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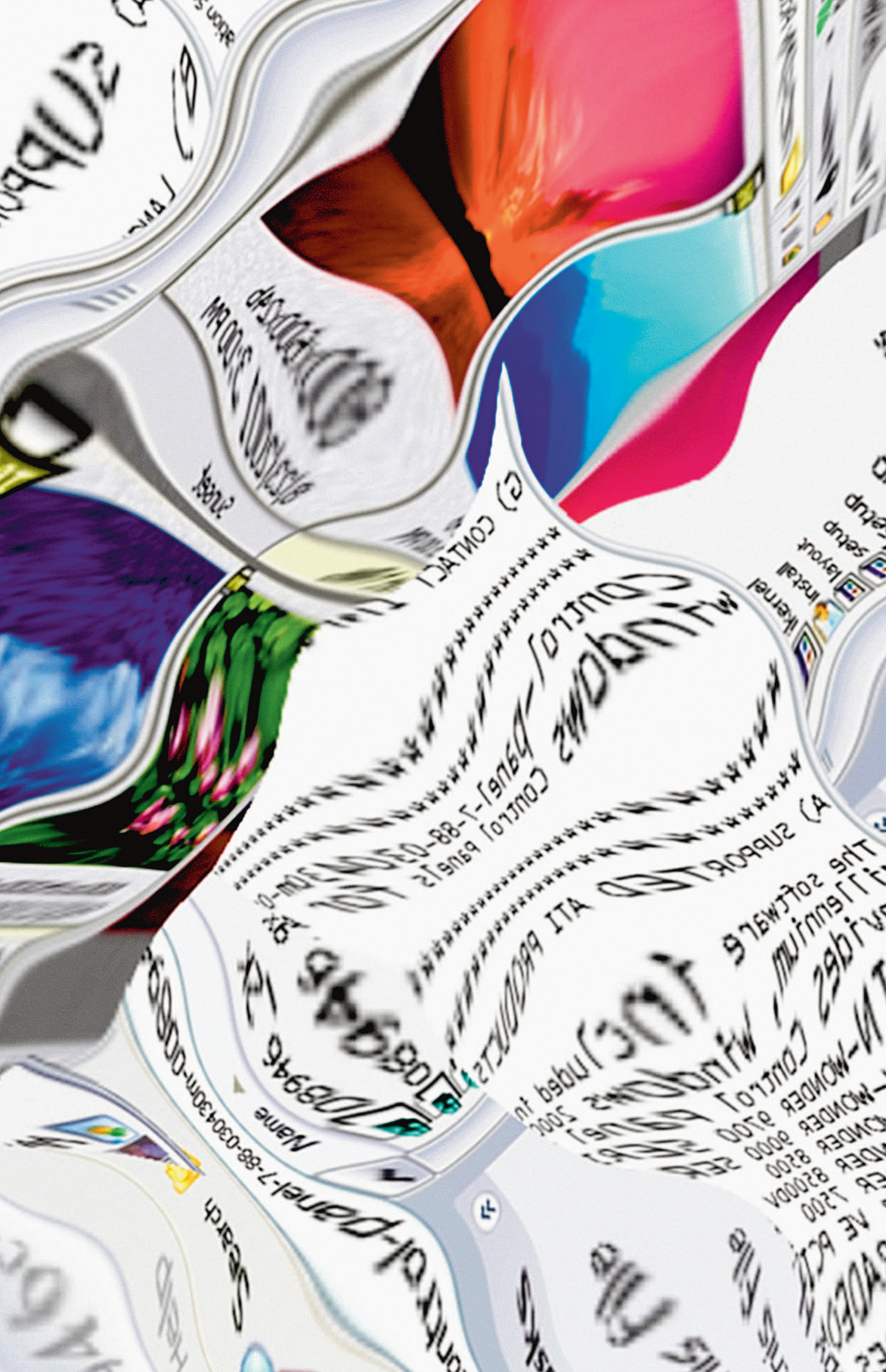
Interface Criticism

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The human computer interface has been a growing part of our culture for decades. First came the early experiments with computer graphics and games in the 1960s, then the commercial introduction of graphical user interfaces in the mid-1980s, and today computer interfaces take a myriad forms and are constantly met both at work and in our private lives. Wherever we go, we find physical interfaces such as the mouse, keyboards, controllers, touch screens, microphones and cameras; we see visual interfaces such as desktop metaphors and computer game worlds; we hear audible interfaces such as sounds signalling the state of a machine, the start-up of an operating system, an incoming text message, or more sophisticated audio interfaces as in audio based games and sound art. The range of interfaces is expanding to meet the needs of different technologies, uses, cultures and contexts: mobile, networked, ubiquitous or embedded in the environment and architecture. Some interfaces may even be designed to be invisible and imperceptible such as those used in surveillance and tracking technologies. No matter how or where, the interface is a dominant cultural form providing a way to mediate between humans and machines and between culture and data, affecting the way we perceive cultural activities and perform them in public and private.

Interfaces are designed with specific purposes, some very narrow and technically determined as technical protocols, others more application and end user oriented such as interfaces for reading, seeing, listening, communication and experience. Until recently, it has been common practice to discuss interfaces primarily from an

engineering perspective, as something that should be optimised to offer seamless functionality. This approach has led to the 'what-you-see-is-what-you-get'-text editors and the emphasis on user-friendly and transparent design. The main idea is that the computer should blend smoothly into our homes and environments as something we do not have to deal with consciously.

Simultaneous with the development of the interface, and often in a critical dialogue with this, a digital aesthetics has developed. Even as early as the 1960s, different digital art forms and early computer games were starting to explore the emerging formal languages and new aesthetics of the computer in which it was designed to be experienced; therefore transparency and seamless functionality were not the goal. For many years this meant an apparent antagonism between digital art and interface design. As interface design becomes more diverse, however, it affects cultural practices in new ways, and the antagonism between art and design is thus beginning to dissolve with current developments in design and technology. Business communication has discovered experience oriented design, and computers, smart phones and gadgets are prime fashion objects and culturally coded. Furthermore, in the reign of Web 2.0, the economy of interfaces is changing from a traditional production mode based on employed software developers to being more network oriented and user driven (with the side effect of providing free labour) while still restricting and containing their work. Simultaneously, programmers are becoming culturally and politically aware and engage in the free software movement. Even certain forms of digital art are starting to enter the mainstream both commercially and institutionally. This development calls for a new discussion of the role of digital art and aesthetics within an interface culture where art is increasingly intermingling – though not coinciding – with design.

This book aims to offer a much needed perspective on the role of artistic practices and aesthetic theory within interface culture. As editors of the book, we see interface criticism as an appropriate paradigm for a critical discussion of the computer and how it relates to art and culture today. In the contributions to the book we find a discussion of both developments: how interfaces are related to culture, and how art has developed around interfaces, often under-

mining common conceptions of the interface. But, before we begin our discussion, we need to define *interface* and describe what we mean by *interface criticism* as *aesthetics beyond buttons*.

Our conception of the *interface* is not restricted to the well-known graphical user interface between humans and computers, e.g. the WIMP (Windows, Icons, Menus, Pointers) interfaces that have become popular and standardised on personal computers the last twenty-five years. As described by Florian Cramer in this volume, the term interface indicates many different contact points and exchanges between different programs and data layers in a computer, between different machines (e.g. in a network), between humans and machines (such as graphical user interfaces), and as a mediator between humans (e.g. in net culture, interface culture and the public sphere). Some interfaces seem more or less mechanical – such as the USB interface that most of us know as a plug, but which is in fact an interface that specifies how communication between devices is established – while others are more clearly directed towards human understanding and cultural traditions such as interfaces for computer games or digital art. All interfaces, however, are designs that combine – and translate – signs and signals. As such, the interface is at the core of the computer. It is not possible to 'unveil' the computer through a deconstruction of the interface. The code behind the interface is just another interface in the layered 'mise en abîme' architecture of the computer. The functioning of the interface, its designed juxtaposing of human signs and machine signals, is therefore essential to the functioning of the computer.

The question of *interface aesthetics* is intrinsically linked to our perception of the interface. If it is not possible to fully 'unveil' the 'mise en abîme' of the interface we can, however, elucidate how interfaces can embed choices, conduct, languages, and ultimately values, worldviews and aesthetics into technical infrastructures. The word aesthetics derives from the Greek 'aisthesis' that means sense perception, and today we perceive our environment through interfaces. Aesthetic theory consequently needs to develop a critical vocabulary towards computers and interfaces, an *interface criticism*, and this book aims to be one such contribution. An aesthetic aspect

of the interface is usually subordinated to a functionalistic dimension (e.g. the use of buttons for actions) or even a stylistic dimension (interfaces may look good or feel good). Conversely, in this book interface aesthetics will be developed as a critical investigation of interfaces, what they mean for – and how they function in – contemporary culture.

With the subtitle *Aesthetics Beyond Buttons* we want to point to the working in, between, behind and beyond the interfaces: the mediation and computation in and between the various layers and actors in and around interfaces. We do not subscribe to the idea of transcending the interface, nor do we believe that there is an essential core of the computer, but rather that its meaning and functioning lie in the interface's combination of signals and signs, computation and medium, executive buttons and alluring metaphors. There is no essential truth hidden in the code and no privileged vantage point for finding such a truth, but instead interfaces and interfacing with its layers of mediation and computation open up spaces for criticism: A criticism that draws upon recent theoretical developments such as code criticism, media aesthetics, software criticism, and media archaeology as well as more established theoretical traditions within aesthetics.

Consequently, our investigation of the interface does not stop at the computer's surface but goes beyond the buttons and reaches 'back' into history, and 'through' to the human senses and perception, 'behind' the concept of the interface, 'down' into the machine, 'out' into society and culture. This book is subsequently divided into five sections that overlap in many ways, but which also can be seen as five dimensions in interface criticism: displays and history, sensation and perception, representation and computation, software and code, culture and politics.

BACK: Displays and history. When looking at a computer, we see not only its hardware but also its representation as texts and images displayed on a screen. Perceived as screens and display mechanisms, computer interfaces are not new but belong to a long and continuous tradition of media displays dating back to the 19th century and even further. This book section will examine the screen in relation

to both the historical development of a screen-mediated public sphere and an archaeology of video art and installations that represent cybernetic activities. Both of these historical perspectives lead to corrections of contemporary understandings of displays.

Currently, interfaces are spreading into the urban public space as both small portable devices and big architectural screens. In his "Monumental Attractions: An Archaeology of Public Media Displays", ERKKI HUHTAMO depicts a thought-provoking and often forgotten history of public media displays. Even in the 19th century signboards, billboards, various projection forms as well as an audiovisual extension of the telephone were used for attracting people's attention by displaying news and advertisements in the city landscape. Acknowledgement of the past not only helps us frame contemporary urban interfaces, it also enables us to challenge the visual historian Jonathan Crary's hypothesis of modern media spectatorship as an interiorised and privatised mode of experience. Rather than separating the viewer from the surroundings, one needs to understand the experience of urban displays as rooted in a milieu of noises, competing imagery and other distractive elements of the modern landscape.

While Erkki Huhtamo goes back to the 19th century's public displays, BODIL MARIE STAVNING THOMSEN goes back to the video art scene of the 1960s in order to investigate changes in how we perceive and construct the imagery of interfaces. In "The Haptic Interface – On signal transmissions and events", she explores the history behind the outspoken use of different forms of haptic imagery in reality TV, direct news broadcasting and documentary film formats. She argues that among others Nam June Paik and Les Levine were the forerunners of a new media immediacy now associated with the real-time imagery of surveillance cameras and webcams.

THROUGH: **Sensation and perception.** The appearance and cultural diffusion of interfaces affect the way the world is perceived and sensed. Based on human input, the computer processes and presents an output that is often the starting point for new human input into the computer, and so on. As such, the human-computer interface is an input/output device where humans exist in a symbiosis with the

cybernetic system of the computer. In a time where our relationship with the world often depends on an interface (the steering of a car is run by a computer, knowledge is accessed through a web browser, play takes place in a computer game, etc.), our sense perception is influenced by the interface. This book section will discuss this influence and how it is articulated in contemporary net and software art.

In the development of and discourses around interfaces there has always been a strong urge to bypass representation and 'jack' directly in to the human brain, consciousness, perceptions and feelings. In her article "The interface at the skin", LONE KOEFOED HANSEN looks at how two contemporary experimental dresses made by Philips within the field of wearable computing subscribe to the concept of 'ideal communication'. In her article, she explains how this particular type of communication is linked to the paranormal phenomena of mind reading and telepathy and argues that sensor based wearable computing is the newest example of a technological development implicitly or explicitly aiming at manifesting two utopian parameters of communication: immediacy and instantaneity. Though clearly utopian, this manifestation has served as a way to brand Philips and thus, paradoxically, enters into the more traditional communication circuit of public relations.

SØREN BRO POLD's article "Interface Perception – The Cybernetic Mentality and Its Critics: Ubermorgen.com" presents a model for a cultural understanding of the cybernetic feedback loop between human and computer. Using the example of the artist group Ubermorgen.com, he furthermore discusses how cybernetic loops influence both our culture and not least our perception and mentality. Ubermorgen.com explores ways to stage a criticism from within the cybernetic system, attacking both its function and its representation. Using inverted cybernetic strategies the group addresses the cultural role of Google while also examining how entering a cybernetic loop may create new mental illnesses.

BEHIND: **Representation and computation.** The concept of the interface carries strong connotations towards the graphic human-computer interface with menus, icons, etc. The computer interface is often seen as a screenbased aesthetic representation of the func-

tionality of the computer. As such, interfaces are translating the computational processes into soothing, well-known or 'user-friendly' visuals and metaphors as known from much commercial software, subsequently disguising the computer as something well known. This common understanding of the interface and its aesthetics as surface, aestheticisation and consequently a hiding of the computational processes are criticised in this section of the book, and it is argued that we need to subject our understanding of interfaces and how we co-exist with computational processes through them to critical scrutiny. As a result, an interface criticism should include a criticism of the concept of the interface as a crucial concern and point of departure.

In a critical evaluation of both the interface and aesthetics, FLORIAN CRAMER's "What Is Interface Aesthetics, or What Could It Be (Not)?" discusses the graphical user interface as an aesthetic choice separating users from programmers and favouring beautiful transparency over the sublime opacity of the hidden programming interface. However, interfaces can be much more than just human-computer user interfaces (e.g. an interface between components in the hardware or between hardware and software). Discussing interface aesthetics, we need to get past the classic Kantian dichotomy of the beautiful versus the sublime. Digital artistic practice has often been biased towards the latter, but we need to address all dimensions of interfaces and not stay on the visual surface. Therefore, Cramer argues that interface aesthetics should not be developed as a stable perspective but as a critical paradigm within media theories and computer science, embracing aesthetics as a way to critically analyse technology.

Also DRAGANA ANTIC and MATTHEW FULLER argue that we need to look in other directions than the classic graphical user interface to fully understand what is currently happening with the concept. In their article "The Computation of Space", they propose to think about the question of computation and interface with specific reference to the production of space. With embedded and ubiquitous computing we move beyond the classic screenbased interface towards interpellating computation into multiple kinds of devices and processes. As the interface becomes increasingly