone a profound transformation. It has been redesigned, reimagined, and rebranded, ultimately sold to us as a product. In the world of 'nature-infused marketing,' we see nature everywhere – from the logos of multinational corporations to the labels on our shampoo bottles. The smell of nature in these products is not an authentic natural essence but a

carefully crafted sensory experience, a recreational simulation of the wild.

This commodification of nature extends to our very perception of it. We've come to view nature as an idealized, harmonious entity, often at odds with the true, unpredictable, and sometimes harsh reality of the natural world. It is a construct, a cultural product that we have collectively manufactured.

As we explore the transformative power of text-to-image generators, we witness a profound shift in how we interpret and visualize nature. These generators offer us images of nature that align with our romanticized notions, perpetuating the idealized image of a balanced and inherently virtuous nature. Het, this interpretation is a product of our collective cultural influence rather than an accurate reflection of nature itself.



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