## LOG:: 04 Melody of Life

Uncle Wendel, Uncle Wendel! Just look at the soap bubbles, the wonderful colours! But where do the colours come from?

Kurd Lasswitz, On the soap bubble

We are in open circuits.

Paik 1970

The concert. Tuning in. Chorus. Noise, cacophony. Mushrooms making music, spores jumping. Atoms spinning. A fly. Dancing all night long. Spin me around. Sound and color. Synesthesia. Elan Vital. Energy. Excess.

My essay *Video Theory* started with a dream-like imagination of all videos ever made in the world seen together as a blue, not gray, ocean. I did not reflect on sound, on any sound related to this imagination of an ocean of video. Of course, this might first appear as chaos, a cacophony, a wildness, disturbing and maybe even painful. The amount of video now surrounding us furthermore calls to mind rather a tsunami, not a storm: gigantic waves, regional platform floods.

If videos have a single sound, patterns of videos together could realize melodies. Positive imagined. As videos are not seen together, as they develop in time, even considering that they are built on simultaneity and the instant, still, over time they create a melody of life. So, wouldn’t it be nice if all videos create a kind of music? Don’t they hold the potential for a symphony representing the world? That might be the music of the planet, the music of our world and the music of us, representing a unique and ever-changing experience, a symphony of blue. But, maybe we need to be alien to this world to identify this sound and music, the signal in the ether.

**Video Worlds / Video Sphere**

The imagination of a music of the world of all videos and moving images, or *visuals* together over time, recalls the concept by the biologist Jakob Johann von Uexküll of *Umwelt* and his extensive use of musical metaphor.[[1]](#footnote-1) Influenced by Leibniz and his idea of the individual as entangled in a network of relationships and perspectives through which one defines oneself, and whose manifold reflections in consciousness constitute the fullness of his worldview, Uexküll described the plan of nature as constituting a kind of melody, a *Melody of Life*.

Every animal has an *Umwelt*, surrounding and enclosing it, much like a soap bubble. Each animal has its own *Umwelt*, and one soap bubble may enclose many others within it or be enclosed in other, larger bubbles. Unlike Leibniz's monads, these bubbles have windows, or at least intersect and interact with each other in concrete ways. The *Umwelt* is not merely given, but rather produced by the animal through the functioning of its body, its sensory and instinctual apparatus, and the objects it encounters.[[2]](#footnote-2)

A *monad* (from the Greek *monas,* *unit*) is an elementary individual substance that reflects the world's order and from which material properties are derived. In Leibniz’s system of metaphysics, monads are essential substances that make up the universe, but that, lacking extension in space, are thus immaterial. Each monad is a unique, indestructible, dynamic, soul-like entity.[[3]](#footnote-3)

The bubbles, the *Umwelt,* around each animal may not be monads. Still, they exist in a pre-established harmony in the composition of nature. This harmonious composition constitutes the plan of nature, or a natural musical score. Deleuze characterized Uexküll as a *Spinozist of affects.[[4]](#footnote-4)* Every animal behavior signifies—and this signification differentially constitutes—its *Umwelt* as a meaningful world for it and others capable of interpreting the signs, animals, or even humans. Every animal has sensors that report the state of the *Umwelt* and effectors that can change parts of the *Umwelt*. Uexküll distinguished the effector as the logical opposite of the sensor or sense organ. Sensors and effectors are linked in a feedback loop. Sensor input is processed by a *Merkorgan* (memory organ) and effectors are controlled by a *Werkorgan (working organ)*. The modern term *sensorimotor* used in enactive theories of cognition encompasses these concepts.[[5]](#footnote-5)

Uexküll proposes a distinction within the *Umwelt*. The *Umgebung* refers to the distant aspects of the external world, or the *surroundings* as a whole. In contrast, the *Innenwelt* (inner world) represents the immediate sensory data picked up by the organism. This sensory data is considered the only unfiltered reality directly accessible to the organism. The organism must learn during infancy how the indirect and processed information of the *Umgebung* relates to the direct and unprocessed information of the *Innenwelt*. This relationship between these two aspects of experience is significant for understanding later theories of embodied cognition. This idea connects to Kant's distinction between phenomena, or beings of sense, and noumena, beings of understanding or reason. However, it's derived from the limitations of our senses, not philosophical arguments. The concept we call a *feedback loop* is similar to what Uexküll called a *function-circle*. Here, *circle* seems to represent a broader concept like *system*. Interestingly, his term *melody* refers to something close to what we now call an *algorithm*. To link to Uexküll's *Umwelt* concept, we need to have an environment with movement and flow, a signal of change, and a perception of surroundings to act upon. For Uexküll, species are constitutive of the milieus they occupy. In this milieu, objects are opportunities for engagement.

Music is the nature of life itself.

Video has gone from being a way to store events (like on old tape) to being a central part of our lives. It's not just a tool anymore, it's a world around us. We're constantly surrounded by videos. We are living in a video sphere. S*pheres* is an intrigue concept by Peter Sloterdijk to explain our digital world.[[6]](#footnote-6) Think of Earth's layers: the solid ground, the layer of life, and the atmosphere. Sloterdijk talks about these and other *spheres* like the *noosphere* (the sphere of reason, Teilhard de Chardin) and the *semiosphere* (the sphere of signs and communication, Juri Lotman). Our digital world, as *infosphere*, connects for him to the old idea of the *firmament* - a giant dome in the sky where God lived. Just like the breakdown of the firmament led to the modern world, Sloterdijk suggests our technology might be creating a new kind of *firmament* around us, one that's constantly changing and growing.

Thinking about video as part of this *infosphere, firmament* or *Umwelt* makes the *visual* seem like a living, breathing thing. It's constantly evolving and interacting with itself, just like a complex organism we are observing. It makes us curious to know what takes place in its dynamics—how waves are created and constantly evolving. There appears to be a system that can build and maintain itself constantly, an autopoetic system, as Niklas Luhmann described.[[7]](#footnote-7) *Autopoiesis* means *self-creation* in Greek. The term was originally used for living things like cells to point to how they constantly replace parts while keeping their overall form. Two Chilean biologists, Maturana and Varela, explained, in 1972, autopoietic systems as self-contained networks. These networks use their elements to rebuild themselves and create the space where those elements exist. In simpler terms, the system makes its own building blocks and uses them to remain itself. This concept can be applied beyond biology. Luhmann argued that societies are also autopoietic. They function by creating their own elements, like temporal communication events, from within their existing structures. These events are fleeting moments, not permanent things, temporal and ephemeral. For a society to keep existing, it needs to constantly generate new elements. These communication events don't have meaning on their own, but gain significance through their connection to other communication within the system. Think of a conversation: a single word doesn't make sense by itself, but within a flow of conversation it contributes to the bigger picture.

Luhmann argues that social elements, like people and actions, aren't the building blocks of society. Instead, he proposes communication events as the key element. Societies, in essence, are self-sustaining networks of communication.

Social systems use communications as their particular mode of autopoietic reproduction. Their elements are communications which are recursively produced and reproduced by a network of communications and which cannot exist outside of such a network.[[8]](#footnote-8)

Breaking away from a common view of communication, Luhmann draws on Karl Bühler's ideas and defines communication as three elementary things working together: what's said (information), how it's said (utterance), and how it's interpreted (understanding).

Information, according to Shannon and Weaver, is choosing something to say from all the possibilities. Every act of communication picks a message from all options. Utterance is why and how something is communicated. It's like picking a specific way and reason to say something out of all the possibilities. Understanding is the difference between what's said and how it's said. To understand something, you have to separate the message itself from how and why it's delivered. Understanding is also choosing a specific way to interpret that difference. Instead of focusing on what the speaker meant, Luhmann flips it around: the meaning is ultimately decided by how it's understood. He says communication works *from behind*, meaning that understanding shapes the meaning, not the other way around. This is like the principle of hermeneutics, where the listener, not the speaker, decides the meaning. The listener's understanding limits the possible meanings, no matter what the speaker intended.[[9]](#footnote-9)

**Video vs. Cinema (Film again)**

Sound and music drive online video. Sound drives the TikTok platform par excellence. Video is related to music, objects of engagement, and the environment or milieu as physical spaces. Digital moving images are closer to sound than to visual images. They appear as a time-based signal of presence, simultaneity, and instants. Playing video is a flow of time, similar to a melody. A single video might be a single sound, even a note, but we realize a melodic form in all videos. This is an abstract layer of perception, a transformation outside of the experience focusing on flow and autoplay, instantly swiping away the current video.

The emergence of video sparked a dramatic change in how we experience images and their relationship to time. Unlike film, video emphasizes the concept of *the instant*. A cinematic image, despite depicting movement through a series of connected frames, remains a fixed composition—a captured and frozen moment. It's also a delayed experience, viewable only after processing. In contrast, video's ability to record and display images *almost* instantaneously creates a closer connection to real-time events. This immediacy strengthens the inherent link between movement and time within the video itself.

The concept of real-time in video is intertwined with the idea of simultaneity. Filmmakers like Godard, Coppola, and Greenaway explored this notion in their work. In contrast to film as celluloid, video allows further a dissimulation of the beginning and ending of a shot. Thus did video technology, even in its early analog development, dissolve temporal and spatial unity. Video allows one to intrude, to interrupt and reformat, the streaming of flows. It defines a capacity to act on time and in relations between flows, between different rhythms and *durations*. While cinema relies on editing to connect images and sounds, with a (sometimes implicit) sense of narrative continuity even through cuts, video can handle actions *simultaneously* without requiring cuts themselves.

Real time is synchronous time. My time here and there, in different places, now in this instant, either slow or fast, either jumping, disconnected and continuing, fluid, streaming.

Nam June Paik has pointed out continuously that video is not about physical space, but about time. His work challenges the idea that video is just a way to record things at home. Video, especially in its early analog form, could create entirely new visual experiences.

Chris Marker experimented with storytelling and memory. He used the past not just to reminisce, but to think about the future. He manipulated real footage to make a point about historical events. His techniques are all about using technology to tell stories. Marker's last film, *Level 5* (1996), uses all sorts of images: still photos, film clips, computer graphics, video footage, found footage, interviews, articles, and even a character named Laura (played by Catherine Belkhodja). Laura talks to an unseen man who might be dead, or it could be Marker himself filming her, or even the audience. The film starts with a close-up of a hand using a computer mouse, and then we see the computer screen with city lights overlaid on a computer-generated head. In his own unique vision, Marker mixes real and imagined elements to create a new kind of cinema, one that tells stories in a new way and uses new kinds of images that are neither completely true nor completely false. Marker's methods point to the future of digital storytelling, even as it references the very beginnings of cinema, where moving images were first created from still photographs.

The digital confronts us with a new form of realism. Images and sounds are built based on algorithms processed by a machine, a black box of code, learning and traversing human data and information, presented or embedded in new video media, a motion signal derived from mathematical formulae.

The still image, the photographic image, the film frame: all are always related to a specific time continuum, and never to the now. Even if the film plays now, what is reproduced is a recorded performance, not a new performance; the object performs the new, which refers to the operation but not to the content, not to what is inside the frame or what is projected. What is projected is a specific registration; it does not develop something new. It is limited, and has borders. It has a defined, fixed body; the photograph is an attempt to resolve a specific condition and keep this condition existing.

The feed or the algorithmic timeline cannot be compared with the filmic or cinematic timeline; it is not object-based and, therefore, lacks borders. The algorithm constantly evaluates, observes, and receives; hence, it is never cinematic. Cinematic is a specific style, a form, a format, or a phrase: narrative and structure. The web, the digital sphere itself, develops non-cinematically.

Video is about being present. It emphasizes event character and participation. Cinema includes only indirect participation as an inactive receiver: passivity. Video is a feedback system that suggests input and reverse response. The signal produces a constant now in a defined area of variability; the definition itself is variable.

**frameMusic Silence**

This reminds me of something Theodor Adorno said about popular music. He thought popular music was too standardized, meaning all its songs sounded pretty similar. There were no surprises, because we're trained to expect certain things from popular music. For Adorno, classical music was the opposite. It required you to pay close attention, because every single note mattered in the whole piece.

Basically, the music industry has dumbed things down. People might be really into their favorite bands and know all the details, but overall, the experience is pretty shallow.

Imagine our phones and computers as windows into a world dominated by video. Streaming services and social media are constantly showing us videos, creating an environment where everything is a moving image. These videos are not just things we watch; they are connected to each other and can even react to what's around them. The way these platforms use algorithms to recommend videos is becoming more and more uniform, which is similar to what Adorno worried about with popular culture: that everything would become the same, which is a recipe for, in Benjamin’s thought, *poverty*.

**The Idea of Silence and the Digital Frame in Video**

Imagine incorporating the ideas of composer John Cage into the way we think about video and the dynamics of the *visual*. Cage's concept of silence isn't total quiet, but rather a system that allows for its own natural sounds to emerge. It's akin to a kind of artificial awareness that comes from letting things be.[[10]](#footnote-10) In the future, composers would work with tiny fractions of a second, similar to how film editors use frames. Music could be created like a movie, with a system responding to what happens around it. The composer could even incorporate unexpected events into a piece.

Thinking about video in the digital world, it's like a complex dance of events, constantly changing at incredible speeds. Digital information is made up of tiny, distinct pieces, similar to the sprocket holes on film. The frame in a movie is, for Gilles Deleuze, a system holding lots of information. Each frame captures a moment with various elements like actors, setting, and lighting. This information can be changed by how the shot is framed, by transitions, or by light and shadow. Even the camera angle and filming techniques affect what information the frame carries. This information can also be dynamic, with changes in light and movement. Deleuze added the idea of the *out-of-frame*: things existing just outside the shot that still influence what we see.

An environment that's both open and controlled is created, where things can be copied, contained, yet also manipulated. For Cage, the frame was a way to structure music, not with traditional notation, but by borrowing ideas from film editing. It could be a single *unit* containing the entire piece, or a series of frames building the whole thing. This frame is flexible, able to hold everything in one shot or be spread across many. It's not the standard frame you see in a movie, but an expanded idea that reaches beyond the visible to a larger, virtual space.

The traditional rectangular screen format is limiting and outdated. Unlike paintings or photographs, there's no frame in real life. This rectangle is just a human invention, based on how we see the world when we hold our head still. If we created the frame, we can get rid of it. There's no reason to be stuck with this rectangular format in film. It's time to break free and explore new ways of showing the world on screen.[[11]](#footnote-11)

Discussions of framing, of course, run across the history of audiovisual media technologies. Television imposed its format on films until television itself became, through higher resolutions and LED technology, more horizontal, rendering the absolute and rigid square obsolete. In the struggle for audiences, cinema expanded the frame horizontally, establishing super formats like cinemascope and others. And not so many years ago, flexible, rectangular, hand-sized-build smartphones established vertical rectangular formats for social media practices and stories, a mode of the perceptible that is explicitly about mobile media, while television continues to move towards scale and home cinema likeness. It is a matter of the distribution of audiovisual forms, which becomes less observable if the presenting or the streaming screen format can be automatically detected and if the source allows reformatting. The transmission system automatically adapts the content to the available framing device, which means matching the available surface.

In the Cageian context of an environment, as described essentially by Uexküll, the presence and absence of something becomes a particular concern. Presence or absence allows for chance operations in the environment. The verticality of the frame limits the space to the subject of interest and emphasizes presence inside the frame. Absence is the new norm. Cinema generated the possibility of objectivity, while smart phones produce selfish subjectivity, controlled by design.

**The Age of Now**

How do we understand the dynamics of contemporary life, particularly regarding the role of technology in shaping our perception of time and space? Paul Virilio’s answer might be the *Instant*.[[12]](#footnote-12) We live in a time of instant information. News, ideas, and data travel almost instantly around the globe. This has changed the way we experience the world. We can be connected to anything, anywhere, at any time. Virilio believes this *instant* world creates a new reality. In this reality, distance and time don't matter as much. The physical world and the digital world blur. We crave speed and efficiency, and everything needs to be instant. This rush towards immediacy, however, has downsides. It leads to a world dominated by technology, where people feel disconnected and isolated.

There's a flip side to speed, though. The faster we go, the more exhausted we can become. It's like trying to run too fast; eventually, you have to stop.

Buckminster Fuller used the idea of *frequency* to describe the world. He saw everything, even solid objects, as made up of tiny, rapid events. Imagine the white foam of a wave – it looks solid, but it's actually lots of tiny bubbles moving very quickly. He believed that everything, even things we can't see, works this way.

Cinema’s frame has an eternal character. Similarly, a computer file stored on a hard disk or a server seems to have an eternal character. Frame and file are both objects, which resist the ephemeral of the flow. Both don’t deliver the possibility of the act in an instant. They are too slow.

Video, on the other hand, is an electronic means of capturing and transferring experience. It's faster than any other visual media because it deals with signals, not objects. Video isn't concerned with creating a perfect image; it focuses on the flow of information itself. Cinema, in contrast, is like a game played with images, a specific style with its own rules.

We tend to be too attached to the traditional image-frame of cinema. But the future lies in temporary audiovisual experiences, events built from signals, instants. These signals can carry vast amounts of information, like a stream of points or pixels, creating a new kind of visual experience and immediacy. Even signals without a clear message can be important. They are part of the overall flow of information.

The video artist and scholar Paul Ryan was not at all interested in the image. Like his friends and colleagues in the early 1970s around *Radical Software*, he was interested in video as signal and as ecological system:

I would avoid the term visual to describe video. You can see a bottle of perfume, but sight is not the sense it really affects…Video is about perceiving events with the nervous system, not visualizing in a pictorial way.[[13]](#footnote-13)

Exploring technology for environmental and local awareness, Ryan merges video art and environmental education in his work and conceptual writing. Analog video technology can be seen as a means by which individuals attend to their local environments. Ryan developed an *Earthscore* curriculum and a New York City *Ecochannel* for community members to continually monitor their watersheds, as well as other educational projects to make non-private ecological information available anytime and anywhere:

Give them videotape, audiotape, and film and let them find forms for their own experience and their own environs rather than let the teacher take the data, inform it, and present it as a precooked packet to be warmed over and consumed in the classroom. Self-structuring of unprepared data develops the capacity to be your own information composer.[[14]](#footnote-14)

Though written around 1970 and limited by the technology of the time, Ryan's vision for video's potential to democratize information is strikingly relevant today. Widespread access to new technologies could empower people to document and share local cultures, fostering a sense of environmental stewardship. The rise of online platforms and social media usages aligns perfectly in theory with an idea where individuals map, record, analyze, and try to raise awareness about their local environments.[[15]](#footnote-15)

*Earthscore*, published by NASA in 1990, is designed to produce video content that reflects environmental realities and fosters behaviors that align with Earth's natural balancing mechanisms, ultimately supporting global environmental efforts. Its core concept lies in viewing *Earth* as a complex, self-regulating cybernetic system. Natural systems possess inherent mechanisms for maintaining balance and adapting to changes through feedback loops. Environmental problems often arise from intricate interactions between human and natural systems. *Earthscore* emphasizes understanding these interactions to develop effective solutions. By adopting a holistic perspective, cybernetics encourages us to consider the entire system, rather than isolated components. Conceptually, Ryan’s *Earthscore* curriculum blends Gregory Bateson's cybernetics (with its focus on interconnected and self-regulating systems) with Charles Sanders Peirce's semiotics (a theory of signs and communication that’s deeply sensitive to the context or environment of the communicative act) to create a novel system for environmental videography, as a way of making the acquisition of environmental knowledge more engaging, interactive, and impactful.

Video is a powerful tool for transmitting information based on a *shared perception of environmental realities,* rather than a sole reliance on language. Video offers a unique way to model reality compared to language—an alternative way and form of communication beyond language, beyond control and domination, which threaten our planet’s well-being.[[16]](#footnote-16)

Fig. 5 TWIST AND LOCK

A series of connectors used for connecting thinnet coaxial cabling to various networking components. BNC connectors use a twist-and-lock mechanism that provides a secure connection between network cabling and components. BNC connectors are typically used on 10Base2 Ethernet networks. The different types of BNC connectors include the following:

• BNC cable connector: Soldered or crimped to the ends of a thinnet cable

• BNC T-connector: Used to connect a network interface card (NIC) to a thinnet cable segment

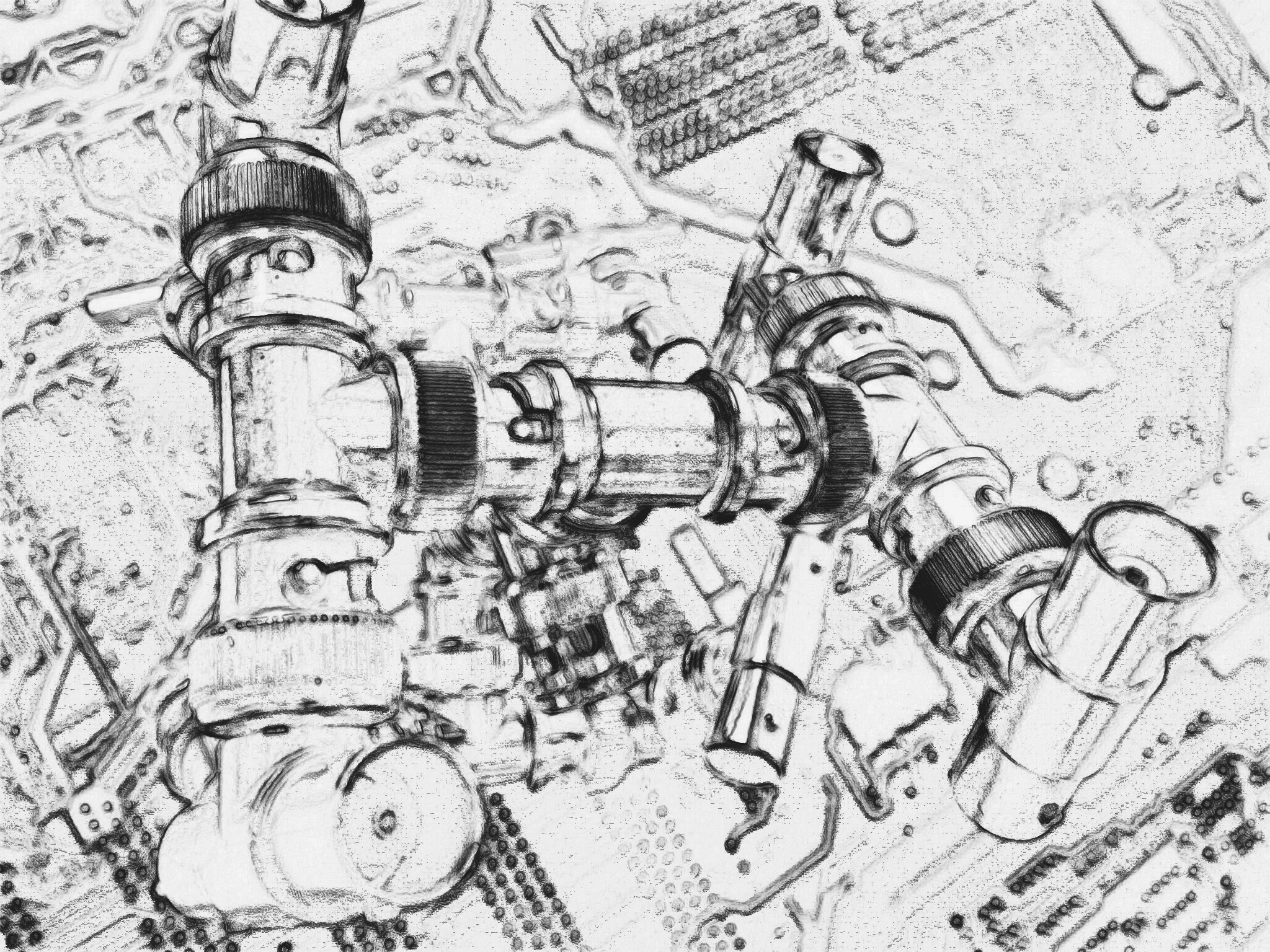
• BNC barrel connector: Used to connect two pieces of thinnet cable

• BNC terminator: Provides a 50-ohm termination for the free end of a thinnet cable4

Often the BNC connector is specified for operation at frequencies up to 4 GHz and it can be used up to 10 GHz provided the special top quality versions specified to that frequency are used.

However it is wise to fully check the specification.

Basic BNC Specification Summary - Parameter - Specification - Cable Type Coaxial - Securing - Bayonet fit - Typical operating frequency range 0 - 4 GHz Diameter (Male) 14.0 mm / 0.570 in - Diameter (Female) 11.1 mm / 0.436 in[[17]](#footnote-17)



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