

Taking Measures
An Introduction

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This book's title—*Taking Measures*—has a double meaning: as a reference to the practices of measurement and to the political potential of power and resistance. The focus is placed on the formats of film and video art, in which the technologies and ideologies of measurement, their many validity claims and areas of application are addressed. Artistic media are subject to various practices of measurement. They are described and evaluated according to their size and proportions, depth and width, length and duration, rhythm, timing, and so on. These categories are aesthetic, but they are also effective in a social and political sense, as they subject the use of artistic media to certain conditions of production and distribution. It is here that format as a decisive category comes into play.

The designation of film formats such as 35 mm, 16 mm, or 8 mm, for example, is determined by the width of the filmstrip, which in turn corresponds to the size and aspect ratio of the single frames, as well as the duration of the film projection at a given frame rate. Magnetic videotape formats such as U-matic, Betamax, and VHS, or digital-media formats such as floppy disc, CD-ROM and DVD are defined according to their image resolution, running time, and storage capacity. As units or ensembles of technical specifications, formats are the result of historic processes of industrial standardization subject to the imperatives of uniformity and profitability. Format standards guarantee technical compatibility as well as economic competitiveness on the global market. They determine not only the technical conditions under which images and sounds circulate, but also where and by whom they are seen and heard, the speed at which they travel, the channels through which they are distributed, and how effective or affective they are. Thus, formats determine the conditions under which images and sounds come to be publicly accessible and how they are used as measures in specific contexts.

In view of its significance for artistic and curatorial practices, the format as a theoretical concept has become the focus of increased attention. Despite their differences, many recent approaches share a common objective, namely, to address the use of formats in ways that are not exclusive to artistic practice. (1) The focus lies on artistic practice "after art," (2) on the multiple dependencies of artistic production, its technologies, and methods on political or economic interests. In this regard, David Joselit speaks about format as a structure or a "connective tissue," (3) wherein the worldly entanglements of images—the techniques of their production, the efforts

(1)
See, e.g., the approaches to "format" by David Joselit, Jonathan Sterne, David Summers, Benoît Turquety, Haidee Wasson, and many others.

(2)
I am alluding to David Joselit, *After Art* (Princeton and Oxford: Princeton University Press, 2013).

(3)
David Joselit in conversation with David Andrew Tasman, "Against Representation," *DIS Magazine*, 2015, <http://dismagazine.com/discussion/75654/david-joselit-against-representation/>.

associated with their creation, the mode of their circulation, the historical conditions of their making—become visible.

The techniques of measuring time and space that have accompanied film and video throughout their history to today are subject to various processes of negotiation in the interest of science and politics, industry, and commerce. Consequently, film and video have themselves served as measuring devices for scientific and analytical purposes, whereby they are employed beyond exhibition spaces and movie theaters in a variety of fields such as anthropometry, criminology, biometrics, forensics, statistics, robotics, operations research, and tactical analysis in sports and military intelligence. In these fields, they have contributed to the acquisition and sharing of knowledge, to research and investigation to the same extent as they have been involved in the “politics of large numbers” (4) (Alain Desrosières) and the history of the “mismeasure of man” (5) (Stephen Jay Gould)—in the governmentally and ideologically motivated production of evidence through the collection and management of useful data. However, in acknowledging these dependencies, in view of which art puts its autonomy at risk, also lies the opportunity for art to test its own effectiveness in public space and to uncover potential for resistance in artistic action. Formats indeed regulate the use of artistic media, in so far as they are scripts that contain guidelines for action through which historical knowledge and experience are accessed and distributed. At the same time, however, they are a showplace for negotiating, verifying, or dismissing the knowledge and experience they make available in standardized form.

Finally, formats represent a particular challenge in the conservation and curation of collections. On the one hand, in addition to the works of media art that exist in obsolete formats, the technological systems and devices on which they can be played must also be preserved and kept in working order. On the other hand, the question arises as to the conditions under which these works should be converted into current digital formats to ensure that they can be exhibited in the future and possibly to retain a work’s original artistic concept—or even to realize this concept for the first time in situations in which it was impossible under the prevailing historical technological conditions. Conversely, conscious artistic recourse to “retrograde technicity” (6) (Gabriele Jutz) can also be considered an act of undercutting technological standards, which is associated with subversive modes of format usage. Formats can circulate between the areas of normative and alternative usage or can be recontextualized through acts of appropriation and translation. In addition to the artistic decision in favor of a particular format, institutional practices also come into focus since they determine whether or how films and videos come to be exhibited in the specific contexts of museums and cinemas as well as on television and the Internet.

The book opens with a visual essay by THOMAS JULIER that is arranged like an edited film. The series *Carrion Crow*, composed from eleven photographs that were carefully selected from countless shots to produce a narrative, were taken in the winter of 2021 in the Jardin du Luxembourg in Paris. It shows two crows flying towards the statue David vainqueur de Goliath and settling on it, with the Tour Montparnasse in the background. The series refers to the experimental beginnings of photography, in which image sequences played

(4)
Alain Desrosières, *The Politics of Large Numbers: A History of Statistical Reasoning*, trans. Camille Naish (Cambridge, MA: Harvard University Press, 2010).

(5)
Stephen Jay Gould, *The Mismeasure of Man* (New York: Norton, 1981).

(6)
Gabriele Jutz, “Retrograde Technicity and the Cinematic Avant-garde: Towards a New Dispositif of Production,” *Recherches sémiotiques / Semiotic Inquiry* 31, nos. 1–2–3 (2011): 75–94.

a central role, as well as to the ambiguous symbolism of crows that figure prominently in literature and the arts. Here, the photographs are combined with digital images generated from text descriptions with the AI system DALL·E, thereby exploring the tensions between the rigorous metadata registered by the photographic camera and the images generated from texts by the neural network. The captions of the AI images refer to the text inputs on which they are based, while the captions of the photographs indicate the time they were taken, which the camera records in the metadata of the file. The essay’s title—48.84723148033432, 2.3373877651102917—specifies the geo-location, which was also recorded by the camera. The relationships between images and data, their “good connections,” are also the subject of the contribution by UTE HOLL in which she considers the challenges that arise from the fact that in using mobile devices as travelers, workers, or migrants we navigate in digital and physical worlds at the same time. Considering the deep ambivalence of data operations and the areas of their application, she still claims the image worlds generated from data as a space that opens up new possibilities for action and the networked sharing of knowledge. Such possibilities are explored in her film *Amitié* (2020), made together with Peter Ott, which puts the usage of computed images in the service of friendship. Combining both hypothetical and empirical data derived from research on the media practices and skills of migrants, the film creates a world of image data on the basis of 3D scanning technology provided with the LiDAR camera. She places the use of this technology in a genealogy that Harun Farocki traces in *Images of the World and the Inscription of War* (1988) from the photogrammetry invented by Albrecht Meydenbauer in the 19th century to the aerial photography in warfare, which is further explored by VOLKER PANTENBURG in his contribution on images as measuring devices. He develops his argument from working material that is held in the Harun Farocki Institute’s archive, among it the filmed performance around the screening of Farocki’s film *Before Your Eyes: Vietnam* at the 1982 Berlinale. In the performance, Ronny Tanner, who in the film plays a US pilot, explains how his military mission involved the comparison of aerial photographs of a village, while Farocki assumes the role of a group of Vietnamese children gathering around him and asking him questions. Pantenburg is particularly interested in the performance as demonstration of a “dialectic between measuring and interpreting (mathematics and hermeneutics).” He follows this idea through the working material in the archive, confronting Farocki’s *Images of the World and the Inscription of War*, a film on the entanglements of the photographic image with technologies of measuring, with archival material shot in an early stage of its production, in which a group of children is gathering around two statues in the collection of classical antiquities in the Berlin State Museums, among them a blind girl that touches the statues and shares her sensations with the others. While this material did not make it in the finished film, Pantenburg argues that it serves as a “potential counterimage” to the optical operations of measuring, while the children may be understood as “antagonists to the technocrats and forensic focus of police and military laboratories.”

Such haptic experience, emerging from the repeated viewing and scrutinizing of archived film material at the editing table, is further explored by ALEXANDRA NAVRATIL, who looks at

Krakatau, a Dutch expedition film from 1930 that she encountered during her research at the Eye Filmmuseum's archive. She describes three short sequences of a volcanic eruption on the Indonesian island of Krakatau, viewed in slow motion, with emanating clouds dissolving the image into formlessness, followed by explosions of ash and smoke that seem to blend with scratches and dust on the film's material base. This view is measured against the lines of an altitude scale drawn in black paint on a window pane, through which the eruption appears as if seen through a crosshair, and the lines of inserted seismograms that nervously register the volcanic activity. Against these measurements, the image appears even more enigmatic, "a dense undecipherable text" that is poetically evoked by the author's words, borne of a close encounter with the material that comes to resonate with the haptic experience contained in the archival substrata of Farocki's images as measuring devices. The elusiveness of the film image, its almost alchemical potential to transform matter, informs also DOROTA SAJEWSKA's essay, in which she contemplates time in the cinematic and anthropological work of Maya Deren (Eleonora Derenkowska), the Ukrainian-born American film director, writer, and performer, as well as a researcher of Haitian culture. Deren's films attempt to measure time through the body as a medium that exists in both the natural world and social reality, allowing her to connect a deeply subjective experience of time with its passage independent of human beings. In her work, the body becomes the manifestation of multidirectional energy and chiasmatic matter that enters into a dynamic and reflexive relationship with moving images and different temporalities. Of interest to Deren are not the particularities of experience or identity, but what the author, borrowing from Elizabeth A. Povinelli, calls "the entanglement of existence," from which more-than-human commonalities may emerge.

The following essays are grouped together as contributions to the uses of formats in artistic film practice. Written in the form of a manifesto for the future of an obsolete format, PHILIPP FLEISCHMANN makes an argument for analog film that he has been using in a series of works on the architectural dimensions and institutional relations of exhibition spaces—from Vienna's Secession Building in *Main Hall* (2013) to the Venice Biennale's *Austrian Pavilion* (2019)—in which he quite literally explores the filmstrip as "a unit of measurement and interaction" in actual space. Frequently, the filmstrip is itself exhibited as in his recent *Film Sculptures* (2022), in which a 16 mm film is being projected while the filmstrip is made visible at the same time. By renouncing film's utilization both to reproduce a continuous image of reality through the succession of single frames and to create a visual abstraction of it, his works create a space "in which the politics of descriptive representation appear negotiable." Quite the contrary, for MARIJKE VAN WARMERDAM "everything can be a film" independently from the analog or digital technologies she uses to make her films. Her text is a personal reflection on her work, an assurance and review of her artistic practice that takes as its point of departure Migros Museum's invitation to consider a digital version of *Koor* (*Choir*, 1997), a work from the museum's collection devised for the projection of two 16 mm films. In their respective stances, the contributions by Warmerdam and Fleischmann enter in a dialog about the divergent practices that shape the field of contemporary

artistic film practice. Jean-Luc Godard's *Le Livre d'image* (2018–), which JACQUELINE MAURER discusses in her contribution, transforms the challenges posed to films by different exhibition venues and their format standards into what the author, with Nicole Brenez, one of the collaborators on the film, calls the "multiformities" of its variable installations. From its first installation at the Théâtre Vidy-Lausanne in 2018 to its reception at the Château de Nyon in 2020, where it was disassembled and recomposed in aleatory and dispersed ways, *Le Livre d'image* has been presented in different forms and formats, whereby the spatial and historical characteristics of each venue become inscribed in the work and its site-specific viewing experience.

In the context of decolonization, the issue of formats relates to quite different challenges that BENOÎT TURQUETY explores in his contribution on UNESCO's support of anti-institutional struggles to empower film production through the use of substandard formats in "developing" countries. Following the independence of former African colonies, the United Nations announced two development decades in the 1960s and 1970s, in which the promotion of local ecosystems of film production and education became gradually associated with light media. Of the many discussions on this subject held at UNESCO's round tables in these years, Turquety considers the report by Mario Ruspoli in favor of a "direct cinema for developing countries," presented at the roundtable in Beirut in October 1963, particularly important, because it envisioned radical new ways of film practices to result from economical and versatile technical structures. In reconstructing the discussion on the political potential of small film formats from UNESCO's archived documents, he also explores the obstacles, in particular the dependence of technical networks on electricity, that eventually turned this project into a failed utopia, but also paved the way for the informal or illegal power structures from which Nollywood emerged. The issue of formats is again entangled with the history of colonization and anti-colonial struggle in my text that discusses works by Stan Douglas, some of which, as his *DCTs* (2016–) and *ISDN* (2022), are quite obviously named after particular technical standards. By aligning formats as scripts of interaction to notions of habit, to which Bourdieu ascribed symbolic violence, my text aims to explore the transformative potential that arises from moments of breakdown, of the disruption of communication and data transmission within media infrastructures. In displaying imaginary or fictional scenarios as well as technically elaborate processes in which such moments of breakdown uncover the otherwise invisible infrastructures and their investment in power relations, Douglas's works represent particularly compelling instances of a repurposing of formats to envision other forms of relating through the disconnection from habitual experience.

In a next constellation of texts, relations between measure and value come to the fore. The short or long duration of films that deviate significantly from the standard length of feature films offer particularly interesting cases for interrogation with the dominant production and attention economies of the cinema and the gallery. In her essay on Wang Bing's *15 Hours* (2017), ERIKA BALSOM reflects on the film's duration after which it is titled. Shot continuously during one working day, in a Chinese garment workshop for children's clothing that employs hundreds of thousands of migrant workers, the film

chronicles the labor conditions of these workers who are paid according to the number of pieces they can sew in a given time. Having premiered at documenta 14, the film was shown at the Gloria cinema in Kassel as well as the National Museum of Contemporary Art in Athens, where it was unlikely to have been seen in its entirety by any viewer. Placing the focus on digital technologies that have offered new possibilities of durational recording, Erika Balsom considers the “chimera of endlessness” as an interrogation of standardized forms of cinematic experience. Continuous recording is both acknowledged in its duplicative and transformative potentials, endowing the image with a sense of inexhaustibility that deliberately contrasts with the enforced efficiency of the workers’ gestures the camera ceaselessly records. From a complementary perspective, LAURA WALDE looks at the economy of the short film as it is explored in James Kienitz Wilkins’s *This Action Lies* (2018), commissioned by the BMI, Geneva’s biennale of the moving image, on a budget of \$10,000. In the film, the only thing we see is a hot take-away coffee, shot on three single rolls of 16 mm film, in different lighting setups as if staged for an advertising spot, while we hear the filmmaker’s voiceover speaking about how he invested all his money in his commissioned artwork and is now trying to figure out how to make money from it to pay his rent and afford his daughter’s future college education. In performing the role of an artist in a commercial context, he navigates, as the author argues, in “the continuum between artistic integrity and capitalist commerce by way of a quasi-archaeological use of language and technical formats.” The question if we “buy into” the film is thus explored in its notions of value generation, appreciating the gesture of the artist’s “selling himself short” as an act of witty apology. The issue of surplus value generated by intellectual labor is also addressed by WARREN NEIDICH who considers the transition from an information- and knowledge-based economy to one he describes as neural- or brain-based. Regarding brain-computer interfaces and related neural technologies, he argues that their accumulation in the sociocultural and economic spheres will affect the material brain, producing what he calls the “superordinate precariat” of late cognitive capitalism. Advanced technologies, such as telemetric and telepathic devices, are discussed for their ability to create immersive unreal memories: the political consequence of which is a “collapse of the freedom of choice” under the conditions of cognitive labor. However, telepathy’s capacity for poetic dissonance also attests to the potentials for resistance and mental proficiency that can be achieved through neural plasticity.

The last three essays of the book are concerned with the measuring and monitoring of bodies and behavior in scientific research, and the irritations that result from their transfer into the aesthetic sphere. HANNES RICKLI’s contribution is a reflection on his audiovisual installations that make tangible the digital work of scientific measuring devices and infrastructures. For this purpose, in his collaborative projects he has devised his own measuring systems to make perceptible the commonly unobserved research on animal behavior conducted in biological laboratories and in fieldwork. In the artistic investigation of research laboratories in Paris, Zurich, Spitzbergen, and Austin, Texas, he touches on the question of the agency of biological matter and energies in creating the knowledge

gained from their monitoring and measuring, as well as on the networks that organize the cooperation of the human and non-human actors in these research environments. The transition from analog to digital practices, having shifted research from the realm of observable phenomena to the black boxes of discrete processes, plays an important role here, as they have created media-ecological infrastructures and data environments whose artistic exploration itself requires elaborate technologies to make the operations in these black boxes perceptible. Discussing Dani Gal’s film *White City* (2018), BURCU DOGRAMACI is concerned with measurements in the biopolitics of nationalism and modern architecture. The film centers on the historical encounter between Arthur Ruppin and Hans F. K. Günther, who met in 1933 for an exchange on their theories of race. A key supporter of the early Zionist settlement in Palestine, Ruppin adopted the idea of a Jewish race on which National Socialist racist thought, as advocated by Günther, was founded. *White City* stages their encounter at the Weissenhof Estate built in 1927 as a showcase for modern architecture and is imagined in the film as an Arab housing colony. The author examines how the film uneasily conflates the ideologies that become associated through measuring practices, thereby relating Zionism, Nazism, Modernist architecture, and the Nakba. By looking at the photographic media depicted in the film, she shows how it also reflects the participation of these media in the history of measuring for ideological purposes. The book concludes with a conversation between URSULA FROHNE and EYAL WEIZMAN, founding director of Forensic Architecture, on *forensis* as a critical practice. Beginning with an explanation of the meaning of *forensis*, the conversation revolves around Forensic Architecture’s investigative work, which takes inspiration from the original idea of forensics as that which belongs to the forum as the public space. Weizman describes its specific approach to the production of evidence in and against the problematic historical resonances of forensic methods. Considering it as a form of counter-forensics, *forensis* has served as a critical practice for the contestation of political and juridical crimes, as in the case of the unresolved murder of Halit Yozgat by the National Socialist Underground on April 6, 2006. To investigate the plausibility of the testimony given by Andreas Temme—the German domestic intelligence agent who was present at the time of the murder yet claims to not have witnessed it—the series of events was restaged in an accurate architectural model of the family-run Internet café where Halit Yozgat was shot, while in parallel, digital simulation technologies were applied to provide further evidence. In their conversation, Frohne and Weizman discuss *The Murder of Halit Yozgat* (2017) together with *Sea Watch vs The Libyan Coastguard* (2018) and *The Beirut Port Explosion* (2020) as attempts to establish new ways of collaborative truth production based on research data.

In the authors’ considerations, a variety of questions are addressed: How can formats themselves, as the measures of art, be exhibited? In which sense can they be addressed as the “connective tissue” that relates spaces, bodies, experiences, and memories? How can they be put in relation to exhibition spaces and their economies of valorization in an institutionally critical way, and how can this relationship be assessed? What challenges and possibilities arise regarding the history of formats and the response of reformatting in

artistic and curatorial practice? In which non-artistic practices of measurement, of the production of knowledge and evidence in the interest of useful research, are formats involved? In what way can artistic practice not only make these involvements visible but challenge and test them? In what way can it engage in the negotiation, in the rejection or defense of such categories as knowledge or truth? How can it subversively interact with the history of the “mismeasure of man” by repeating historical strategies of the legitimization of racist and colonialist views in compliance with media technological standards? How can technologies of measurement and data analysis in art be used politically and made operative for the public sector?

This book has evolved from a series of dialogs between artists and researchers. It began with the planning of a common symposium as part of the SNSF project “Exhibiting Film: Challenges of Format” at the Migros Museum für Gegenwartskunst in Zurich in March 2020 that was thwarted by the first lockdown, and then developed into what is now the video gallery of conversations, essays, and films launched on www.takingmeasures.ch in January 2021. (7) For this volume, the video contributions again had to be transformed to meet the requirements of the printed pages of a book. Inadvertently, the project itself became an instance of its subject, while navigating through different media and formats. The result is thus far removed from a usual conference volume, having evolved from a process of interruptions and reconsiderations.

This publication would not have been possible without the participation and advice of a number of individuals and institutions, to whom I would like to express my gratitude. I wish to thank my collaborators on the side of the Migros Museum für Gegenwartskunst, Michael Birchall for the indispensable support and involvement in the publication as well as Nadia Schneider Willen in the video symposium that preceded the book. For the project “Exhibiting Film: Challenges of Format,” from which the book originated, we received generous support from the Swiss National Science Foundation, without which our endeavor would not have been possible. The publication of this book was enabled by research funding from the University of Zurich. Carla Gabrí and Laura Walde who completed their dissertations as part of the project, contributed significantly to the project activities as researchers and are acting as co-editors of this book. Diliara Frühauf provided valuable editorial assistance.

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Above all, I thank the authors who contributed to this book for their unwavering commitment and patient work on the project

sustained by intellectual friendship and common spirit. Many of the disruptions the project faced were transformed by them into serendipitous findings and creative reinventions.

Fabienne Liptay, February 2023

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The video symposium was realized in a cooperation between the University of Zurich and the Migros Museum für Gegenwartskunst. It was organized together with Carla Gabrí and Laura Walde as members of the research project “Exhibiting Film: Challenges of Format” and Nadia Schneider Willen and Nurja Ritter as project partners on the side of Migros Museum für Gegenwartskunst.

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Our calculation is based on an average reading speed of around 250 words per minute.