Disrupted rhythms: Technology, nature and human alienation. A media-philosophical and educational-scientific investigation of Godfrey Reggio's experimental film Koyaanisqatsi (1982)

Christian Filk

In his essay, Christian Filk examines the experimental film Koyaanisqatsi (1982) by Godfrey Reggio from a media-philosophical and educational-scientific perspective. He analyzes the tension between technology, nature, and human alienation and interprets the work as a medium of reflection that impressively depicts the effects of technological progress on the world we live in. The minimalist music by Philip Glass merges image and sound into a synaesthetic unity that intensifies the cinematic ef-

fect. Filk emphasizes the non-linear narrative structure and cinematic montage, which encourage viewers to critically reflect on their perception of space and time. Philosophically and socially, the film formulates a profound critique of progress and civilization, visualizes the alienation caused by capitalism and industrialism, addresses urban transformations and the exploitation of natural resources, and presents nature as an active subject. From an ecological and ethical point of view, Christian Filk interprets Koyaanisqatsi as an urgent appeal for a new ecological ethic and increased human responsibility. In terms of education, he emphasizes the promotion of media literacy and interdisciplinary approaches that enable transformative learning experiences. In conclusion, Filk highlights the experimental film's ongoing relevance for discourses in media philosophy and education studies, as well as its significance for current and future debates.

In seiner Abhandlung analysiert Christian Filk den Experimentalfilm Koyaanisqatsi (1982) von Godfrey Reggio aus einer medienphilosophischen und bildungswissenschaftlichen Perspektive. Im Rahmen seiner Analyse beleuchtet Filk das Spannungsverhältnis zwischen Technologie, Natur und menschlicher Entfremdung. Dabei betrachtet er das Werk als Reflexionsmedium, welches die Auswirkungen technologischen Fortschritts auf die Lebenswelt eindrucksvoll darstellt. Die minimalistische Musik von Philip Glass verbindet Bild und Ton zu einer synästhetischen Einheit, wodurch die filmische Wirkung intensiviert wird. Filk betont die nicht-lineare Erzählstruktur und die filmische Montage, welche die Rezipienten dazu anregen, ihre Wahrnehmung von Raum und Zeit zu reflektieren. Der Film übt sowohl aus philosophischer als auch aus gesellschaftlicher Perspektive eine tiefgreifende Kritik an Fortschritt und Zivilisation. Er verdeutlicht die Entfremdung durch Kapitalismus und Industrialismus, thematisiert urbane Transformationen sowie die Ausbeutung natürlicher

Ressourcen und stellt die Natur als aktives Subjekt dar. Aus öko-logischer und ethischer Perspektive interpretiert Christian Filk Koyaanisqatsi als dringenden Appell für eine neue ökologische Ethik und eine gesteigerte menschliche Verantwortung. Aus bil-dungswissenschaftlicher Perspektive betont er die Förderung von Medienkompetenz und interdisziplinären Ansätzen, welche transformative Lernerfahrungen ermöglichen. Abschließend un-terstreicht Filk die anhaltende Relevanz des Experimentalfilms für medienphilosophische und bildungswisschaftliche Dis-kurse sowie dessen Bedeutung für gegenwärtige und zukünftige Debatten.

For Maiken (she knows why)

Before appearance comes
appearing. – Martin Seel
(1993: 770; translation C.F.)

1. Introduction

1.1 Between appearance and appearing

The thesis "Before appearance comes appearing" is taken from an essay by Martin Seel (1993: 770; translation C.F.). In it, he criticizes the tendency to dismiss media representations as mere sem-blance and instead emphasizes the significance of appearance as a fundamental *aesthetic experience*. Seel argues that media phe-nomena should not be considered mere illusions, but that their appearance itself has an *independent aesthetic quality* that should be appreciated. This perspective calls for a more sophisticated consideration of media aesthetics that goes beyond the mere dis-tinction between being and appearance and focuses on the phe-nomenon of appearance (Filk 2009: 217-220).

Against this *media-aesthetic* background, the genre of *experimen-tal film* (Rees 1999; Jensen 2022) offers an alternative and subver-

sive perspective on the perception and reflection of modern phenomena in an increasingly digitalized world (Bertoni 2023; Leitgöb/Prandner/Wolbring 2023; Nguyen/Dekker/Nguyen 2020). Godfrey Reggio's experimental film *Koyaanisqatsi* (1982), which has long since become a cinematic classic, is an outstanding example of this film subject. The film offers a visual and auditory experience that consciously breaks with the conventions of mainstream narrative cinema. It dispenses entirely with dialogue and linear narrative structures, instead relying on impressive visual montages combined with the minimalist, captivating music of Philip Glass.

The epic *Koyaanisqatsi* is part of the so-called *Qatsi* trilogy, which consists of the films *Koyaanisqatsi* (1982), *Powaqqatsi* (1988) and *Naqoyqatsi* (2002). This series of experimental films by US-American director Godfrey Reggio dispenses with traditional narrative structures in favour of a combination of striking image sequences and the reductionist, repetitive music of Philip Glass (1982) to explore topics such as the relationship between humans, nature and technology (MacDonald 2012). The term 'Qatsi' comes from the Hopi language and means "life". Each film title has a specific meaning: 'Koyaanisqatsi' stands for "crazy life, life in turmoil, life disintegrating, life out of balance, a state of life that calls for another way of living"; 'Powaqqatsi' for "sorcerer life, an entity, a way of life that consumes the life forces of other beings to further its own life" and 'Naqoyqatsi' for "a life of killing each other, war as a way of life, [interpreted] civilized violence" (Godfrey Reggio Foundation 2024).

From a media studies perspective (Krüger 2024), the *Qatsi* trilogy, which spans two decades, represents a significant departure from conventional cinematic storytelling. By eschewing dialogue and focusing on visual and auditory elements, the films create an *immersive experience* (Elsaesser/Hagner 2015) that encourages view-

ers to engage in intense analysis. Techniques such as time lapse and slow motion reinforce the depiction of the discrepancy between the natural and the engineered world. This approach questions traditional concepts of time and space in film and offers a profound reflection on the impact of technological progress on human existence (MacDonald 2012).

In the eventful history of its reception, *Koyaanisqatsi* is considered by far the most important and impressive work of the trilogy, while the subsequent films, *Powaqqatsi* and *Naqoyqatsi*, are regarded as noticeably less significant in their media-aesthetic and film-poetic essence. The success of Godfrey Reggio's experimental film from 1982 can be characterized as follows (Godfrey Reggio/ IRE Collection 2024):

> *Koyaanisqatsi* quickly became an art-house hit as well as a popular presentation at colleges and universities, and it remains well known among a cine-wise, environmentally concerned younger generation. Beautifully photographed by Ron Fricke, *Koyaanisqatsi* is accompanied by a Philip Glass soundtrack that has had its own considerable life.

1.2   Specifics of experimental film

The term 'ko.yaa.nis.katsi' (see figure 1), translated from the Hopi language (Courlander 1987) as "life out of balance", succinctly summarizes the work's central message. The film portrays a world that has been profoundly transformed by technological progress and is increasingly moving away from natural rhythms and orders. Godfrey Reggio, who was a monk for many years, worked with disadvantaged young people in Santa Fé, New Mexico, in the 1960s and criticized the advance of technology and surveillance (Bachauer 1984). These experiences inspired him to create a film that would have no dialogue or actors, but would instead convey a powerful message through a combination of real images and music.

Abbildung 1: Figure 1: Screen shot of Koyaanisqatsi
(time code 00:32) (CC-BY-SA)

A fascinating sequence of images and music montages is used to depict the tension between nature and man-made structures. These visual aesthetics, supported by the sparse, hypnotic music of Philip Glass (Glass 1982; Mertens 1983), create an immersive effect that encourages viewers to critically reflect on the destruction and chaos of the modern world. The absence of traditional narrative elements allows the images and sounds to speak for themselves, creating a universal, almost meditative experience. The term 'Koyaanisqatsi' thus becomes a symbol, a cipher for the problems of a technological society that alienates people and their natural environment.

This title functions as a semantic framework that shapes the narrative structure of the film. The absence of dialogue and the use of associative image sequences, combined with the minimalist music of Philip Glass, create an audiovisual experience that en-

courages viewers to reflect on the effects of modern civilization on the natural world. The term 'Koyaanisqatsi' has a number of different meanings, ranging from "crazy life" to "life in turmoil" and "falling apart". This reflects the *media portrayal* of the disintegration and chaos of a technological society. The film uses this ambiguous terminology to initiate a critical examination of the relationship between humans, technology and nature and implicitly postulates a re-evaluation of existing ways of life (Kaufmann 2015).

The film not only criticizes the destruction of the environment, but also raises fundamental questions about the role of humans in a world dominated by technology. 'Technology' is not only presented as a tool, but also as an instrument of power, which significantly influences and shapes people's lives and perceptions (Latour 1993; Bostrom 2014). These questions are particularly relevant in the digital age – today we are talking primarily about: digitality, algorithms, deep learning and artificial intelligence – in which similar discussions are being held about the control and influence of technology on people and society (Filk 2020a, 2020b). In the context of media criticism and experimental film, *Koyaanisqatsi* opens up new perspectives on the power structures formed by digital technologies and media landscapes.

1.3 Interdisciplinary scientific discourse

Over the last four decades, the film *Koyaanisqatsi* has attracted the attention of various scientific disciplines, such as media studies, the philosophy of time and space, and education. Some of the more prominent approaches are outlined below – no claim is made to completeness. In all of this, however, it should not be forgotten that the two main protagonists, Godfrey Reggio and Philip Glass (2002), firmly reject any analysis and interpretation of their work *Koyaanisqatsi*. Nonetheless, the multiple contexts of reception and discourse around this experimental film call for a

whole range of heterogeneous readings, which will of course be taken into account below.

The experimental film *Koyaanisqatsi* is considered a paradigmatic work that critically reflects the effects of modern civilization on nature and human existence. In current social discourses on environmental destruction, technological acceleration, and the increasing alienation of humans from the natural world, the film is increasingly being perceived as a sensory experience and aesthetic experiment that triggers a deeper philosophical examination of time and space (Marks 2000; Villarmea Álvarez 2016; Grasso 2017).

Media studies research on *Koyaanisqatsi* has particularly highlighted the innovative cinematic techniques and synergetic collaboration between director Godfrey Reggio and composer Philip Glass (Reggio/Glass 2002). The audiovisual design of the film is considered an example of a (media) synaesthetic experience that transforms the consciousness of the viewer and immerses them in a multisensory perception (Filk/Lommel 2004: 9-10). In addition, film is explored as an immersive experience that not only represents time and space, but also makes these dimensions physically tangible in the viewer (Beugnet/Hibberd 2020).

In time-philosophical analyses, the representation and manipulation of time is in the foreground. Paul Virilio (1986) and Mary Ann Doane (2002), for example, emphasize the significance of time-lapse and slow-motion techniques, which make the acceleration and fragmentation of modern time tangible and thus encourage reflection on the nature of time and its effects on human existence (Baczewski 2014; Moraglio 2017). This perspective goes beyond the cinematic representation to a critical examination of the human-machine relationship and the question of how technological influences can distort and accelerate our understanding of time (Becker 2003).

Spatial-philosophical analyses, on the other hand, which have been less prominently represented so far, offer a consideration of the film in the context of the representation and meaning of space (Döring/Thielmann 2008). By juxtaposing natural and urban spaces, the film invites viewers to reflect on the *anthropogenic transformation* of the natural world and its consequences (Varner 2017). Scenes in which untouched nature is suddenly contrasted with industrial landscapes (Lippens 2019) are particularly striking – a visual commentary on human intervention and technological influence on the planet. This engagement highlights that *Koyaanisqatsi* not only raises questions about technological control over time, but also over space (Becker 2004: 265-269; Stephens 2010).

In education, *Koyaanisqatsi* is understood as a means of communication (Hauptmeier/Schmidt 1985: 67, 69) to promote media literacy, critical thinking and environmental awareness (Ministry of Education and Culture Saarland 2024: 23). In this respect, the film raises awareness of ecological challenges and sustainable ethics (Buckingham 2003; Orr 1992). The media-didactic added value of the narrative structure – or rather its deliberate absence – should be emphasized here, as it enables learners and teachers to develop a deeper understanding of the manipulative effect of audio-visual media on perception and reality.

1.4   Objective and structure of the article

The present article not only recognizes *Koyaanisqatsi* as an experimental film, but also places it in the broader context of media criticism and digital transformation. The film is examined as a *medium of reflection* that addresses central tensions between humans, technology and nature and points out the relevance of these problem areas in the context of the digital age. The media-aesthetic design of the film, which enables a deeper examination

of the challenges of modern civilization through the symbiosis of music and image, is of particular interest.

The visual and auditory design of *Koyaanisqatsi* creates a synaesthetic experience that encourages the audience to reflect intensively on the interactions between technological acceleration and ecological balance. This media aesthetic forms the basis for a critical perspective on the digital transformation and the relationship between humans and the media environments that surround them. The music, composed by Philip Glass, interacts with the visually presented impressions and supports the film's goal – beyond a narrative structure – of creating an immersive experience that immerses viewers in the tension between acceleration and alienation.

Another aim of this analysis is to shed light on the educational potential of *Koyaanisqatsi*. The film offers a valuable resource for media and environmental education, as it encourages learners and educators to critically examine the impact of audiovisual media and the ecological implications of technological modernization. These pedagogical implications highlight *Koyaanisqatsi* as a didactic tool that can help raise awareness of the manipulative power of the media and the need for a sustainable ethical attitude.

Overall, this essay provides an in-depth analysis that integrates perspectives from the philosophy and science of media, time, space, and education to understand the film's significance for contemporary debates in society about ecological and technological challenges. *Koyaanisqatsi* raises the question of how a society in the digital age positions itself between the urge for technological development and the preservation of its natural environment – a question that is more pressing today than ever before.

2.   Experimental film in the digital age

2.1   Definitional approach

In *A History of Experimental Film and Video* (1999), Alan Leonard Rees offers concise definitions that locate experimental film in central aspects. Two relevant explanations serve as starting points here:

Firstly, Rees describes experimental film as a film subject that deliberately sets itself apart from the conventions of narrative cinema, primarily through visual and narrative innovations. Experimental film emphasizes film *as a medium and as an independent art form*, and in this way, it approaches the visual arts, such as painting or sculpture. In this context, film is not understood as a mere narrative medium, but as a formal, aesthetic entity that appeals to the viewer in a new way and must be interpreted (Rees 1999).

Secondly, Alan Leonard Rees associates experimental film more with modern and postmodern art history than with conventional film history. In this sense, the genre – also referred to as 'avant-garde', 'absolute', 'pure' or 'non-narrative' – is not so much a chronological extension of traditional media history as a *critical commentary* on artistic and social developments in the 20th century. Rees (1999) highlights how experimental film is characterized by various styles and movements that function as critical reflections on audiovisual and cultural norms, thus challenging mainstream conventions.

In the digital age, which is heavily influenced by algorithmically generated offers and automated consumption schemes, experimental film plays a central role in resisting the homogenization of media content. Platforms such as Netflix, YouTube and other streaming services use algorithms to predict consumer habits and

customize content to reach a maximum audience (Van Dijck/ Poell/de Waal 2018; Hesmondhalgh/Meier 2019; Nieborg/Poell 2020). However, this leads to a homogenization and standardization of content (Han 2015), as the algorithms rely on familiar narrative structures and patterns to deliver mass-compatible offers. Experimental film, exemplified by works such as *Koyaanisqatsi*, offers a conscious counter-strategy. By dispensing with dialogue, using a non-linear structure and employing disruptive aesthetic techniques, the film challenges the audience to actively and reflectively engage with the content, breaking with the supposedly 'passive' consumption pattern promoted by algorithmic logic (Staab 2019).

In this way, *Koyaanisqatsi* is exemplary of how experimental film can function in the digital age as a critical and media-reflective medium that questions the mechanisms of reception, perception and aesthetic experience in a new and transformative way.

2.2 Potential of experimental film in the digital transformation

In today's media landscape, which encompasses a complex interplay of cinema, television, digital and social media, as well as increasingly algorithmic and AI-supported technologies, experimental film, a radical and often marginalized art form, is succeeding. From a media theory perspective, it can be seen that standardized narrative structures and formalized content are increasingly influenced by economic interests and algorithmically optimized distribution platforms (Filk 2020b). Streaming services and social networks use AI-based systems to analyze user behavior in order to offer personalized content tailored to the preferences of the audience. This process promotes a homogenization of content and reduces creative diversity, pushing niche formats such as experimental film into the background.

In this increasingly standardized media world, experimental film remains a space for radical creativity and innovation. An outstanding example of this is *Koyaanisqatsi*, which uses avant-garde imagery and repetitive, minimalist music by Philip Glass to create a unique audiovisual experience. The film defies the conventions of mainstream cinema and challenges the audience to an intensive reflection on nature, technology and society. At the same time, *Koyaanisqatsi* encourages self-reflection by questioning the way in which media consumption influences our perception of these issues.

A central feature of the digital media landscape is the algorithmic homogenization of content. Artificial intelligence and machine learning continuously analyze users' viewing habits to optimize content and generate tailored suggestions. Based on big data, these technologies identify consumption patterns in order to offer users content that matches their previous preferences and viewing habits. The result is a homogenization of content aimed at maximizing the satisfaction and predictability of consumption patterns, which limits creative diversity and marginalizes experimental formats.

In terms of media aesthetics (Schulze Heuling/Filk 2021), experimental film clearly stands out from the algorithmically generated content of the digital media world. While machine learning and AI focus on the recognizability and reproduction of existing patterns, experimental film offers an unpredictable and often disruptive aesthetic experience. By deconstructing sound and image, it creates new aesthetic dimensions that elude the predictability and conformity that algorithms often generate. This freedom in form and content allows experimental film to take on an alternative, subversive role in an increasingly homogenized media world.

Particularly in a media landscape characterized by standardization, experimental film has the special potential to function as a

creative counter-concept. It opens up spaces for subversive reflection and aesthetic freedom in which viewers and filmmakers can move beyond prefabricated structures and patterns (Rees 1999). This subversive function allows experimental film to expand thinking about media and their social significance and to create alternative spaces of perception that are rarely found in the mainstream.

2.3 Historical positioning of experimental film

From a media-historical perspective (Filk 2011: 14-18), experimental film has always positioned itself as a deliberate alternative to the conventions of mainstream cinema. As early as the 1920s, pioneers such as Dziga Vertov and Luis Buñuel were creating avantgarde works that developed alternative approach of narration and visual language (Rees 1999). Vertov's *Man with a Movie Camera* (1929) experimented with montage, unusual camera angles and rhythmic editing techniques to create a visual reflection of the modern, technologically influenced world. Similarly, Buñuel's *An Andalusian Dog* (1929) broke with logical and chronological forms of narration, instead creating a surrealist, dream-like cinematic experience that challenged the conventions of narrative film.

To this day, experimental film stands for artistic freedom and innovation by consciously crossing the boundaries of traditional film conventions and deconstructing established narrative patterns (Rees 1999; Jensen 2022). This film genre expands the possibilities of the medium by exploring new forms of representation and narration and enabling a critical examination of cinematic standards. Experimental films promote a creative openness that enriches the cinematic experience and opens up alternative perspectives that are rarely realized in conventional cinema.

Koyaanisqatsi adapts this tradition of the cinematic avant-garde and reinterprets it for an era characterized by technological progress and environmental issues. Director Godfrey Reggio uses the film's visual potential to stimulate critical reflection on modern society. By consciously avoiding conventional narrative structures and dialogue, *Koyaanisqatsi* develops a new form of cinematic narration that relies heavily on visual and auditory experiences. The combination of imposing, sometimes dystopian images (Nichols 1985) and the repetitive, minimalist music of Philip Glass creates an immersive effect that appeals to the viewer both emotionally and intellectually.

In this way, *Koyaanisqatsi* ties in with the historical avant-garde, but transforms its approaches for a modern, increasingly digitalized media landscape in which the role of *film as a critical medium* is becoming ever more important.

2.4 Subversive and reflexive functions of experimental film

Experimental film not only serves as an aesthetic projection screen, but also establishes itself as a medium of reflection and criticism that consciously works against established cinematic norms. While mainstream cinema relies on narrative coherence, character development and catharsis, experimental film deconstructs these expectations and challenges the audience to actively engage with the images and their meanings. Godfrey Reggio's *Koyaanisqatsi* is a paradigmatic example of how experimental film functions as a medium of social and ecological criticism, dispensing with traditional narrative structures and instead using visual and musical elements to address the relationship between humans, nature and technology.

Jack Solomon (1998) outlined the film as a "postmodern parody of traditional film documentaries" (quoted from Moraglio 2017: 576), which reflects the disharmony and meaninglessness of the mod-

ern world. This postmodern reading sees *Koyaanisqatsi* not only as a critique of the loss of natural resources, but also of the loss of cultural identity and a unified meta-narrative. The deconstruction of the linear narrative structure makes it clear that in the postmodern world, no universal, positive meta-narrative exists that could justify technological progress. Instead, the film's fragmentation and break with conventional documentary structures create a narrative void that stimulates viewers to critically reflect on modern society.

The potential of experimental film as a counter-position within today's media landscape (Rees 1999; Jensen 2022) is evident from the aesthetic and philosophical dimensions of *Koyaanisqatsi*. In the digital network society, which is qualified by algorithmic homogenization and standardized patterns of consumption (Filk 2020a), experimental film embodies an essential alternative. It opens up space for creative subversion and enables profound reflections that go far beyond the scope of conventional cinema. *Koyaanisqatsi* exemplifies how experimental film can exist as a critical medium in an increasingly standardized media world by deconstructing existing narrative structures and leading the viewer to a radically different, critical level of perception.

3. Media aesthetics

3.1 Visual aesthetics and cinematic technique

Koyaanisqatsi is characterized by a peculiar history of origin and production (Gold 1984). The experimental film was shot at various locations in the United States of America (USA) to effectively illustrate the contrasts between untouched nature and urban civilization (Bachauer 1984). (Walter Bachauer served as a dramaturgical consultant on the *Koyaanisqatsi* project.) Selected locations include the Pruitt-Igoe housing project in St. Louis, Missouri – a

symbol of failed urban planning – and Los Angeles, where scenes are dominated by hectic city traffic and industrial development. In New York City, impressive time-lapse shots of vibrant city life were captured, along with portraits of passers-by in Times Square.

A distinctive example of this is the iconic time-lapse sequence of the busy streets of Los Angeles, which captures the hustle and bustle of urban life (Sennett 2018). These sequences illustrate the accelerated representation of time and the constant movement in modern society (see figure 2 and 3). Furthermore, the film expres-ses a modern perception of time and space (Becker 2003; Becker 2004), which is reinforced by the cinematic means. Director God-frey Reggio deliberately avoided dialogue, which intensifies the immersive experience and allows viewers to directly immerse themselves in the natural and urban environment.

Figure 2: Screen shot of Koyaanisqatsi (time code 26:53) (CC-BY-SA)

Figure 3: Screen shot of Koyaanisqatsi (time code 40:46) (CC-BY-SA)

Koyaanisqatsi captivates with its special visual aesthetics, which were decisively influenced by Reggio's collaboration with camera-man Ron Fricke. The deliberate use of time-lapse and slow-motion shots, as well as impressive landscape sequences, creates a visual poetry that allows the audience to immerse themselves deeply in the cinematic world (Buhre 2012). These presentation codes question the ordinariness of modern life and visualize the changes caused by technological progress. The innovative imagery recontextualizes the relationship between humans and the environment and encourages critical reflection on the dynamics and tensions of modern society.

In an interview, Ron Fricke explained the technical challenges involved in producing *Koyaanisqatsi* and the innovative use of time-lapse technology, which forms the visual backbone of the film: "Time-lapse gives you a great opportunity to make mundane things look very strange." (Quoted from Buhre 2012; translation

C.F.). This realization underscores the media-scientific significance of time-lapse technology as a means of distancing ourselves from natural perception and highlighting the technologically accelerated world. By technologically expanding perception, the film opens up new perspectives on the interactions between humans and technology and emphasizes the role of the media as transformers of human experience.

Moreover, the particular time-lapse shots heighten the perception of the acceleration and restlessness of urban life (Sennett 2018). This technique, often associated in media philosophy with the *extension of human senses through technological means* (McLuhan 1964), shows the intensification and compression of events and time in modern society. Fast cuts and dynamic camera movements illustrate the hectic pace of modern life, while nature is shown in slow-motion shots as a symbol of calm and continuity. The visual aesthetics of *Koyaanisqatsi* thus reflect the modern condition, in which technology is experienced both as an extension of human possibilities and as a source of alienation, and underlines the film's critical examination of the antagonisms between "progress" and "sustainability" (see figure 4 and 5). Some image sequences are reminiscent of social documentary forms and formats (Renov 1993; Nichols 2010).

AFigure 4: Screen shot Koyaanisqatsi (time code 23:43) (CC-BY-SA)

Figure 5: Screen shot Koyaanisqatsi (time code 33:19) (CC-BY-SA)

Another striking example is the representation of the Glen Canyon Dam, whose massive structure is shown in time lapse to illustrate the enormous human control over nature and the ethical issues associated with it (see figure 6). The uplifting images of nature, made even more majestic by the use of slow motion, contrast sharply with the hectic scenes of urban life shown in time lapse. This technique, combined with the use of Philip Glass's music, which features repetitive patterns and gradual developments, creates an intense, almost hypnotic effect (Glass 1982).

Figure 6: Screen shot Koyaanisqatsi (time code 21:07) (CC-BY-SA)

In *The Skin of the Film*, Laura Marks (2000) highlights how the visual aesthetics of films create a sensory experience that transforms the consciousness and perception of the viewers. In *Koyaanisqatsi*, this is achieved through dynamic images of nature and urban environments that contrast the natural and man-made worlds. The film's aesthetic also requires the viewer to actively participate, not only by seeing but also by feeling and reflecting.

3.2 Music and soundscape

The music of Philip Glass (1982) plays a central role in the media-aesthetic analysis of *Koyaanisqatsi*. In his remarkable autobiography *Words Without Music* (Glass 2015), Glass sketches out his artistic approach and development, which is characterized by three essential insights. First, he describes how his childhood in Baltimore, his studies with Nadia Boulanger in Paris, and his collaboration with Ravi Shankar shaped his musical development. Second, he emphasizes the importance of repetition and structure in his music, which he regards as a means of creating profound emotional experiences. Thirdly, Glass emphasizes the cooperation with artists such as the director Robert Wilson and the poet Allen Ginsberg, who enriched his works and blurred the boundaries between different art forms.

These aspects are noticeably reflected in Glass's minimalist compositions (Potter 2000), which in *Koyaanisqatsi* not only serve as a background element but as a driving force. The music significantly enhances the emotional depth and meaning of the visual images (Glass 2015). Through the targeted use of repetition as a central stylistic device and subtle changes within the *repetitive structures*, the music reflects the development and transformation of the film's themes. The striking, almost reduced music in *Koyaanisqatsi* is characterized by repetitive and hypnotic structures (Schwarz 1996). Glass uses recurring melodies and rhythmic patterns that repeat in small variations, creating an intense atmosphere (Glass 2015). It is no coincidence that the soundtrack dispenses with complex harmonies and large musical leaps in favor of simple, escalating sequences that create an almost trancelike effect. This musical arrangement accentuates the feeling of restlessness and disintegration that the film visualizes.

The use of a deliberately small ensemble, consisting mainly of strings, organ, brass and choirs, gives the music sometimes mo-

numental and sublime, sometimes threatening and gloomy timbres. This underscores the impression of an increasingly accelerating, mechanized world and at the same time manifests a minimalist arrangement. Thus, the musical composition perfectly complements the film's visual language and encourages the viewer to experience the shots of nature and civilization in a reflective and hypnotic way.

The key role of music in the film's narrative structure is explained by Toni Hennig (o.J.): The musical design slowly transforms from serene, almost meditative soundscapes to lively, urgent rhythms that represent the chaos of the modern world. This fact demonstrates how the music supports and reinforces the development of the film – from calm images of nature to chaotic urban scenes. The musical transitions symbolize the imbalance between nature and technology and significantly influence the media representation of time and space in film.

In *Audio-Vision: Sound on Screen* (1994), Michel Chion argues that sound in film adds a *(syn-)aesthetic* dimension that expands and deepens visual perception. The collaboration between director Godfrey Reggio and Philip Glass in *Koyaanisqatsi* illustrates this impressively, with the music complementing and reinforcing the visual poetry. The repetitive and meditative nature of the music supports reflection on the cyclical and accelerated rhythms of modern life, thus expanding the audience's sensory experience. The *recursive patterns and rhythmic structures of the composition* reflect the monotony and uniformity of technological processes (Mertens 1983). The music has a hypnotic effect that draws viewers into the world dominated by technology.

In conclusion, it can be said that Philip Glass's music in *Koyaanisqatsi* functions as an integral part of the cinematic narrative. Through minimalist and repetitive structures (Schwarz 1996), it achieves a profound emotional and aesthetic effect. The close in-

terlocking of music, editing, and visual design enables a synaes-thetic experience (Filk/Lommel/Sandbothe 2004) that intensifies the *media studies analysis of time, space, and technological accelera-tion* in modern life. Through the deliberate manipulation of sound and image, the film creates an immersive reflection on the ten-sions between nature and technology, encompassing both philo-sophical and media-ecological dimensions.

3.3 Non-linear narrative structure and editing technique

Koyaanisqatsi is characterized by a non-linear narrative structure that stands in stark contrast to conventional patterns of narrative cinema and is clearly distinct from mainstream films. Instead of a coherent storyline, the film presents a fragmented sequence of images that address both natural phenomena and technological achievements. By dispensing with dialogue, the narrative frame-work is completely replaced by visual and auditory means, creat-ing a meditative space for the viewer. This space allows the audi-ence to interpret the images shown individually, without being steered into a predetermined story.

The editing technique in *Koyaanisqatsi* plays a central role in cre-ating this non-linear narrative structure. Sergei Eisenstein (1949: 72-83) emphasized the transformative power of montage, which allows new meanings and associations to be created by arranging images. This theory is impressively implemented in *Koyaanisqatsi*, in that the montage creates a narrative structure that is associa-tive rather than linear. Walter Benjamin (1936/1991: 576, 578, 582, 1132) supports this theory with his notion of *dialectical im-ages*, which determines how a new historical and critical perspec-tive can be opened up by the montage of images.

By juxtaposing images of nature and the city, *Koyaanisqatsi* cre-ates a visual dialectic that reveals the contradictions and tensions of modern existence. Matt Baczewski (2014: 5) compares visual

stability and instability with musical consonance and dissonance: "Objects, acting as chords, could possibly exist within and be identified as having dissonant or consonant relations." This analogy illustrates how the visual tension and collapse in *Koyaanisqatsi* are represented by the destruction of bridges and buildings as visual dissonance and untouched natural landscapes as consonance. This reflects the central theme of the film: the tension between the natural world and technological civilization.

The montage in *Koyaanisqatsi* thus functions not only as a cinematic method, but also as a philosophical approach that enables a dialectical reflection on the modern world. The rapid cuts between natural and urban scenes emphasize the contrasts and contradictions that are at the heart of the film's message. This technique creates a visual metaphor for the balance and imbalance in modern society, often showing destruction and construction, creation and destruction in rapid succession. This makes the dynamics and areas of tension in modern civilization visually tangible.

In conclusion, it can be said that the non-linear narrative structure and editing technique in *Koyaanisqatsi* contribute significantly to critical reflection on the relationship between people, nature and technology. Through associative montage and visual dialectics, the tensions and contradictions of modern existence are made visible, enabling the film to provide a profound media-scientific analysis of time, space and technological progress.

3.4 Medial (de-)constructions of space and time

The discourse on mediality and narrativity reflects profound *tends toward spatialization and temporalization*, which are significantly influenced by media studies theories. In *Der Man ohne Eigenschaften* (1930/1990), Robert Musil defines the dynamic relationship between space and time as a constantly moving structure

that imperceptibly influences fellow travelers (Sandbothe 1998: 4). This *reflexivity* is a central aspect of modern theories of space and time and has a lasting influence on our current understanding and perception of Kant's two forms of intuition ("Anschauungsformen") (Kant 1983). In recent decades, interest in models of space and time and their links to everyday experiences has increased considerably (Robertson 1998), which has led to an intensified interdisciplinary discussion between media studies, philosophy and sociology.

In an increasingly functionally *and informationally differentiated society*, spatial and temporal structures are decisively shaped by media processes (Thiedeke 1997: 12; Luhmann 1997: 190-412; Giesecke 2002: 11). Technical media function as synchronization instruments and chronometers, which influence the organization of action in modern societies through their clock function. Furthermore, these media impact the emotional realm of individuals and collectives, which is often perceived as time pressure and acceleration (Kirchmann 1998). Udo Thiedeke (1997: 249, 313) emphasizes the transformative effect of these media processes, which cause a shift from a functionally differentiated society to one controlled by information and media. In this new order, virtual realities and functional assertions play a central role, destabilizing and reconfiguring traditional structures of space and time.

In this context, the film *Koyaanisqatsi* anticipates a powerful reflection on the meaning of time in the modern world. By manipulating time, it allows the viewer to reflect critically on the acceleration of society and the inability to live in harmony with natural rhythms (Aveni 1991: 409-428). In media philosophy, the distortion of time is often interpreted as a form of *media temporality* that profoundly changes our perception and experience of reality. In this context, Mary Ann Doane (2002: 172-205) aptly coins the term "cinematic time". Massimo Moraglio (2017: 580-581) takes

up the thought of "time dissonance" and links it to the theory of the Italian chemist Enzo Tiezzi (2003), who has studied the discrepancy between biological and human time scales. Tiezzi argues that human resource consumption is "too fast" and not in line with the regenerative cycles of nature.

Matt Baczewski (2014: 15) analyzes the manipulation of time in film through time-lapse and slow-motion techniques: "The tempo is slowed down in order to emphasize the falling of the buildings, and to give the spectator a longer period of time to experience this falling." These cinematic techniques illustrate the discrepancy between natural and artificial rhythms and reinforce the criticism of a modern world that has been thrown off balance by acceleration and overstimulation. The distortion of time questions the artificial acceleration of society and highlights the alienation of humans from natural processes.

This preliminary analysis can be rediscoursed in a discussion of the ecological crisis and the concept of the Anthropocene, which addresses human intervention in planetary systems (Brennan/Lo 2010). *Koyaanisqatsi* foregrounds natural landscapes and phenomena, highlighting the cyclical and continuous nature of time, which stands in contrast to the linear and fragmented time of human civilization. This representation is reminiscent of Martin Heidegger's idea of "temporality" in *Sein und Zeit* (1927/1986), which emphasizes the importance of authentic time in human existence. The film illustrates how technological acceleration disrupts natural rhythms and cycles, and enables critical reflection on the effects of human activity on the environment.

The contemplative portrayal of nature opens up space for the viewer to reflect on fundamental questions of existence and the relationship to nature. A striking example of the manipulation of time in *Koyaanisqatsi* is the depiction of urban life, in which cars and people are shown at a rapid pace that contradicts the natural

flow of time. This acceleration, intensified by cinematic techniques such as fast cuts and dynamic camera movements, illustrates how modern life is dominated by haste, efficiency and productivity. At the same time, nature is presented in slow-motion shots as a space of calm and consistency. This visually and thematically highlights the gap between hectic civilization and unchanging nature. This encourages critical examination of the effects of modern life on the environment and on our individual perception of time.

Overall, *Koyaanisqatsi* presents a media-aesthetic critique that reveals the negative effects of technological progress on the environment and on society. Through visual staging and the targeted manipulation of time and space, it encourages intense reflection on the state of modern civilization. The film serves as a warning of the dangers of an unreflecting belief in progress and emphasizes the necessity of a more conscious approach to technology and nature.

3.5   Film as musical composition

A media studies analysis of *Koyaanisqatsi* reveals the film as a musical composition in which image and sound merge into an inseparable unity. Matt Baczewski (2014: 5) suggests that the film can be understood as individual frames functioning like chords: "Reggio and Glass frequently worked in conjunction in order to more effectively synchronize the two. This gives the film an inherent musical quality and flow […]." The close collaboration between director Godfrey Reggio and composer Philip Glass enables a symbiotic connection between visual and auditory elements, making the film seem like a visual-musical symphony.

This fusion creates an immersive experience in which rhythm, harmony and dissonance are central to both the visual and auditory elements. Philip Glass's minimalist music, shaped by repetiti-

ve structures and evolving motifs, enhances the effect of the images and lends them additional meaning. At the same time, the visual elements influence the perception of the music, creating a reciprocal dialogue that makes the film seem like a through-composed musical score.

The editing of cinematic techniques such as time lapse and slow motion, as well as rhythmic editing sequences, synchronize the pace of the images with the music. This synchronization enhances emotional and intellectual impulses in the audience and promotes deeper reflection on the topics presented. The non-linear narrative structure resembles a musical composition in which themes and motifs recur and are varied.

The ideas of dissonance and consonance are reflected in music and images, underscoring the film's central messages. Harmonious sequences of nature are contrasted with dissonant musical elements and hectic city scenes, once again highlighting the gap between natural order and human civilization (Sennett/Burdett/Sassen/Clos 2018). This tension encourages reflection on the environmental impact of technology and modernity, and shows how media can be used to convey profound meaning.

4. Philosophical and sociocultural dimensions

4.1 Criticism of belief in progress and the process of civilization

Massimo Moraglio (2017: 575) identifies *Koyaanisqatsi* as a "strong critique of modernity", a "manifesto against industrialization" and the "brutality of humankind against nature". Through the deliberate use of visual language and the avoidance of traditional narrative structures, the film focuses on the image compositions, which vividly depict the destructive consequences of industrialization and technological development. The absence of di-

alogue and explanatory text enhances the impact of the images and prompts the viewer to actively interpret them.

Paul Virilio's approach of "dromology" (1986) – the theory of speed as a central element of modern society – is used by Massimo Moraglio (2017) to analyze how *Koyaanisqatsi* presents acceleration and technologization as core problems of civilization. Through its visual representation of overcrowded cities, hectic traffic and machine-based production, the film shows the alienating effects of a society geared towards efficiency and speed. It addresses the impact of speed and technological progress on the human experience and the environment.

It becomes apparent: by combining these theoretical approaches, *Koyaanisqatsi* offers a comprehensive media studies reflection on the challenges of modernity. The criticism of progress and civilization is not only conveyed through the haunting imagery, but also through the deliberate use of cinematic means such as montage, rhythm and tempo. The film challenges the viewer to critically question the relationship between humans, technology and nature and encourages them to engage with the ecological, social and cultural consequences of unbridled progress.

4.2 Alienation through capitalism and industrialism

In his experimental film *Koyaanisqatsi*, director Godfrey Reggio stages a wordless but powerful visual critique of the destructive consequences of capitalism and industrialism. Through the targeted use of time-lapse and slow-motion shots, he illustrates the growing contrast between untouched nature and man-made urban and industrial landscapes. The title of the film, "Life Out of Balance", points to the central issue: the loss of the harmonious balance between humans and nature due to the insatiable greed for growth and technological domination.

Figure 7: Screen shot of Koyaanisqatsi (time code 01:15:03) (CC-BY-SA)

A central theme of the film is the deconstruction of capitalist dynamics, in particular the urge to expand, which is fueled by the ideology of growth (see figure 7). David Harvey (1982: 422-424) specifies this drive as capital's spatial fixation, which requires constant expansion and territorial expansion to generate profit and avoid economic crises. Reggio visualizes this dynamic through images of overcrowded cities, mass production and resource depletion. These depictions reflect both the alienation of the individual and the ruthless exploitation of nature to satisfy economic interests. The mechanical movements of the crowds in urban scenes symbolize the de-individualization and reduction of the individual to a functional role within an economic system.

This alienation of the human being is closely related to the theories of Karl Marx, especially his *concept of alienation in capitalism*. Marx describes how, in the capitalist system, man becomes part of the production machine and his creative potential is suppressed (Marx 1974: 8-9). The cinematic representation in *Koyaanisqatsi*, in which crowds of people flow through cities like the

cogs of a large gearbox, reflects this alienation and illustrates the transformation of humans into passive subjects of capitalist logic.

In addition, the film addresses the devastation of industrialism by directly juxtaposing images of nature and industry. The transformation of landscapes through massive construction projects and industrial facilities shows how mechanization and urbanization radically reshape the earth and threaten the integrity of natural systems (Sennett/Burdett/Sassen/Clos 2018). In *For Space*, Doreen Massey (2005: 8-15) criticizes the static conception of space promoted by industrialism and emphasizes the necessity of a relational understanding of space as a dynamic, interwoven system. *Koyaanisqatsi* takes up this perspective by focusing on the violence that industrialism inflicts on nature and ecosystems, and by illustrating the fragility of these systems and the disproportionate nature of human intervention.

In its emphasis on ecological destruction and social fragmentation, the film ties in with critical theory, particularly the works of Max Horkheimer and Theodor W. Adorno. In their *Dialektik der Aufklärung* (Horkheimer/Adorno 1944/1992: 129; translation C.F.), they examine the destructive consequences of instrumental reason: "What is kept secret is that the ground on which technology gains power over society is the power of the economically strongest over society. Technical rationality today is the rationality of domination itself. It is the coercive character of a society that has become estranged from itself." The founding fathers of the Frankfurt School argue that technological rationality, which was originally intended to emancipate, ultimately becomes the basis for control and domination of nature, and reduces people to a state of bondage. Reggio's film visualizes this through sterile, impersonal shots of factories, highways and machine parks, highlighting the dehumanization and alienation (see figure 8 and 9) resulting from the pursuit of efficiency and control.

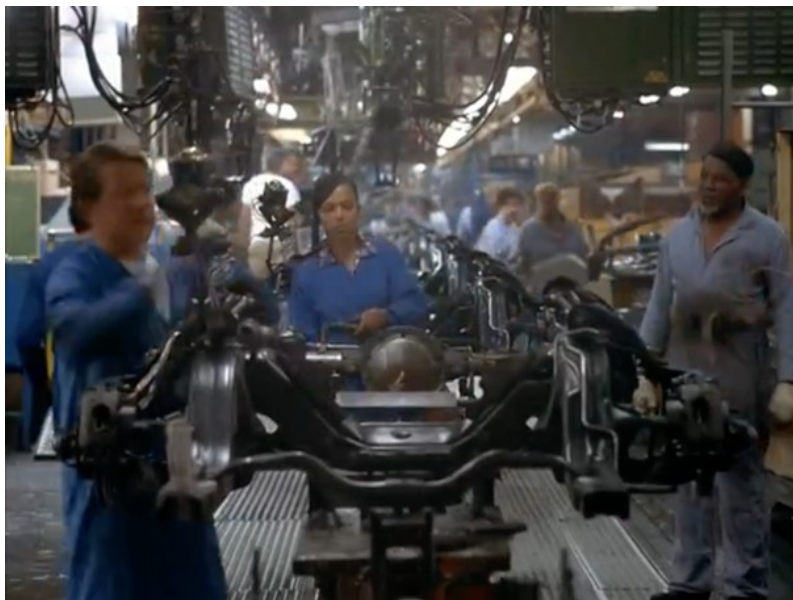*Figure 8: Screen shot Koyaanisqatsi (time code 56:32) (CC-BY-SA)*

Figure 9: Screen shot Koyaanisqatsi (time code 57:38) (CC-BY-SA)

In summary, *Koyaanisqatsi* deconstructs the destructive mechanisms of capitalism and industrialism. The film appeals to the audience to reflect on the moral and ecological sustainability of our economic and technological system, and calls for a realignment of the relationship between humans and nature (Brennan/Lo 2010). In the tradition of critical social theory, Reggio formulates an *artistic plea* against the subordination of life to an order that promotes expansion and productivity at any cost. He calls for a responsible approach to our environment and a more critical look at the social structures that enable this destruction.

4.3 Postmodernism and posthumanism

Koyaanisqatsi addresses central aspects of postmodernism and posthumanism, in particular the alienation of humans from nature and the dominance of technology over human life. The film shows how humans are integrated into a self-created technical system, which they increasingly lose control over. Posthumanist theories by authors such as Donna Haraway and Rosi Braidotti decentralize the human being as a central subject and emphasize the interconnection of humans, technology and non-human actors. Haraway (1985) calls for a re-evaluation of the relationships between the organic and the technological in her *Cyborg Manifesto*, while Braidotti (2013) in *The Posthuman* regards humans as part of a complex network. The film reflects these ideas to some extent by presenting humans not as autonomous subjects but as dehumanized elements of a mechanized system.

Iván Villarmea Álvarez (2016: 37) describes *Koyaanisqatsi* as a representation of a city in transition from modernity to postmodernity, in which industrial and post-industrial urban spaces are explored: "*Koyaanisqatsi's* cinematic city is a huge blinking space in which past, present, and future are closely intertwined." This metaphor of the constantly changing urban fabric reflects the fragmentation and complexity of postmodern cities. The film visu-

alizes the dissolution of traditional structures and the simultaneity of different time levels, which is characteristic of a *postmodern aesthetic*.

The connection to posthumanist topics is examined in various scientific works. In "*Koyaanisqatsi* and the Posthuman Aesthetics of a Mechanical Stare", Gary Matthew Varner (2017) analyzes the film in the context of posthumanism and environmental aesthetics. He shows how the film depicts the relationship between humans, technology and the environment and how it influences our understanding of the Anthropocene – an epoch in which human activities are the dominant influence on the environment. Similarly, Laura Leavitt (2019) also considers *Koyaanisqatsi* to be an early cinematic example of the Anthropocene. She discusses how the film visualizes the effects of human activity on the Earth and evokes both admiration and horror at the human capacity for environmental change. This dual perspective encourages critical reflection on the role of humans in the global ecological context. Finally, the National Museum of Australia (2018) also identifies the film in the context of the Anthropocene and emphasizes the disturbed relationship between humans and nature. The film is interpreted as a warning of the consequences of uncontrolled technological development and environmental destruction, with the demand to restore the balance between civilization and nature.

In all *Koyaanisqatsi* addresses the alienation of humans in a technological world and the transformation of urban spaces – central issues of postmodernism and posthumanism. The film questions traditional anthropocentrism and emphasizes the complex interrelations between humans, technology and the environment. By using modern cinematic techniques to criticize technological modernity, it reflects the contradictions of postmodern society. *Koyaanisqatsi* challenges the viewer to critically question the effects of technological dominance on the environment and con-

sciousness and encourages reflection on a reorientation of the human-nature relationship.

4.4 Urban transformation and creative destruction

Iván Villarmea Álvarez (2016: 35) discusses the aspect of "creative destruction" that commands urban decay and subsequent reconstruction: "[Reggio] documented the collapse of the modern metropolis through a modernist device full of contradictions: it uses high technology to criticise the use of high technology […]." (Villarmea Álvarez 2016: 37) This ambivalence makes it clear that *Koyaanisqatsi* reflects the destructive forces of modern capitalism by depicting urban decay and reconstruction, while at the same time cinematic technology itself becomes part of this critique. The film uses advanced technologies to question the negative effects of these same technologies on society and the environment.

Emblematically, the film points to micro- and computer technologies (see figure 10 to 13) as harbingers of digital, capitalist network economies and real-time financial markets (Han 2015: 43; Staab 2019: 20-21). These technologies symbolize the acceleration and complexity of the modern world and raise questions about the role of humans in a society dominated by technology. *Koyaanisqatsi* addresses the fragility of human existence within a technologically influenced environment. The depiction of crowds of people on escalators, in subways and on crowded streets as cogs in a mechanical transmission raises the question of whether modern civilization still recognizes the human being as an individual, sentient being or whether it reduces them to a functional element of a larger system.

Figure 10: Screen shot Koyaanisqatsi (time code 1:02:50) (CC-BY-SA)

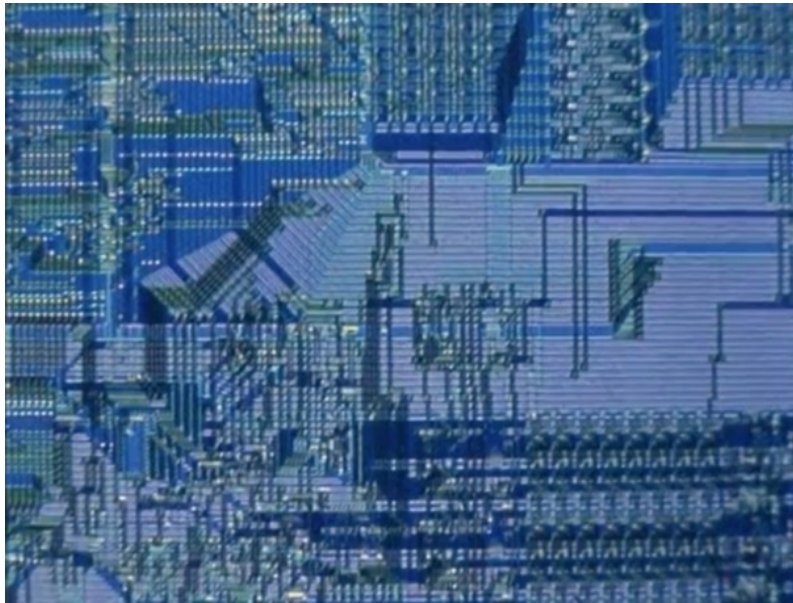*Figure 11: Screen shot Koyaanisqatsi (time code 55:21)(CC-BY-SA)*

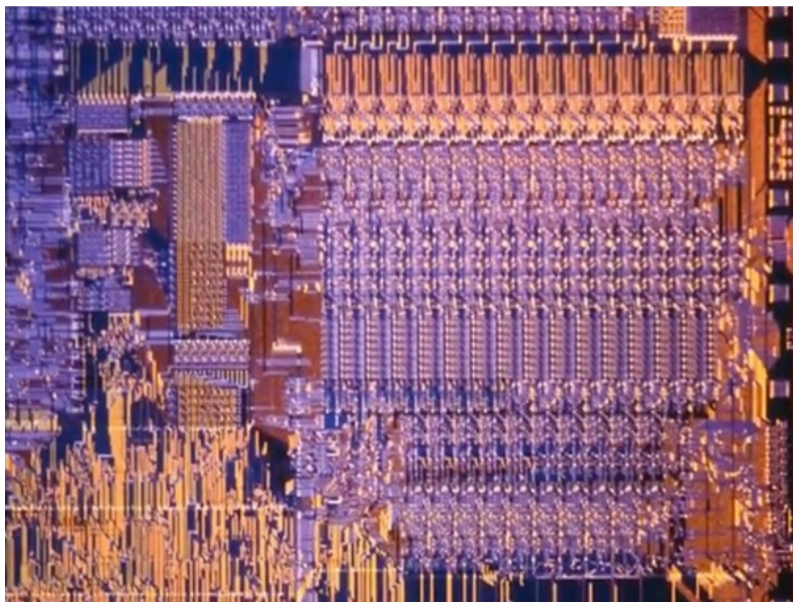*Figure 12: Screen shot Koyaanisqatsi (time code 1:06:44) (CC-BY-SA)*

Figure 13: Screen shot of Koyaanisqatsi (time code 1:07:13) (CC-BY-SA)

The analysis by Iván Villarmea Álvarez (2016) offers numerous perspectives on the postmodern city, creative destruction and the critique of technology in *Koyaanisqatsi*. Central themes such as the intertwining of past, present and future, as well as alienation in the urban landscape, can be explored in more depth with the help of his observations. The film uses time-lapse shots of urban landscapes and traffic to show the hustle and bustle of urban life, while slow-motion shots of natural phenomena suggest a timelessness and permanence that contrasts with the human world. This juxtaposition initiates a philosophical reflection on the nature of time and human existence.

Matt Baczewski (2014: 15) points out that the rhythmic quality of the film is created by the editing and processing in connection with the music by Philip Glass: "What is interesting about the editing of the sequence […] is that each specific explosion is never allowed to resolve itself before a cut is made to another, intact building that then explodes." This illustrates how the film uses rhythmic editing techniques to create tension and fragmentation. The rapid alternation between destroyed and intact buildings reflects the restlessness of the modern world and continuous destruction as a visual dissonance without resolution. This thematically and visually highlights the gap between hectic civilization and unchanging nature, promoting a critical examination of the effects of technological acceleration on the individual and collective sense of time.

Figure 14: Screen shot Koyaanisqatsi (time code 39:39) (CC-BY-SA)

Figure 15: Screen shot Koyaanisqatsi (time code 36:31) (CC-BY-SA)

Figure 16: Screen shot Koyaanisqatsi (time code 36:57) (CC-BY-SA)

Figure 17: Screen shot of Koyaanisqatsi (time code 37:14) (CC-BY-SA)

4.5 Technicity and exploitation

The film *Koyaanisqatsi* addresses the issue of the effects of technology and industrialization on nature and society. By combining visual aesthetics, innovative cinematic techniques and minimalist music, the film offers a profound analysis of modern civilization. In his contribution "*Koyaanisqatsi* in Cyberspace" (2003), Paul A. David (2003) compares the concept of "life in imbalance" with current challenges of the information society; today we would rather speak of a digital network society (Giesecke 2002; Filk 2020a, 2020b), especially the imbalance between private rights to intellectual property and public access to scientific and technical data. This perspective underscores the film's media- and technology-critical approaches, which are rooted in themes such as acceleration, postmodern criticism, and the dialectic between the natural and artificial world. In this sense, Paul A. David (2003) highlights the film's apocalyptic nature to point out the negative consequences of technological and legal changes in the field of intellectual property. Both the film and David's analysis serve as a warning of the long-term consequences of uncontrolled technological progress and the commercialization of knowledge.

The film visualizes technicity by juxtaposing untouched nature and technologically influenced habitats. It begins with impressive shots of landscapes, mountains and cloud formations, depicting a harmonious world without human intervention. These are contrasted with rapid sequences of cities, factories, and traffic, which underscore the ubiquity of technology in the modern world. The use of time-lapse and slow-motion techniques intensifies the impact of the images and symbolizes the acceleration of life through technological advances. Urban scenes show crowds of people in synchronized movements, suggesting the de-individualization and mechanization of human existence (Sennett 2018). Geometric shapes of buildings, streets and machines emphasize the artificial

structure of the technologized environment, not least when these structures are *creatively destroyed* (Villarmea Álvarez 2016: 35) (see figure 14 to 17).

The sequence showing production processes in factories is particularly impressive. The human being is depicted as part of a larger machine, reflecting Karl Marx's approach of alienation (Marx 1974). Work appears monotonous and meaningless as technology takes control. The minimalist music by Philip Glass complements these visual elements and reinforces the thematic message of the film. Repetitive patterns and rhythmic structures of the composition reflect the monotony and uniformity of technological processes (Mertens 1983). The music has a hypnotic effect that draws the viewer into the world dominated by technology.

A central theme of *Koyaanisqatsi*, as mentioned above, is the alienation of man from nature through technological development. The film shows the destructive effects of industrialization and urbanization on the natural foundations of life and the balance of life. This corresponds with the critical theory of Max Horkheimer and Theodor W. Adorno (1944/1992) in *Dialectic of Enlightenment*, which emphasizes the alienating and destructive aspects of technological rationality. The alienation of humans from nature is reinforced by the depiction of technological acceleration and urban rush, which destroys natural rhythms and cycles. This analysis coincides with the ecological critique of social theorist Murray Bookchin (1996: 18-49) in *The Philosophy of Social Ecology*, who regards the alienation of modern man from nature as a central cause of the ecological crisis, essentially commanded by social hierarchies, social inequalities and power structures.

5. Ecological and ethical perspectives

5.1 Staging nature as the subject

A central motif in *Koyaanisqatsi* is the media's portrayal, or more precisely, the staging of nature as the active subject and counterpoint to modern civilization. While the urban and industrial sequences of the film convey a sense of hustle and bustle, destruction and monotony (Sennett/Burdett/Sassen/Clos 2018), nature is presented as a place of calm, harmony and permanence. This juxtaposition evokes a strong emotional response in the viewer and highlights the consequences of technological progress and what is at stake.

The calm, slow shots of clouds, seas, deserts and forests (see figure 18 to 21) contrast sharply with the fast-paced, intense cityscapes. This visual contrast highlights the fragility of the natural world in an era dominated by technology and encourages reflection on how humans can find their place in the natural order without sacrificing the achievements of civilization. *Koyaanisqatsi* is a powerful media ecology work that highlights the growing gap between humans and nature, as well as the devastating environmental impact of technological progress (Brennan/Lo 2010; Hourdequin 2015).

Figure 18: Screen shot of Koyaanisqatsi (time code 13:06) (CC-BY-SA)

Figure 19: Screen shot of Koyaanisqatsi (time code 14:45) (CC-BY-SA)

Figure 20: Screen shot of Koyaanisqatsi (time code 06:14) (CC-BY-SA)

Figure 21: Screen shot of Koyaanisqatsi (time code 10:13)(CC-BY-SA)

The experimental film questions the extent to which modern civilization exists at the expense of the natural world and how technological developments not only destabilize the planet but also human life. The personalization of nature as an active subject is constituted above all in the recourse to the ecological philosophy of Arne Naess (1973: 98-99) in "The Shallow and the Deep, Long-Range Ecology Movement", which establishes the intrinsic value of nature and the necessity of a deep ecological ethic. Through the media staging of this philosophy, the film conveys a profound message about the relationship between humans and the environment. By presenting nature as a subject, *Koyaanisqatsi* challenges the viewer to question the ethical consequences of technological progress and to develop a new relationship with nature, thus contributing to a deeper media-scientific examination of environmental issues.

It is precisely this medial appeal structure of *Koyaanisqatsi* that calls on the recipients (Averbeck-Lietz/Meyen 2016) to question the consequences of technological modernity and to think about new, more sustainable ways of existence. *Koyaanisqatsi* is thus a media-ecological work that underscores the *transformative power of film as a medium of reflection* (Fülöp 2021) and ethical self-positioning in a complex world.

5.2 Human existence and the question of meaning

Koyaanisqatsi addresses fundamental questions about the meaning of human existence in a technologically dominated world. The film shows the alienation and futility of modern life, which is characterized by the acceleration and fragmentation of time. Through its portrayal of hectic urban landscapes, endless production lines and overcrowded transportation systems, *Koyaanisqatsi* illustrates the excessive demands placed on the individual in an increasingly complex and confusing environment.

Through powerful imagery and meditative music, the film invites viewers to contemplate the fundamental questions of human existence and meaning, and to explore the possibility of an authentic and meaningful existence in a technological world. The combination of visual and auditory elements creates a deeply moving and thought-provoking experience. The orchestral sounds of Philip Glass reinforce the visual message and create a symbiotic relationship between image and sound that reflects the inner turmoil and the quest for meaning in modern life.

By addressing the alienation of modern man and at the same time emphasizing the search for meaning and authenticity, the film combines media-aesthetic means with existentialist questions. The visual representation of the technological world and the contrasting meditative music create an atmosphere that invites the viewer to engage with the existential challenges of modern society. The repetitive image sequences and slow camera work symbolize the loss of individual identity and the monotony of everyday life, while at the same time subtle references to nature and its fragility are embedded, reminding us of the original foundations of human life.

Furthermore, *Koyaanisqatsi* addresses the duality of progress and destruction. The film shows impressive technological achievements, but often in a context of environmental destruction and social inequality. This juxtaposition encourages viewers to question the true cost of progress and to consider more sustainable ways of life. The juxtaposition of industrial facilities and urban centers with natural landscapes highlights the tensions between humans and nature, and between tradition and modernity.

Seen as a whole, *Koyaanisqatsi* offers a powerful reflection on human existence in a technological world. Through the clever combination of image and sound, the thematization of alienation and the search for meaning, as well as the critical examination of

progress and the perception of time, the film inspires or provokes a deep examination of the fundamental questions of life.

5.3 Crisis, destruction and ecocide

One of the most pressing issues in *Koyaanisqatsi* is the portrayal of technological acceleration and its environmental impact. Using time-lapse photography of cities, traffic flows and industrial production lines, the film illustrates the speed and extent to which the modern world has integrated technological innovations into everyday life. However, this acceleration is not presented as a positive achievement, but rather as a cause of man's alienation from nature and the destruction of the planet.

The "nuclear threat" plays a particularly important role here, to quote Günther Anders (1993: 93-105). Not only military, but also civilian use of nuclear energy can result in the ultimate destruction of humanity (see figure 22 to 24). The film visualizes this threat with haunting images that symbolize the dangerous consequences of nuclear technology for humans and the environment.

Koyaanisqatsi shows how technological processes – from mass production to urban expansion – disrupt natural rhythms and deplete the Earth's resources (Sennett/Burdett/Sassen/Clos 2018). The film challenges viewers to critically question how long this state of affairs can be maintained before the environment is irrevocably destroyed.

This cinematic representation is particularly relevant in the context of current discussions on climate change and ecological crises (Brennan/Lo 2010; Hourdequin 2015), as it critically reflects on the ongoing consumption of resources and technological interventions in nature.

Figure 22: Screen shot Koyaanisqatsi (time code 29:49) (CC-BY-SA)

Figure 23: Screen shot Koyaanisqatsi (time code 23:29) (CC-BY-SA)

Figure 24: Screen shot Koyaanisqatsi (time code 22:08) (CC-BY-SA)

5.4 Environmental destruction and natural disasters

Another central aspect of the ecological critique in *Koyaanisqatsi* is the portrayal of environmental destruction and natural disasters. The film presents powerful images of landscapes irreversibly altered by human intervention. Dams blocking waterways and megacities sprawling over natural habitats are the focus of this visual critique. These images elicit a strong emotional response from viewers, conveying the sense that humans are not only exploiting nature but also creating conditions that foster natural disasters.

The film draws a direct line between technological development and ecological crises by showing how human interventions in natural systems cause long-term damage. Forces of nature are presented as a reaction to human destruction, for example through extreme weather events and environmental disasters. This high-

lights the fragile and dangerous consequences of the imbalance between humans and nature.

An important location for the film is Horseshoe Canyon in Utah, where rock carvings from the *Fremont culture* can be seen in the experimental film, adding an historical context (Grasso 2017). The age and authorship of the geometric representations, animal symbols and figure patterns have not been conclusively determined (Pederson et al. 2014). In *Koyaanisqatsi*, petroglyphs appear as powerful symbols (see figure 25) that connect to the ancient knowledge of the Hopi and other Native American tribes and provide a visual reminder of humanity's centuries-long interaction with the Earth (Eidt 2011). These rock carvings serve as a bridge between the past and the present, showing the continuity of life and culture that is often overlooked in modern society. The depiction of these symbols in the film emphasizes the belief in the importance of harmony with nature and juxtaposes this archaic worldview with images of modern environmental destruction (Courlander 1987).

The petroglyphs also serve a prophetic role in the film, reflecting the Hopi believe of ko.yaa.nis.katsi, which means "life out of balance". In this context, the petroglyphs are more than just historical artifacts; they are warnings carved in stone. Their inclusion in the film highlights a cultural admonishment of the estrangement from natural cycles and suggests that ignoring such wisdom could lead to societal collapse. As *cultural memory*, the petroglyphs remind us that prehistoric knowledge continues to have relevance, especially in regard to current issues such as climate change and resource depletion.

Figure 25: Screen shot Koyaanisqatsi (time code 01:21) (CC-BY-SA)

Ultimately, the petroglyphs in *Koyaanisqatsi* symbolize a bridge between human history and the cosmic order, embodying the spiritual beliefs of the indigenous people. The petroglyphs represent not only a record of events, but a worldview that values balance and respect for life. The film uses these symbols to encourage viewers to reflect on the consequences of a world that has moved away from these values, and as an appeal for social self-examination and a return to more sustainable practices.

5.5 Environmental ethics and human responsibility

Massimo Morgaglio (2017: 578) criticizes the romanticized idea of nature in *Koyaanisqatsi*, arguing that the film presents "nature as harmony and freedom", which is, however, an idealized and culturally constructed view. This criticism prompts reflection on the extent to which the film itself is part of an all too empathetic understanding of the environment, which stylizes indigenous cultures as "living in harmony with nature". This discussion highlights the film's limitations and weaknesses with regard to a realistic

representation of nature and raises questions about the cultural construction of images of nature.

Furthermore, Massimo Moraglio (2017) emphasizes that *Koyaanisqatsi* does not seek to reconcile modern society and nature. Rather, the film presents the two worlds as irreconcilable and emphasizes the pure exploitation of planetary resources without any prospect of improvement or progress. This observation feeds into the analysis of the film's ecological ethics and shows how *Koyaanisqatsi* conveys a pessimistic view of technological progress. The film suggests that a return to a "natural" life seems unattainable. This dialectic between the natural and the artificial is reinforced by the contrasting visual language – nature shots versus urban landscapes – and the repetitive, minimalist music by Philip Glass.

Nevertheless, *Koyaanisqatsi* goes beyond the mere representation of environmental destruction, according to numerous readings of the film, and calls for a new ecological ethic based on respect and sustainability (Baxter 2005). The film shows that technological advances and economic growth must not come at the expense of nature if human civilization is to survive. This ecological ethic emphasizes the need to protect natural resources and to reshape the relationship between humans and the environment. Through the contrasting imagery of untouched nature and engineered habitats, the film demands a critical examination of the current approach to the environment.

In this context, the film raises the question of human responsibility for the preservation of the environment and how a balance between progress and sustainability can be achieved. *Koyaanisqatsi* challenges the viewer to think critically about their own consumption and the environmental impact of technological developments. This call for an ecological ethic is of central importance in the face of the climate crisis and the depletion of natural re-

sources, and reflects the urgent global challenges of our time. The ecological destruction and technological expansion depicted in the film are also closely related to the Anthropocene discourse, which examines the impact of human activity on planetary ecosystems. *Koyaanisqatsi* makes it clear that humans play a central role in changing the environment, but often neglect the long-term consequences of their actions. The question of human responsibility and the ability to bring about change is at the center of this ethical reflection and is intensified by the cinematic aesthetic.

In summary, *Koyaanisqatsi* offers an impressive ecological and ethical reflection on the role of humans in a technological world. The film not only shows the destructive effects of technology on the environment, but also calls for a new ecological ethic based on respect for nature and sustainability. At a time when the climate crisis and the overexploitation of natural resources are among the most pressing global problems, *Koyaanisqatsi* provides valuable impetus for a critical examination of human responsibility for the future of the planet. The film uses media-aesthetic means to visualize complex ecological and ethical issues and to stimulate discourse on a sustainable design for civilization (Gough/Scott 2003).

6. Educational implications

6.1 Media literacy and critical thinking

Koyaanisqatsi offers a wide range of opportunities to promote media education, ecological education and philosophical education. As an experimental documentary film that dispenses with conventional narrative structures and instead uses a powerful synthesis of image and sound, it opens up new perspectives on

how to teach media literacy, environmental awareness and philo-sophical reflection.

The film requires viewers to actively engage with the images shown and the underlying themes, which promotes the develop-ment of critical reflection skills and the ability to analyze and in-terpret media content (Staiger 1992: 98-99, 100-101, 104; Buck-ingham 2003). Its non-linear narrative style and the lack of dia-logue or explanatory texts encourage viewers to develop their own interpretations and to engage intensively with the visual rhetoric of the film. In the context of media education, *Koy-aanisqatsi* can be used as a didactic tool to motivate critical exam-ination of the role of the media in modern society. The film's vis-ual and auditory design allows for in-depth reflection on the ef-fects of media on perception and understanding of the world. By analyzing cinematic devices such as montage, time-lapse and slow-motion techniques, as well as the hypnotic music by Philip Glass, learners learn how media content is consciously designed to evoke certain emotions or convey messages. This examination promotes critical questioning of media content and contributes to an understanding of the manipulative power of media staging (Christ 2020).

The episode "Stealing First Base" of the television series *The Simp-sons* (season 21, episode 15), which was first broadcast on March 21, 2010 on the US channel Fox, provides a vivid example of the intermedial linking of media criticism. This episode takes up the central motif of *Koyaanisqatsi* (see figure 26 to 34): the imbalance in life and the effects of a highly technological and dehumanized society on the individual. As in the film, the tension between na-ture and culture is in the foreground, particularly in the depiction of the school environment and the experiences of the children.

The visual allusions to *Koyaanisqatsi* underscore the absurdity and alienating effect of everyday school life on students, who learn in

rigid structures and are controlled by surveillance technology. The episode uses stylistic elements and symbolic image sequences reminiscent of *Koyaanisqatsi's* cinematic vocabulary to establish a narrative level of social criticism. This episode highlights the potential of *The Simpsons* for media education: the series uses well-known cultural references to encourage its audience to reflect on social and technological developments and to promote media-critical awareness (Mihailidis 2020).

In a media studies context, the allusions to *Koyaanisqatsi* in this episode can be understood as an example of intermediality and intertextual references. The episode demonstrates how media content can be enriched by linking different media forms and discourses to address complex topics such as the technologisation of education and the resulting alienation of the individual. These intermedial references expand the narrative depth and appeal to the audience on different levels.

In media education science, the analysis of such intermedial links offers valuable approaches to discussing the significance and effects of technology on social structures and individual freedom (McCallum/Waller 2021). The episode "Stealing First Base" can serve as a starting point for exploring questions about the role of media in the construction of reality, the influence of perception and the potential for critical thinking. Conscious engagement with the stylistic devices and allusions used enables recipients – today mostly prosumers – to critically question media content and strengthen their own media literacy.

Figure 26: Screen shot of The Simpsons, "Stealing First Base"
(season 21, episode 15) (time code 00:08) (CC-BY-SA)

Figure 27: Screen shot of The Simpsons, "Stealing First Base" (season
21, episode 15) (time code 00:03) (CC-BY-SA)

Figure 28: Screen shot of The Simpsons, "Stealing First Base"
(season 21, episode 15) (time code 00:23) (CC-BY-SA)

Figure 29: Screen grab of The Simpsons, "Stealing First Base" (season
21, episode 15) (time code 00:57) (CC-BY-SA)

Figure 30: Screen grab of The Simpsons, "Stealing First Base"
(season 21, episode 15) (time code 01:02) (CC-BY-SA)

Figure 31: Screen shot of The Simpsons, "Stealing First Base"
(season 21, episode 15) (time code 01:05) (CC-BY-SA)

Figure 32: Screen shot of The Simpsons, "Stealing First Base"
(season 21, episode 15) (time code 01:05) (CC-BY-SA)

Figure 33: Screen shot of The Simpsons, "Stealing First Base"
season 21, episode 15) (time code 01:11) (CC-BY-SA)

Figure 34: Screen shot of The Simpsons, "Stealing First Base"
(season 21, episode 15) (time code 01:14) (CC-BY-SA)

6.2 Environmental education and ecological ethics

Koyaanisqatsi offers valuable approaches for environmental education and the promotion of ecological ethics. Through the powerful portrayal of the destruction of natural habitats as a result of technological developments, the film encourages reflection on the necessity of a sustainable and environmentally conscious way of life (Orr 1992). The visual power of the images makes the consequences of human intervention in nature immediately tangible and challenges the viewer to critically question their own interaction with the environment.

In environmental education, *Koyaanisqatsi* can be used as a didactic tool to raise awareness of ecological challenges such as climate change, resource consumption and sustainable development (Sterling 2001). Through the emotional impact of the images and the minimalist music by Philip Glass, the film not only conveys information but also promotes a profound ethical reflection on human responsibility for the environment. This reflection can

be integrated into the classroom to promote ecological ethics and sustainable lifestyles and to encourage students to question their own role in the conservation of natural resources (Gough/Scott 2003).

The film's editing technique plays a crucial role here and, in a media education context, offers the opportunity to provide a deeper understanding of non-linear narrative forms and the importance of visual language in cinematic art. By analyzing *Koyaanisqatsi*, both teachers and students can recognize how media design tools are used to visualize complex ecological and ethical issues. Furthermore, this technique opens up spaces for discussion about the ethics of progress and human responsibility towards nature (Lotz-Sisitka et al. 2015.) – central topics in media studies.

6.3 Philosophical education and contemplative practice

In addition to media and environmental education, *Koyaanisqatsi* offers valuable approaches for philosophical education (Heslep 1997; Raley/Preyer 2009; Haynes/Gale 2016), especially with regard to contemplative practices and the reflection of fundamental questions of human existence. The film deliberately avoids a linear plot and instead relies on a meditative representation of time, space and nature, thus offering viewers space for contemplative reflection (Noddings 1993).

In a related sense, cameraman Ron Fricke speaks of "non-verbal guided meditations": "And maybe there is also a spiritual component that drives us in this direction. The images are very powerful, they can communicate with you on a level where words simply cannot. It is a world without words." (Quoted from Buhre 2012; translation C.F.)

Through its slowness and the continuous juxtaposition of nature and civilization, the film invites viewers to reflect on the meaning of time and space in human life. In philosophy classes, *Koy-*

aanisqatsi can be used as a didactic tool to encourage reflection on temporality, impermanence, and the relationship between humans and nature. The film creates a contemplative experience that allows for deeper insights into philosophical questions of human existence.

Promoting a contemplative practice and deep reflection on fundamental questions of existence is especially important in a world characterized by rush and acceleration. *Koyaanisqatsi* offers a unique opportunity to encourage learners to pause and recognize the importance of consciously engaging with existential issues (Noddings 1993).

In the context of philosophy education, the film highlights the need to rethink the relationship between humans and nature. Through its meditative atmosphere and haunting images, *Koyaanisqatsi* enables an experience that goes beyond the purely intellectual level to include emotional and spiritual aspects. This promotes a holistic philosophy education that encompasses both critical thinking and contemplative practice.

6.4 Interdisciplinary approaches and sustainable education

Koyaanisqatsi opens up remarkable possibilities for interdisciplinary educational approaches that combine ecological, philosophical and media issues in a cross-curricular discourse. By closely linking scientific and humanities perspectives, the film creates a platform for integrative learning that fosters both analytical and creative skills. Topics such as *media and environment*, *technology and ethics*, or *space, time and existence* can be productively addressed through a collaborative approach by teachers of different disciplines.

The film's media design – with its specific visual language, the rhythmic alternation of speed and deceleration, and the concise musical background – serves as an intense starting point for re-

flection on the effect of audiovisual media on perception and interpretation. This not only enables students to engage cognitively with socially and ethically relevant issues, but also fosters their aesthetic and emotional sensitivity. They learn how audiovisual compositions shape their understanding of topics such as the environment and technology, and how images and sounds as media constructions influence their perception and reflection.

By using *Koyaanisqatsi* as an interdisciplinary educational tool, it supports a holistic education that goes beyond the communication of facts and triggers sustainable thought and perception processes (UNESCO 2017). Such educational approaches help to ensure that students reflect on the social responsibility of media and critically question their own role in the field of tension between technology and nature.

6.5 Transformative learning experiences

Koyaanisqatsi provides a foundation for sustainable educational practices that aim to create *transformative learning experiences* (Huckle/Sterling 1996; Stibbe 2009; Wals 2012). The film challenges recipients and prosumers to engage intensively with the environmental and social impacts of technological progress. This engagement can be used in an educational context to encourage audiences to critically question their own habits and advocate for sustainable and responsible practices.

The emotional and aesthetic impact of the film reinforces cognitive reflection, enabling transformative learning experiences that go beyond mere factual knowledge. *Koyaanisqatsi* creates space for a deep examination of questions of sustainability, ethics and human existence and can thus be used as a tool to inspire students to effect change in their own lives and in society (Sterling 2001).

All in all, *Koyaanisqatsi* offers a variety of opportunities to integrate media literacy, ecological ethics and philosophical reflection into the educational context. The film challenges viewers to actively engage with the images shown and encourages critical reflection on the relationship between people, nature and technology. This reflection can be used in the classroom to encourage students to critically examine their own media habits, environmental practices and existential questions, and to develop new ways of thinking and acting.

7. Conclusion

In my essay, I examine Godfrey Reggio's experimental film *Koyaanisqatsi* from a media-philosophical and educational perspective. The aim is to shed light on the tension between technology, nature and human alienation, as well as to work out the implications of the film for today's societies and educational approaches. The film invites us to reflect on the destructive effects of progress and calls for new ways of thinking and acting.

7.1 Media-aesthetic disruption and philosophical reflections

Koyaanisqatsi illustrates the role of the media as a mediator and shaper of reality and perception. The innovative use of time-lapse and slow-motion techniques makes the acceleration and fragmentation of the modern world visually tangible. The juxtaposition of untouched nature and technologically dominated civilization highlights the gap between humans and nature. This visual language emphasizes the alienation of humans in a highly technical society and opens up a space for contemplative reflection.

The minimalist music by Philip Glass plays a central role in this. Through its repetitive structure and hypnotic sounds, it enhances the meditative atmosphere of the film and enables a synaesthetic

experience in which image and sound merge into one. This aesthetic design elevates the film beyond traditional narrative structures and creates a space in which viewers must actively interpret the themes. In this way, *Koyaanisqatsi* becomes a media-philosophical work that emphasizes the transformative power of audiovisual media and their ability to ethically self-locate.

From a time-philosophical perspective, the film reflects on the manipulation of time and space by technical systems. It shows the destruction of the natural balance and challenges the recipients to reflect on the consequences of technological modernity and to develop new, more sustainable ways of life.

7.2 Criticism of technology and ecological ethics

Koyaanisqatsi is a scathing critique of the blind belief in progress and the associated social and ecological consequences. The film addresses environmental destruction, social fragmentation and the reduction of human beings to a functional role in the capitalist system. Drawing on Marxist and posthumanist theories, the human being is not portrayed as an autonomous subject, but as part of a complex, often destructive system.

Particularly impressive is the depiction of nature as an active subject and counterpoint to technological civilization. Images of untouched landscapes and natural phenomena highlight the fragility of nature and emphasize the need for an ecological ethic. The Hopi prophecies, quoted in the film, urge us to treat the Earth with respect. Metaphors such as "cobwebs in the sky" or a "container of ash that could destroy land and oceans" are urgent warnings about air pollution and nuclear threats.

The film questions dominant anthropocentric worldviews and invites a re-evaluation of the human role in the ecological fabric. It challenges viewers to critically reflect on the destructive effects of

technological progress and to develop alternative ways of life that are in harmony with nature.

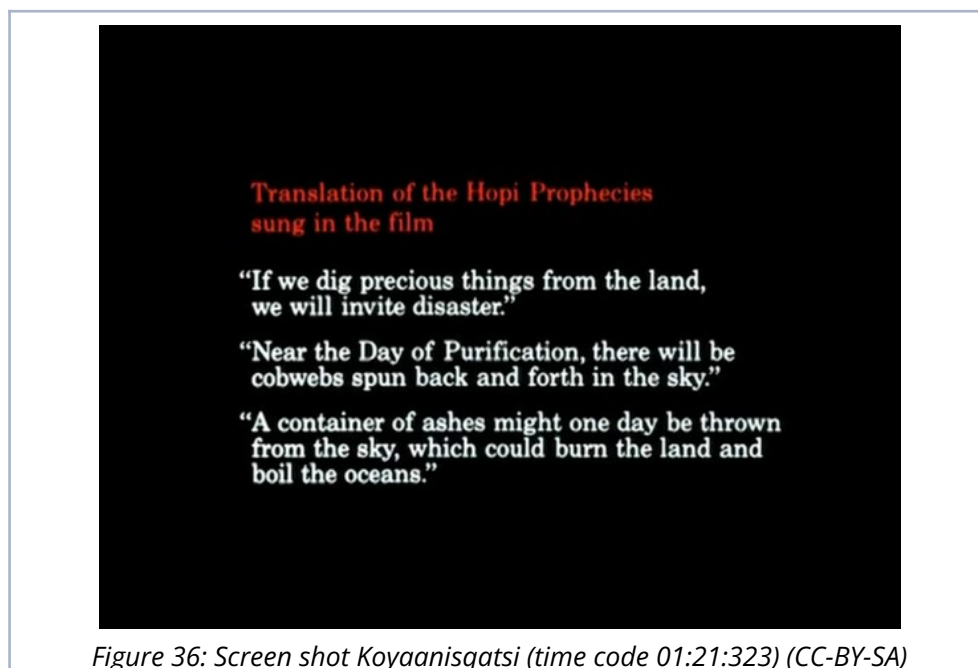## 7.3   Educational implications and transformative potential

From an educational point of view, *Koyaanisqatsi* offers a variety of opportunities to promote media literacy, critical thinking and environmental education. The innovative use of cinematic techniques can serve as a starting point for sensitizing students to the manipulative power of audiovisual media. At the same time, the film invites a deeper examination of ethical and ecological issues.

In the digital age, which is dominated by algorithmically controlled media content, *Koyaanisqatsi* offers a valuable alternative. The film resists the homogenization of the media world and, through its open, contemplative structure, encourages active reflection. This quality makes it a relevant tool for transformative education that goes beyond cognitive knowledge and can initiate sustainable changes in thinking and action.

Furthermore, the film supports interdisciplinary educational work. The combination of media-aesthetic, philosophical and ecological issues enables holistic learning experiences. Students are encouraged to reflect on existential topics such as time, transience and the relationship between humans and nature, and to develop independent solutions to the challenges of modernity.

7.4   Koyaanisqatsi as a warning sign

Koyaanisqatsi remains an outstanding work that combines discourses on media philosophy, technology criticism and education. The film acts as a wake-up call in a world embossed by technological progress and ecological crises (see figure 1, 35 and 36). It shows impressively how human activity destroys the balance of nature and appeals to the responsibility of each individual to promote sustainable and just ways of life (Hourdequin 2015).

Figure 35: Screen shot Koyaanisqatsi (time code 01:21:12) (CC-BY-SA)

Figure 36: Screen shot Koyaanisqatsi (time code 01:21:323) (CC-BY-SA)

With its universal themes and timeless aesthetics, *Koyaanisqatsi* inspires critical engagement with progress and alienation. It invites us to reflect on the challenges of technological modernity and to explore new paths of action – a powerful medium of critique and self-reflection that has lost none of its relevance in today's world.

Bibliography

Anders, Günther (1993): *Die atomare Drohung. Radikale Überlegungen zum atomaren Zeitalter*. 6., durch ein Vorw. erweit. Aufl. von "Endzeit und Zeitende", München: Beck.

Averbeck-Lietz, Stefanie/Meyen, Michael (Hg.) (2016): *Handbuch nicht standardisierter Methoden der Kommunikationswissenschaft*, Wiesbaden: Springer, DOI: https://doi.org/10.1007/978-3-658-01656-2.

Aveni, Anthony (1991): *Rhythmen des Lebens. Eine Kulturgeschichte der Zeit*, Stuttgart: Klett-Cotta.

Bachauer, Walter (1984): Ein Leben außer Balance und Kontrolle. Zur Entstehung des Films "Koyaanisqatsi" von Godfrey Reggio und Philip Glass, in: *MusikTexte – Zeitschrift für Neue Musik*, Heft 3, online: https://www.manafonistas.de/2017/01/31/philip-glass-koyaanisqatsi/#comment-21427 (letzter Zugriff: 09.11.2024).

Baczewski, Matt (2014): Silent Discord. Analyzing Film as Music through Koyaanisqatsi, in: *Valley Humanities Review*, Spring 2014, online: http://portal.lvc.edu/vhr/articles/BACZEWSKI.pdf (last access: 08.10.2024).

Badshah, Afzal et al. (2024): Big data applications. Overview, challenges and future, in: *Artificial Intelligence Review*, vol. 57, article number 290, DOI: https://doi.org/10.1007/s10462-024-10938-5.

Baxter, Brian (2005): *A Theory of Ecological Justice*, London: Routledge.

Becker, Andreas (2003): Die Kinematografische Perspektivierung der Zeit. Zur Geschichte der zeitlichen Raffung, in: *MEDIENwissenschaft: Rezensionen/Reviews*, Jg. 20, Nr. 1: 29-37, DOI: https://doi.org/10.17192/ep2003.1.2104.

Becker, Andreas (2004): *Perspektiven einer anderen Natur. Zur Geschichte und Theorie der filmischen Zeitraffung und Zeitdehnung (Film)*, Bielefeld: Transcript, DOI: https://doi.org/10.14361/9783839402399.

Benjamin, Walter (1936/1991): *Gesammelte Schriften, Band V. 1. Teil: Das Passagenwerk*, Frankfurt am Main: Suhrkamp.

Bergson, Henri (1911): *Time and Free Will. An Essay on the Immediate Data of Consciousness*, London: George Allen & Unwin.

Bertoni, Eleonora et al. (Eds.) (2023): *Handbook of Computational Social Science for Policy*, Cam, Switzerland: Springer, DOI: https://doi.org/10.1007/978-3-031-16624-2.

Beugnet, Martine/Hibberd, Lilly (2020): Absorbed in experience. New perspectives on immersive media Introduction, in: *Screen* 61:4: 586-593, DOI:10.1093/screen/hjaa054.

Bookchin, Murray (1996): *The Philosophy of Social Ecology. Essays on Dialectical Naturalism*, 2. Edition, Montreal: Black Rose Books.

Bostrom, Nick (2014): *Superintelligence. Paths, Dangers, Strategies,* Oxford: Oxford University Press.

Braidotti, Rosi (2013): *The Posthuman*, Cambridge: Polity Press.

Brennan, Andrew/Lo, Yeuk-Sze (2010): *Understanding Environmental Philosophy*, Acumen Durham; Publishing.

Buckingham, David (2003): *Media Education. Literacy, Learning, and Contemporary Culture*. Cambridge: Polity Press.

Buhre, Jakob (2012): Ron Fricke. Bei uns spielt das Bild die Haupt-rolle, online: https://www.planet-interview.de/interviews/ron-fricke/35658/ (letzter Zugriff: 15.11.2024).

Christ, William G. (2020): *Media Literacy in a Disruptive Media Environment*, New York: Routledge.

Courlander, Harold (1987): *The Fourth World of the Hopis. The Epic Story of the Hopi Indians as Preserved in Their Legends and Traditions*, Albuquerque: University of New Mexico Press.

Chion, Michel (1994): *Audio-Vision. Sound on Screen*, New York: Columbia University Press.

David, Paul A. (2003): *Koyaanisqatsi in Cyberspace: Koyaanisqatsi in Cyberspace*. *The economics of an 'out-of-balance' regime of private property rights in digital data and information*, Stanford: Stanford University, online: https://econwpa.ub.uni-muenchen.de/econ-wp/dev/papers/0502/0502007.pdf (last access: 15.11.2024).

Doane, Mary Ann (2002): *The Emergence of Cinematic Time. Modernity, Contingency, the Archive*, Cambridge: Harvard University Press.

Döring, Jörg/Thielmann, Tristan (Hg.) (2008): *Spatial Turn. Das Raumparadigma in den Kultur- und Sozialwissenschaften*, Bielefeld: Transcript.

Eidt, Jack (2011): Hopi Legend. Koyaanisqatsi and World Destruction, online: https://wilderutopia.com/traditions/hopi-legend-koyaanisqatsi-and-world-destruction/ (last access: 10.11.2024).

Eisenstein, Sergei (1949): *Film Form. Essays in Film Theory*, New York: Harcourt, Brace.

Elsaesser, Thomas/Hagner, Malte (2015): *Film Theory. An Introduction through the Senses*. 2. Edition, New York: Routledge, DOI: https://doi.org/10.4324/9781315740768.

Filk, Christian (2009): *Episteme der Medienwissenschaft. Systemtheoretische Studien zur Wissenschaftsforschung eines transdisziplinären Feldes*, Bielefeld: Transcript.

Filk, Christian (2011): *‚Medialität' – ‚Historizität'. Versuch einer epistemischen Verortung von Mediengeschichten und Geschichtsmedien in den letzten 30 Jahren*, Berlin: Avinus.

Filk, Christian (2020a): Überschreitungen und Entgrenzungen durch 'Datafizierung' – 'Europäische Medienkulturwissenschaft' im strukturellen digitalen Gesellschaftsumbruch, in: Wagner, Hedwig (Hg.): *Europäische Medienkulturwissenschaft. Zur Programmatik eines Fachs*, Bielefeld: Transcript: 61-111, DOI: 10.14361/9783839445570-003.

Filk, Christian (2020b): "Die Maschinen werden zu einer einzigen Maschine" – Eine technikphilosophische Reflexion auf Computational Thinking, Künstliche Intelligenz und Medienbildung, in: *Medienimpulse: Beiträge zur Medienpädagogik*, Jg. 58, Nr. 1, S. 1-53, DOI: 10.21243/mi-01-20-18.

Filk, Christian/Lommel, Michael (2004): 'Media Synaesthetics' – Eine Einleitung, in: Filk, Christian/Lommel, Michael/Sandbothe, Mike (Hg.): *Media Synaesthetics. Konturen einer physiologischen Medienästhetik*, Köln: Halem: 9-21.

Filk, Christian/Lommel, Michael/Sandbothe, Mike (Hg.): *Media Synaesthetics. Konturen einer physiologischen Medienästhetik*, Köln: Halem.

Fülöp, Erika (2021): *Fictionality, Factuality, and Reflexivity Across Discourses and Media*, Berlin/Boston: De Gruyter, DOI: https://doi.org/10.1515/9783110722031.

Giesecke, Michael (2002): *Von den Mythen der Buchkultur zu den Visionen der Informationsgesellschaft. Trendforschungen zur kulturellen Medienökologie*, Frankfurt am Main: Suhrkamp.

Godfrey Reggio/IRE Collection (2024), online: https://harvardfilm-archive.org/collections/the-reggio-ire-collection (last access: 10.11.2014).

Godfrey Reggio Foundation (2024), online: https://www.god-freyreggiofoundation.org/ (last access: 09.11.2014).

Glass, Philip (1982): *Koyaanisqatsi. Original Soundtrack*. Nonesuch Records, online: https://philipglass.bandcamp.com/album/philip-glass-koyaanisqatsi-complete-original-soundtrack (last access: 09.11.2024).

Glass, Philip (2015): *Words Without Music. A Memoir*, New York: Liveright Publishing Corporation.

Gough, Stephen/Scott, William (2003): *Sustainable Development and Learning: Framing the Issues*, London: Routledge.

Gold, Ron (1984): Untold Tales of Koyaanisqatsi, in: *American Cinematographer*, vol. 65, nr. 3: 62-74.

Grasso, Michael (2017): Life Out Of Balance: The Impact and Legacy of Koyaanisqatsi. We Are the Mutants, online: https://wearethemutants.com/2019/04/30/young-life-out-of-balance-the-impact-and-legacy-of-koyaanisqatsi/ (last access: 10.11.2024).

Han, Byung-Chul (2015): *Psychopolitik. Neoliberalismus und die neuen Machttechniken*, Frankfurt am Main: Fischer.

Haraway, Donna J. (1985): A Cyborg Manifesto. Science, Technology, and Socialist-Feminism in the 1980, in: *Socialist Review* [USA], vol. 15, nr. 2: 65-107.

Hauptmeier, Helmut/Schmidt, Siegfried J. (1985): *Einführung in die Empirische Literaturwissenschaft*, Braunschweig/Wiesbaden: Vieweg.

Haynes, Johanna/Gabe, Ken (2016): *Philosophy and education: An introduction to key questions and themes*, London: Routledge.

Harvey, David (1982): *The Limits to the Capital*, Oxford: Basil Blackwell.

Heidegger, Martin (1927/1986): *Sein und Zeit*. 16. Aufl. Unveränd. Nachdr. der 15., an Hand der Gesamtausg. durchges. Aufl. mit den Randbemerk. des Autors im Anhang, Tübingen: Niemeyer.

Heslep, Robert D. (1997): *Philosophical thinking in educational practice*, Westport, CT: Praeger.

Hennig, Toni (o.J.): Die menschliche Lebenswirklichkeit als hypnotischer Klangstrudel. Philip Glass' Koyaanisqatsi, online: https://www.laut.de/Philip-Glass/Alben/Koyaanisqatsi-97254 (letzter Zugriff: 15.11.2025).

Hesmondhalgh, David/Meier, Leslie M (2019): *What the Digital Economy Does to Culture. Media, Markets, and Creativity*, London: Sage Publications.

Horkheimer, Max/Adorno, Theodor W. (1944/1992): *Dialektik der Aufklärung. Philosophische Fragmente*, Frankfurt am Main: Fischer.

Hourdequin, Marion (2015): *Environmental Ethics. From Theory to Practice*, New York: Bloomsbury.

Huckle, John/Sterling, Stephen (Eds.): *Education for Sustainability. Principles and Practice*, London: Routledge.

Jensen, Jorun (Ed.) (2022): *Experimentalfilm zwischen Kunst und Kino. Texte von Christiane Rüffert*, Marburg: Büchner.

Kant, Immanuel (1983): *Kritik der reinen Vernunft*. 5., erneut überprüfter reprografischer Nachdruck, Darmstadt: Wissenschaftliche Buchgesellschaft.

Kaufmann, Fabian (2015): *Our shining beast. Godfrey Reggios Koyaanisqatsi zwischen conditio humana und conditio americana*, Baden-Baden: Nomos.

Kirchmann, Kay (1998): *Verdichtung, Weltverlust und Zeitdruck. Grundzüge einer Theorie der Interdependenzen von Medien, Zeit und Geschwindigkeit im neuzeitlichen Zivilisationsprozeß*, Leverkusen: Leske + Budrich.

Krüger, Steffen (2024): Media Studies and the Psychosocial Subject, in: Frosh, Stephan/Vyrgioti, Marita/Walsh, Julie (Eds.): *The Palgrave Handbook of Psychosocial Studies*, Cham: Palgrave Macmillan: 733-756, DOI: https://doi.org/10.1007/978-3-031-30366-1_4.

Latour, Bruno (1993): *We Have Never Been Modern*, Cambridge, MA: Harvard University Press.

Leavitt, Laura (2019): The Wonders and Terrors of Humanity's Impact on Earth. Featuring stunning landscape photography, the documentary *Anthropocene* surveys a new era of human-driven geology, online: https://hyperallergic.com/519159/anthropocene-the-human-epoch-documentary (last access: 15.11.2024).

Leitgöb, Heinz/Prandner, Dimitri/Wolbring, Tobias (2023): Editorial. Big data and machine learning in sociology, in: *Front. Sociol.* 8:1173155, DOI: 10.3389/fsoc.2023.1173155.

Lippens, Ronnie (2019): Mega/City/Crime. Notes on the Cultural Significance of Reggio's *Koyaanisqatsi* (1982), in: *International Journal for the Semiotics of Law – Revue internationale de Sémiotique juridique*, vol. 32: 713-730, DOI: https://doi.org/10.1007/s11196-018-9581-x.

Lotz-Sisitka, Heila, et al. (Eds.) (2015): *Critical Realism, Environmental Learning and Social-Ecological Change*, London: Routledge.

Luhmann, Niklas (1997): *Die Gesellschaft der Gesellschaft [in zwei Teilbänden]*, Frankfurt am Main: Suhrkamp.

Massey, Doreen (2005): *For Space*, Los Angeles/London/New Delhi/Washington, D.C.: Sage.

MacDonald, Scott (2012): The Qatsi Trilogy. Celebration and Warning, online: https://www.criterion.com/current/posts/2592-the-qatsi-trilogy-celebration-and-warning (last access: 09.11.2024).

Marks, Laura U. (2000): *The Skin of the Film. Intercultural Cinema, Embodiment, and the Senses*, Durham/London: Duke University Press.

Marx, Karl (1974): Zur Kritik der Politischen Ökonomie, in: Marx, Karl/Engels, Friedrich: *Werke. Bd. 13*, Berlin [DDR]: Dietz: 1-160.

Moraglio, Massimo (2017): Revisiting Koyaanisqatsi (1982). Time, Speed, and Western Movies, in: *Zeithistorische Forschungen*, Jg. 14: 575-581, DOI: https://doi.org/10.14765/zzf.dok.4.1079.

McCallum, Kerry/Waller, Lisa (2021): *Media Literacy for Citizenship. A European Perspective*, New York: Routledge.

McLuhan, Marshall (1964): *Understanding Media: The Extensions of Man*, New York: McGraw-Hill.

Mertens, Wim (1983): *American Minimal Music*, London: Kahn & Averill/New York, NY: Broude.

Mihailidis, Paul (2018): *Media Literacy and the Emerging Citizen. Youth, Engagement and Participation in Digital Culture*, New York: Peter Lang Publishing.

Ministerium für Bildung und Kultur Saarland (2024): *Katholische Religion. Lehrplan Neunjähriges Gymnasium, Klassenstufen 7 und 8. Redaktionell veränderte Fassung (Juli 2024)*, Saarbrücken: Ministerium für Bildung und Kultur Saarland, online: https://www.saarland.de/SharedDocs/Downloads/DE/mbk/Lehrplaene/Lehrplaene_Gymnasium_neunjaehriges_23/kath.Religion/lp_kr_7u8_g9_gy.pdf?__blob=publicationFile&v=2 (letzter Zugriff: 11.11.2024).

Musil, Robert (1930/1990): *Der Mann ohne Eigenschaften, Band I: Roman*, Reinbek bei Hamburg: Rowohlt.

Naess, Arne (1973): The Shallow and the Deep, Long-Range Ecology Movement, in: *Inquiry*, vol. 16: 95-100, online: https://iseethics.wordpress.com/wp-content/uploads/2013/02/naess-arne-the-shallow-and-the-deep-long-range-ecology-movement.pdf (last access: 15.11.2024).

National Museum of Australia (2018): Koyaanisqatsi. Life Out of Balance, online: https://www.nma.gov.au/explore/features/violent-ends/koyaanisqatsi (last access: 15.11.2024).

Nichols, Bill (Ed.) (1985): *Movies and Methods. An Anthology*, Berkeley: University of California Press.

Nichols, Bill (2010): *Introduction to Documentary*. 2nd Edition, Bloomington: Indiana University Press.

Nieborg, David/Poell, Thomas (2020): *Platforms and Cultural Production*, Cambridge: Polity Press.

Noddings, Nel (1993): *The Challenge to Care in Schools: An Alternative Approach to Education*. New York: Teachers College Press.

Nguyen, Dennis/Dekker, Ivonne/Nguyen, Sergül (Eds.) (2020): *Understanding Media and Society in the Age of Digitalisation*, Cham: Switzerland: Palgrave Macmillan, DOI: https://doi.org/10.1007/978-3-030-38577-4_2.

Orr, David W. (1992): *Ecological Literacy. Education and the Transition to a Postmodern World*, Albany: State University of New York Press.

Pederson, Joel L. et al. (2014): Age of Barrier Canyon-Style Rock Art Constrained by Cross-Cutting Relations and Luminescence Dating Techniques, in: *Proceedings of the National Academy of Sciences of the United States of America*, vol. 111, nr. 36: 12986-12991,

online: https://www.pnas.org/doi/epdf/10.1073/pnas.1405402111 (last access: 15.11.2024).

Potter, Keith (2000): *Four Musical Minimalists. La Monte Young, Terry Riley, Steve Reich, Philip Glass*, Cambridge: Cambridge University Press.

Raley, Yvonne/Preyer, Gerhard (Eds.) (2009): *Philosophy of education in the era of globalization*, New York: Routledge.

Rees, Alan Leonard (1999): *A History of Experimental Film and Video. Form the Canonical Avant-Garde to Contemporary British Practice*, London: British Film Institute.

Reggio, Godfrey/Glass, Philip (2002): On *Koyaanisqatsi*, online: https://www.youtube.com/watch?v=PK03KKcdzl0 (last access: 11.11.2024).

Renov, Michael (1993): *The Social Documentary Tradition: A Critical History*, Minneapolis: University of Minnesota Press.

Robertson, Roland (1998): Glokalisierung. Homogenität und Heterogenität in Zeit und Raum, in: Beck, Ulrich (Hg.): *Perspektiven der Weltgesellschaft*, Frankfurt am Main: Suhrkamp: 192-220.

Sandbothe, Mike (1998): *Die Verzeitlichung der Zeit. Grundtendenzen der modernen Zeitdebatte in Philosophie und Wissenschaft*, Darmstadt: Wissenschaftliche Buchgesellschaft.

Schulze Heuling, Lydia/Filk, Christian (Eds.) (2021): *Algorithmic and Aesthetic Literacy – Emerging Transdisciplinary Explorations for the Digital Age*, Opladen/Berlin/Toronto: Budrich.

Schwarz, K. Robert (1996): *Minimalists*, London: Phaidon Press.

Seel, Martin (1993): Vor dem Schein kommt das Erscheinen: Bemerkungen zu einer Ästhetik der Medien, in: *Merkur: Deutsche Zeitschrift für europäisches Denken*, vol. 47, nr. 9/10, 770-783.

Sennett, Richard (2018): *Building and Dwelling: Ethics for the City*, New York: Farrar, Straus and Giroux.

Sennett, Richard/Burdett, Ricky/Sassen, Saskia/Clos, Joan (2018): *The Quito Papers and the New Urban Agenda*, London/New York: Routledge.

Stibbe, Arran (Ed.) (2009): *The Handbook of Sustainability Literacy. Skills for a Changing World*, Totnes: Green Books.

Solomon, Jack (1998): Our Decentered Culture. The Postmodern Worldview, in: Berger, Arthur (Ed.): *The Postmodern Presence. Readings on Postmodernism in American Culture and Society*, Walnut Creek: AltaMira Press: 35-50.

Staab, Philipp (2019): *Digitaler Kapitalismus. Markt und Herrschaft in der Ökonomie der Unknappheit*, Berlin: Suhrkamp.

Staiger, Janet (1992): Film, Reception, and Cultural Studies, in: *The Centennial Review*, vol. 36, nr. 1: 89-104, online: http://www.jstor.org/stable/23739835 (last access: 14.11.2024).

Stephens, Gregory (2010): *Koyaanisqatsi* and the Visual Narrative of Environmental Film, in: *Screening the Past*, issue 28, online: https://tlweb.latrobe.edu.au/humanities/screeningthepast/28/koyaanisqatsi-visual-narrative-of-environmental-film.html (last access: 11.11.2024).

The Simpsons (2010): Episode "Stealing First Base" (season 21, episode 15). First broadcast on March 21, 2010 on the US channel Fox, online: https://www.youtube.com/watch?v=6x_Eijnn1Ak (last access: 10.11.2024).

Thiedeke, Udo (1997): *Medien, Kommunikation und Komplexität: Vorstudien zur Informationsgesellschaft*, Opladen/Wiesbaden: Westdeutscher Verlag.

Tiezzi, Enzo (2003): *The End of Time*, Southampton: Wit Press.

UNESCO (2017): *Education for Sustainable Development Goals. Learning Objectives*, Paris: UNESCO Publishing.

Van Dijck, José/Poell, Thomas/de Waal, Martijn (2018): *The Platform Society. Public Values in a Connective World*, Oxford: Oxford University Press.

Varner, Gary Matthew (1997): *Koyaanisqatsi* and the Posthuman Aesthetics of a Mechanical Stare, in: *Film Criticism*, vol. 41, nr. 1 (2017), online: https://www.jstor.org/stable/48731273 (last access: 11.11.2024).

Villarmea Álvarez, Iván (2016): Blinking Spaces. Koyaanisqatsi's Cinematic City, in: Walton, David/Suárez, Juan A. (Eds.): *Culture, Space, and Power*, Lanham/Boulder/New York/London: Lexington Books: 33-43.

Virilio, Paul (1986): *Speed and Politics: An Essay on Dromology*, New York: Semiotext(e).

Wals, Arjen E.J. (Ed.) (2012): *Learning for Sustainability in Times of Accelerating Change*, Wageningen: Wageningen Academic Publishers.