

Interfaces for a Global Village: Nam June Paik, Marshall McLuhan, and the Future

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This page, left: Lucio Fontana creating one of his “buchi” artworks, 1964.
This page, right: One of Nam June Paik’s posters for his 1963 exhibition.
Next page: Political map of the world during the Cold War (1980).



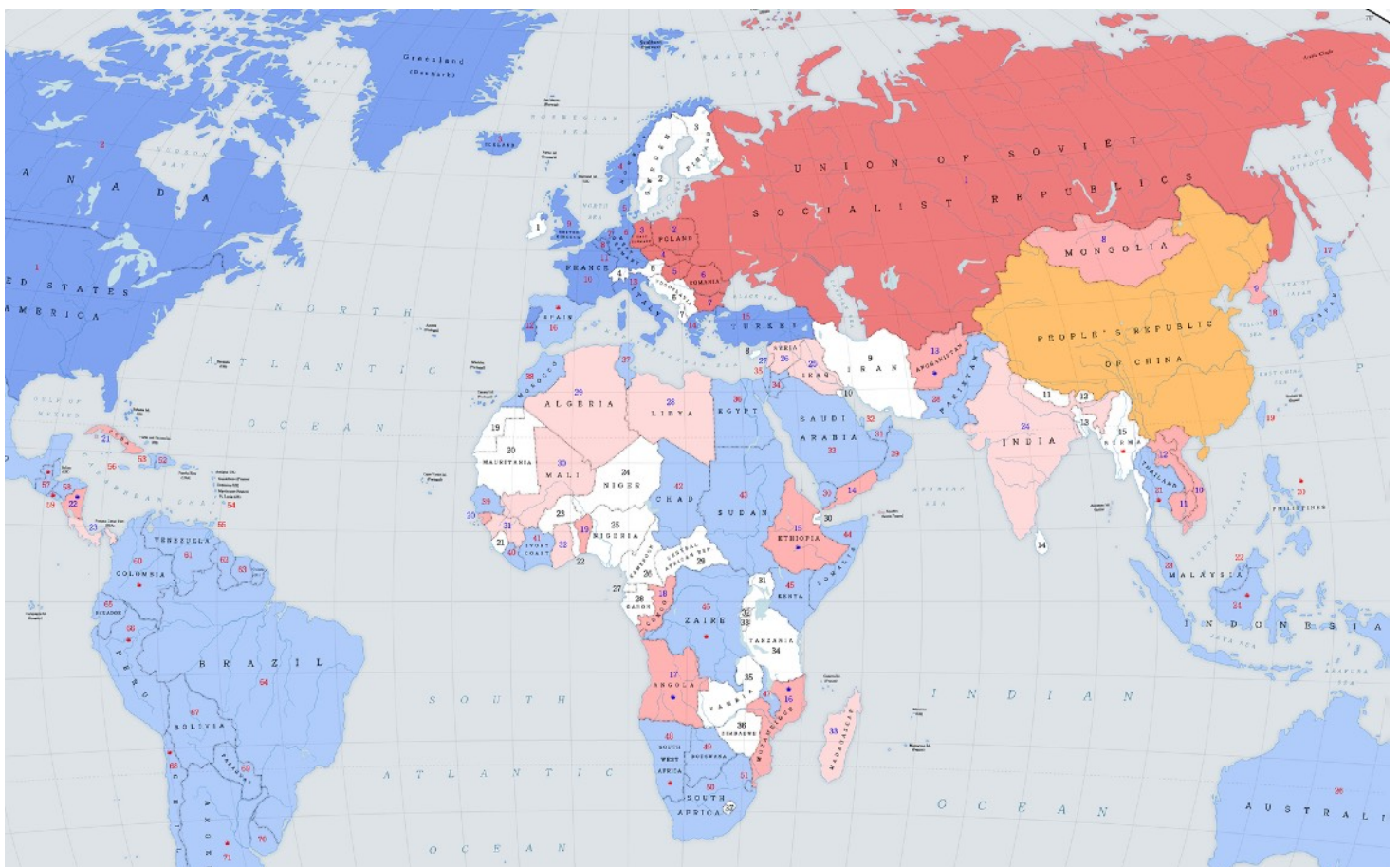
THE WORLD

BETWEEN THE
COLD WAR SUPERPOWERS

1980

Map Legend

	Signatories of the North Atlantic Treaty (NATO)		Signatories of the Warsaw Pact
	Other U.S. Allies		Other Soviet Allies
	Pro-Soviet Socialist States		Non-Aligned
	U.S.-Sponsored Guerillas		Soviet-Sponsored Guerillas
			China



A Global Village | McLuhan, 1962

In 1963 the world was not yet the “global village” envisioned by Marshall McLuhan in *Guttenberg Galaxy*. In this book published a year earlier, McLuhan argued that “the electro-magnetic discoveries have created the simultaneous “field” in all human affairs so that the human family now exists under conditions of a “global village.””¹ When did this global village become a reality? When it became possible for millions of people to not only follow millions of events around the world passively (reading newspapers, listening to radio, watching TV, visiting a news website), but also to participate more actively: leaving a comment, sharing a blog post with others, or publishing their own posts and video about local or global events?

Blogging started to grow in 1999, reaching mainstream popularity in 2004. Twitter went live in 2006, reaching 140 million new tweets per day in 2011. By 2020, 32 social platforms had over 100 million monthly active users.² (“Social platforms” include social networks, online forums, and photo and video sharing platforms such as TikTok.)

However, the global village still has not emerged today. And perhaps it never will. Although China had already become the country with the biggest number of Internet users by 2008, all major Western social media platforms and news sites are blocked there, as are popular VPN services. At the moment, Russia is gradually moving towards the Chinese model. Dozens of other countries also increasingly restrict access to many global websites and services. According to the latest Freedom on the Net report, global internet freedom has been declining since 2010. In their 2020 report, which surveys 65 countries, only 15 countries were categorized as being “free” online.³

But in 1963, this was all in the distant future. While the principles behind the future Internet were first developed independently in Russia in 1958 by

¹ Marshall McLuhan, *The Gutenberg Galaxy: The Making of Typographic Man* (Toronto: University of Toronto Press, 1962), p. 31. Electro-magnetic communication media by that time included the telegraph (1816-), telephone (1854-), fax transmission of images (1880-), radio (1897-), and electronic television (1906-); the first commercial telecommunication satellite was launched in 1962.

² https://en.wikipedia.org/wiki/List_of_social_platforms_with_at_least_100_million_active_users [accessed 6 June 2021].

³ <https://freedomhouse.org/countries/freedom-net/scores?sort=desc&order=Total%20Score%20and%20Status> [accessed 6 June 2021].

Anatoly Kitov⁴ and in the US in 1960 by Paul Baran,⁵ its first practical implementation had to wait until 1969, and global use by would only start in the middle of the 1990s.

In 1963, television was also not yet global. The first live transatlantic satellite broadcast took place on July 23, 1962. It started with a split screen showing the Statue of Liberty and the Eiffel Tower, and lasted only 20 minutes.⁶

But the state of communication technologies at the time was not the main reason why a Global Village was out of the question, and only started to emerge in the 1990s. In 1963, about 1/3 of the world's population was living in communist countries behind the Iron Curtain on the territory stretching from the border between East and West Germanys on one side to Russia's Chukotka in the far east. They were not suppose to have any access to news and media from outside. None of the books, newspapers, art catalogs, music records, TV programs, films and other media produced in the "West" was available to the masses in the "East". In other words: the emerging "Global Village", so eagerly described by McLuhan, stopped at the Iron Curtain.

(How strong the "media curtain" was in practice varied between communist countries. In Russia, only a small number of professionals and and highest ranked government workers enjoyed Western media and information sources. Only a few Western authors and artists who were communists or strongly sympathized with Soviet Union, such as Picasso, were sometimes exempted from the overall restriction on publication and exhibition in USSR.)

The Berlin Wall that was constructed in 1961 to prevent East German citizens escaping to West Germany strengthened this curtain physically. But it could not prevent the flow of electromagnetic waves. Radio Free Europe and Radio Liberty, stationed in West Germany and funded by the CIA, were broadcasting into Eastern Europe and the USSR. It was possible to receive these signals if you had a portable radio with a short wave band. At some point the Communist Party Central Committee ordered all Soviet factories to remove the components needed to receive short wave broadcasts, but these parts

⁴ Slava Gerovitch, "InterNyet: why the Soviet Union did not build a nationwide computer network," *History and Technology*, 24 (2008), 335-350.

⁵ Paul Baran, "Reliable Digital Communications Systems Using Unreliable Network Repeater Nodes," *RAND Corporation Papers*, Document P-1995 (1960).

⁶ "Telstar 1 Relays the First Live Trans-Atlantic TV Broadcasts," <https://www.historyofinformation.com/detail.php?id=4252> [accessed 6 June 2021].

remained available on the black market, and some were able to convert their radios back to receive transmissions from the West.⁷

The USSR was devoting considerable resources to jam these broadcasts. In 1958, the Central Committee noted that the country was spending more money on jamming than on all domestic and foreign (to other communist countries) broadcasting.⁸ Because of the constant jamming inside the USSR, listening to any Western station required ingenuity. As one station's broadcast signal would become very faint due to jamming, you would scan the short frequencies on your radio to find a stronger signal from another station, and so on.

In a way, this was conceptually similar to the actions of performers in John Cage's 1951 experimental performance *Imaginary Landscape No 4*. Cage installed 12 radios, and 24 performers arranged in pairs were operating the controls of these radios during the performance. They "twisted knobs and dials, sweeping around the airwaves and manipulating volume. What the audience heard was the gentle crackle and hiss of radio static as the players glided between stations. Occasionally there was a burst of speech, a snatch of music, the reassuring flurry of violins playing a sweet, late-night melody."⁹ This performance took place very late in the day, and because most stations were not broadcasting at night, the performers were mostly able to pick up only noise, which was perfect for Cage.

He wrote: "Thus possible to make a musical composition the continuity of which is free of individual taste and memory (psychology) and also of the literature and 'traditions' of the art."¹⁰ In other words, to escape tradition an artist had to make commercial media the subject of art - but it had to be transformed, deformed or presented in unintended ways (e.g., scanning the whole radio spectrum by many performers at once in this case).

Without realizing it, countless people in the Soviet Union were engaged in the first "participatory media art performance." Every night they would sit for hours in front of their radios, turning the knobs on their radios to slowly scan

⁷ Simo Mikkonen, "Stealing the Monopoly of Knowledge?: Soviet Reactions to U.S. Cold War Broadcasting," *Kritika: Explorations in Russian & Eurasian History*, 11 (2010), 771–805 <<http://dx.doi.org/10.1353/kri.2010.0012>>.

⁸ Mikkonen, "Stealing the Monopoly of Knowledge?"

⁹ Robert Worby, "Turn on, tune in: John Cage's symphony for 12 radios," *The Guardian*, 6 August 2009 <<https://www.theguardian.com/music/2009/aug/06/john-cage-symphony-for-radios>> [accessed 6 June 2021].

¹⁰ John Cage, *Silence: Lectures and Writings* (Middletown, CT: Wesleyan University Press, 1973), p. 59.

short wave frequencies, looking for the clear signal from Radio Liberty, BCC and other radio stations in the West. Depending on the genre of the program, the USSR would spend more or fewer resources to jam it, with news programs getting high priority.

While the artists and thinkers in the West that formed movements such as Situationist International, international Pop Art, or German “Capitalist Realism”, were reacting to the growth of media and consumer cultures by “jamming,” “disrupting,” and “subverting” it, for people behind the Iron Curtain Western media news broadcasts and consumer objects were as precious as works of art. If they had seen Cage’s performance, they might have assumed that the performers were doing the same thing as them: trying to find unjammed news signal.

Television as Art Medium, 1947-1963: Fontana, Vostel, Paik

But even inside the West, media flows were still quite limited. For example, in West Germany in 1963 black and white TV broadcasts were only taking place for two hours per day, from 19:30 to 21:30. This was a far cry from the global village envisioned by McLuhan.

If you had entered Galerie Parnass in Wuppertal, Germany between March 11 and 20, 1963, you would have encountered something very unexpected. The exhibition included thirteen TV sets that were modified by the artist in different ways. Some of these TVs were connected to devices allowing visitors to make interactive abstract images by pressing a pedal or speaking into a microphone. Seven TVs were receiving a television program. However, instead of displaying the program directly, they modified its visuals in real-time, creating new strange images.

They looked unlike modern figurative or semi-abstract paintings, or photography or the images that Pop artists used in their work that came from commercial print media. A TV creates the picture on its display via a beam of electrons. Instead of creating marks on some material surface like in painting or capturing the lens image on photographic film like in photography, a TV generates changing image by controlling the flow of electrons. Interfering with these controls as the artist did in this show resulted in particular dynamic images that had not been seen in art before.

This exhibition entered history as the first manifestation of what would soon be called 'video art', and still later 'media art'. The artist was 30 years old. He was born in Korea, and educated in aesthetics and music in Japan, before moving to Germany to be close to its experimental music scene. The name of the artist was Nam June Paik.

In this seminal exhibition, a television set was modified to become a machine that endlessly generates modern art. Earlier generations of modern artists had transformed the visible world into increasingly abstract patterns in their paintings - from Vincent Van Gogh and Paul Cezanne to Fauvism, Cubism and finally full abstraction by 1913. Exactly fifty years later, Paik transformed the "realistic" images of TV broadcast programs into semi-abstract visuals - but in this case, he had also created a machine (I.e. a modified TV set) that could do this endlessly.

Since the one TV network that existed in Germany at that time only broadcasted from 19:30 to 21:30, Paik's exhibition was also only open during these hours. This is a crucial detail. The new type of art that Paik presented in his exhibition required the presence of an outside signal. This signal was then manipulated in real-time by Paik's modified TVs. In photographs of the show, we see how the visuals of the broadcast programs were distorted, but still quite visible.

Paik was not the first artist to use television. As Christine Mehring explains in her important article "Television Art's Abstract Starts: Europe circa 1944–1969", references to the possible artistic uses of television appeared in Europe in the 1950s and "many believed there was a popular potential for abstract television."¹¹ One of the first book-length studies of "television as an art form" was published by Gerhard Eckert in 1953.¹² References to television as an artistic medium as early as 1947 in the writings of Lucio Fontana. Mehring writes:

"On May 17, 1952, Fontana and 16 other artists signed the "Manifesto of Spatial Movement for Television. "For the first time ever," it opens enthusiastically, "we Spatialists are transmitting, through the medium of television, our new forms of art, which are based on concepts of Space."¹³

¹¹ Christine Mehring, "Television Art's Abstract Starts: Europe circa 1944–1969," *October*, 125 (2008), 29-64 (p. 39).

¹² Mehring, p. 38.

¹³ Mehring, p. 42.

One of the experimental broadcasts of Italian state-owned television station RAI in 1954 included abstract images of moving light. These were created using works by Fontana of the type for which he later became famous: monochrome canvases pierced through to create many holes.

Paik was also not the first to think about how television could be used “against the grain.” In 1958 German artist Wolf Vostel, who later became one of the founders of the Fluxus movement, started to incorporate working TVs in his artworks. In 1959 he organized a happening in Cologne called *Television-Dé-coll/age for the Millions*.¹⁴

He continued developing plans and making works that extended the ideas of this happening. In a score written around 1963, he describes his intentions: “A TV broadcast in which the TV audience participates and acts. The events; images; words; recommendations or commands are aimed to rouse in the viewers active participation, involvement, and thoughts and actions running parallel to the broadcast.”¹⁵

In May 1963, Wolf Vostell’s exhibition at the Smolin Gallery in New York included six TV sets.¹⁶ The title of this work was *6 TV Dé-coll/age*. In summary, we can say that in the 1950s the idea of using TV in art was already “in the air.”

How to Follow 1 Billion Data Streams?

The literature on early video art is truly massive, with numerous articles, books and PhD dissertations. Paik’s work has also been studied and written about extensively. I am not going to discuss all of Paik’s ideas presented in the three texts that he wrote for and about his 1963 exhibition. I will also not be exploring connections between his first video works, his earlier experimental music, and the ideas of leading avant-garde composers, including Stockhausen, who were working at the electronic studios of the German radio station WDR in 1959. These composers influenced both Paik and Vostell. You can find excellent discussions of these topics elsewhere.

¹⁴ <http://www.newmedia-art.org/cgi-bin/show-oeu.php?ID=900000000067392&LG=GBR&ALP=V&DOC=exp&NOM=Wolf%20Vostell> [accessed 6 June 2021].

¹⁵ Hanne Mugaas, “The Year Video Art Was Born,” *Guggenheim Blogs*, 15 July 2010, <<https://www.guggenheim.org/blogs/the-take/the-year-video-art-was-born>> [accessed 6 June 2021].

¹⁶ Milena Olesinka, “Wolf Vostell - pioneer of Happening and Video Art,” *Exposition Art Blog*, 19 January 2018, <<https://milenaolesinska77.medium.com/wolf-vostell-pioneer-of-happening-and-video-art-cfaa1a94ed85>> [accessed 6 June 2021].

Instead, I want to zoom in on a single aspect of his 1963 exhibition and connect it to the contemporary and future data culture. A single TV station broadcasting for two hours per day in the early 1960s vs. hundreds of millions of people “broadcasting” - i.e. posting, commenting, sharing, and streaming - on social media platforms 24/7 today (WeChat, Weibo, QQ, Toutiao, Bilibili, TikTok, VK, Instagram, Facebook, Twitter, and dozens of others). The number of social media users worldwide that was 2.86 billion in 2017 is estimated to reach 3.96 billion in 2021 and 4.41 billion in 2025.¹⁷

In order to see all of TV programming available in Wuppertal at the time of Paik’s exhibition in March 1963, you only needed a single TV set turned on for two hours per day. To use the terms of communication theory, we can say that the receiving apparatus (a single TV set) perfectly matched the message (a TV program), which travelled through a communication channel (radio waves). A single display was sufficient to receive all sent messages.

Today, it is completely impossible for any single person to follow all the billions of posts and video livestreams happening daily on social networks. Even if you are subscribed to only a few hundred information sources, be they individual users or news companies posting on a single network, this still may be impossible. All these sources sending messages around the clock can easily overwhelm human cognitive capacities of reading, looking or hearing. By the time that you have caught up with new messages from the last hour, 1000 times more messages have been sent.

So why is this impossible? We have accepted that social media platforms use algorithms that select only a tiny proportion of this constantly changing and expanding universe. The selected content is translated into a single linear stream and this is what we see: a single column of posts that the algorithms have decided are most relevant to us.

This is not the best solution. Why does a proper interface for the age of social media, or “social broadcasting”, still not exist? Will it ever exist in the future? How might it look? Is the problem with our cognitive information processing limits, or with engineers and designers failure to imagine a different interface to our global village?

Interfaces for a Global Village

¹⁷ <https://www.statista.com/statistics/278414/number-of-worldwide-social-network-users/> [accessed 6 June 2021].

The algorithms behind social media platforms act similarly to a video switcher. Switchers (also called “mixers”) are used in television studios to select between the outputs of multiple video cameras. For example, sport event broadcasts usually switch over time between different cameras. Some may show a view of the whole field, some show close-ups of players, judges, and so on. During the program, its director switches between the views of different cameras to create a more dynamic, visually rich, and dramatic flow.

Social media platforms’ algorithms similarly select from all the available “signals” - e.g, posts made recently by all the people you follow. The numbers of these posts is likely to be very large, unless you only follow a few people. Many different algorithms working together decide which posts to show and in what order for each user. They are presented as a single column, with the most recent posts on the top and earlier posts below. The standard term used for this method of organizing and presenting information data streams is a “feed.”

Clearly, there are many obvious differences between TV broadcasting and social media “broadcasting.” In the former, the selection is executed by a program director; in the latter, the selection of posts shown to each user is done automatically by software (which may include both traditional algorithms and neural networks). In the former, a single TV program is sent to all viewers without any variations; in the latter, each user receives, at least in theory, a unique “program” (i.e., a sequence of posts by other users, ads, and other content). Until the diffusion of VCRs, you could not go back to an earlier point in the program, or speed it up or slow it down. In social media, you can scroll up and down at any speed, search, and click on links to navigate the feed. A television program is continuous; in social media, new posts are added to your wall at irregular intervals.

But despite these and many other differences, there is also one fundamental similarity. In both cases, we deal with a *data stream*. A sequence of elements is transmitted and received over time. Here I am not concerned with many ways in which such a transmission can be implemented technically (via cable or over-the-air, as a continuous signal or using packet switching, etc.) What interests me is user experience.

In *Language of New Media* (2001) I drew a comparison between a factory, cinema, and computer programming:

Ford's assembly line relied on the separation of the production process into a set of repetitive, sequential, and simple activities. The same principle made computer programming possible: a computer program breaks a task into a series of elemental operations to be executed one at a time. Cinema followed this logic of industrial production as well. It replaced all other modes of narration with a sequential narrative, an assembly line of shots which appear on the screen one at a time.

The objects in a factory, the instructions in a computer program, and the shots in a film are all organized in a single line. Is this logic from the industrial era still at work in new 21st century "big data" streams, such as social media?

In early cinema from the 1890s, information arrives at a constant speed (for example, 24 frames per second). While at first films were only a few minutes long and did not have any montage, in the 1910s new unique techniques for structuring film data streams emerge: a longer film is organized as a linear sequence of shots, and shots are organized into scenes. 50 years later the same logic is adapted in television: a program is constructed in time as a sequence of views from different cameras.

100 years later, this *data stream* format also governs presentation of information on social media platforms. The latest post is in front of us, and all earlier posts are below. They require an effort to retrieve, even if it's simply scrolling down, or using search to find earlier posts.

In a data stream paradigm, the present is in focus, while the past fades away or becomes inaccessible. And the future? It ranges from being very predictable to completely unpredictable, depending on the medium, format or genre. Because a television viewer has watched numerous TV programs in the past, she has an internal cognitive model of how they are organized. She expects that a news announcer will stay in the same physical position during the whole program, that sport-news segment will be at the end, and so on. Similarly, a social media user today expects that most posts that contain images and links beside text and links; that some posts will be from people she follows and some will be ads, and so on. But the content of individual posts is more unpredictable than the content of a TV program, because now the "news" comes from the potentially thousands of people that I follow. And the feed is often more unpredictable than watching a film, where a number of shots in one scene may show the same location and characters. Because current social network feeds typically show only one post from one user, followed by a post from another user, the possible result is a more fragmented experience. But

this kind of projection from many data streams to a single linear feed is only one of many diverse possibilities. (For example, in many visualizations we created for in *Phototrails*, *The Everyday* and other projects, all geo-located social media photos shared in a big area of a city over a number of days were mapped into two dimensional very high resolution images, revealing common behavior patterns.¹⁸)

The data stream form does not start with cinema. Earlier telecommunication technologies also use data streams (telegraph, fax transmission, telephone, sound recording), as do human speech and writing. Human cognition evolved to organize, communicate and receive information spatially and/or in time, and this is why we have so many media forms today that follow a data stream logic. Here we can recall the the influential concept of human cognition developed by the famous philosopher Immanuel Kant (1724-1805):

Kant claims that all the representations generated via sensibility are structured by two “forms” of intuition—space and time—and that all sensory aspects of our experience are their “matter.” The simplest way of understanding what Kant means by “form” here is that anything one might experience will have either have spatial features, such as extension, shape, and location, or temporal features, such as being successive or simultaneous. So the formal element of an empirical intuition, or sense perception, will always be either spatial or temporal.¹⁹

As more technologies developed in the 19th and early 20th centuries to measure, represent and communicate, many thinkers started to explore relations between technologies and human experiences of space and time. Among them we can list Henri Bergson, Georg Simmel, Marshall McLuhan, and Manuel Castells.²⁰ McLuhan developed an idea which is almost the opposite of Kant’s views. For him, information and communication technologies define how humans understand space and time, and how they think. Print technology privileges the visual, quantitative, geometric, and sequential, while ancient oral and new telecommunication technologies such as television and radio (prominent when McLuhan was developing his ideas)

¹⁸ *Phototrails*, 2013 < <http://phototrails.info>>, *The Exceptional and the Everyday: 144 hours in Kyiv*, 2014, <<http://www.the-everyday.net>>.

¹⁹ Colin McLear, “Kant: Philosophy of Mind,” *Internet Encyclopaedia of Philosophy* <<https://iep.utm.edu/kantmind/>> [accessed 6 June 2021].

²⁰ Sy Taffel, “Technology, Time and Space,” in *Media Studies 101: A Creative Commons Textbook*, ed. by Media Texthack Group (2014) <<https://opentextbc.ca/mediastudies101/chapter/technology-time-and-space/>> [accessed 6 June 2021].

privilege the spatial, simultaneous, holistic, and qualitative, or what McLuhan in his last book called “an environment of a simultaneous resonating character” , and also “oral space”: “a sphere whose focus or center is simultaneously everywhere and whose margin is nowhere.”²¹ (In this book, McLuhan also discussed the bias in modern theories of communication to see it as linear: "All Western scientific models of communication are—like the Shannon–Weaver model—linear, sequential, and logical as a reflection of the late medieval emphasis on the Greek notion of efficient causality.”²²)

Despite his brilliance, McLuhan does not seem to question the standard interfaces of mass communication technologies, such as books, radio, television, etc. But the particular interfaces of these technologies that became standard are only some of the many ways to organize and present text, transmit still and moving images, recorded sound, or data.

In the 20th and 21st centuries, artists, filmmakers, composers, designers and engineers developed many alternative interfaces. This took place in artistic areas such as experimental film, artists’ books, video art, media art, media (as well as data and interface) design - and also in computer science. The key ideas of modern computing such as hypermedia and metamedia developed by Ted Nelson and Alan Kay in the 1960s in fact offered radically different ways to combine, organize, create with, and distribute media.²³ These ideas led to a personal computer that can simulate most existing media and also used to create a new one (1980s), and world wide web connecting billions of documents (1990s). Internet was also used to develop other new paradigms for culture creation, from blogs and social media to collaborative media creation and editing now built into most commonly used authoring software such as Adobe’s Lightroom, Premiere, or web applications for collaborative design such as Miro and Milanote.

Given this, we can challenge McLuhan’s key idea that common media technologies shape society and cognition - and also point out one limitation of the popular research direction in Media Studies and Communication fields. These fields study the social effects of common communication technologies, but as with McLuhan, they don’t question their standard widely accepted interfaces. These interfaces - from a 1950s TV set to the latest social network today - are invented by teams working in companies, and through their use

²¹ Marshall McLuhan & Bruce R. Powers, *The Global Village: Transformations in World Life and Media in the 21st Century* (New York: Oxford University Press, 1989), pp. 56, 74.

²² McLuhan & Powers, p. 3.

²³ Lev Manovich, *Software Takes Command* (Bloomsbury Academic, 2013).

by most people in society they become ubiquitous. And while software interfaces such as that of Facebook's site and app or Apple OS can be technically changed more easily than that of earlier material communication equipment for recording, transmission, and receiving, once they are adopted by a huge user basis, really fundamental changes become very risky.

Taking for granted the standard and widely accepted interfaces of common communication technologies, and studying their possible psychological and social effects is certainly important. But we can also question these interfaces, since there are indeed many alternatives. For example, instead of only focusing on about Facebook's cognitive, social, political, and moral effects, we can imagine and prototype interfaces that would be an alternative to a social network feed model. And this is what many media artists, designers and some scholars in media theory have been doing since these fields started to grow in the early 1990s.

If you don't like Facebook as an example, you can instead consider citizen journalism, political blogs, or other forms and genres of social media that you prefer, or for examples news published by news organizations in all countries. Using search and algorithmic recommendation systems, following links, subscribing to only particular accounts, marking content with keywords and categories, is certainly very helpful, but not sufficient.

I want an interface that allows me to observe and participate in all of the Global Village? To allow me to zoom out to see all conversations and information happening right now, and to zoom in and follow or participate in any of the billions of conversations that are ongoing. And to let me read, watch, or listen to them historically - i.e., all posts, comments, news, and streams shared up until the present moment. I think that this is a reasonable thing to ask for.

While the scale of global online conversations and sharing has increased tremendously since the first bulletin boards and internet forums decades ago, the resolution of our computer screens has grown much more slowly - from 1987's VGA format of 640 x 480 pixels to the current state of the art 8K UHD format of 7680 x 4320 pixels, which was agreed on in 2014 but is hardly used yet today.

McLuhan argued in *Guttenberg Galaxy* (1962) that new telecommunication technologies are remaking the world cognitively and socially. Impressed by the newest technologies of his time, such as satellite television, and the theoretical

potential of connecting any person and place with all other people and places, he developed the idea of the Global Village, and later Global Theatre. Instead of only seeing new telecommunication technologies as quantitative extensions of what already existed (books, telegraph, newspapers, newsreels), for him the Global Village meant a more fundamental qualitative transformation. The linear and sequential tyranny of print culture was to be replaced by the spatial and simultaneous culture of “electronic interdependence.”²⁴ For McLuhan, this interdependence was conceptually similar to conditions in a traditional small village - everybody is aware and cares about everybody else - but it would now be happening on a global scale.

Many commentators have pointed out problems with McLuhan’s arguments, but let’s assume for a minute that he was right. The expansion of information flows enabled by electronic, and later computer and network technologies, indeed has the potential to fundamentally alter society even more fundamentally than it already has. Individualism and specialization (which for McLuhan were consequences of using print, while for others these are the results of “capitalism,” or “modernization”) can give way to a new collective global society where we are involved with everybody else, and fully use all our senses in ways that were not previously possible. Or perhaps we want another equally radical transformation. What does this require? For me, one answer is that we need to imagine and make ubiquitous new interfaces to all communication already taking place. In other words, to figure out how to follow and participate, if we want, in all of the billions of *data streams* sent and received today. Paik’s reimagining of the standard TV interfaces - from his works in the 1963 exhibition to many others later including his “video sculptures” with their hundreds of working TV monitors - should inspire us to think differently.

(Spring 2021)

²⁴ McLuhan, *The Gutenberg Galaxy*, p. 31.