B
IMAGE RECYCLING AND APPROPRIATIVE POSITIONS

1 FROM "SKIZZEN" TO "SPEICHER:" IMAGES AND THE DATABASE IN JÖRG SASSE'S WORK

The observer plays a similarly important role in Jörg Sasse's work of the 2000s. How does a viewer assess a photographic image? Why does he like it or not? Why does he identify so easily its cultural or geographical origin? Why do family pictures seem familiar? What parameters of the image and what aspects of the viewer himself define the viewing experience? As has been established previously, Jörg Sasse's use of photography is primarily concerned with the visual properties of vernacular images and a collectively shared visual culture. He resorts to found images in order to unveil image selection processes and visual trends, inscribing them in their historicity by analyzing their formal features. While in the 1990s, these interrogations were manifested through the *Tableaus* – a series based on a limited number of single images only –, Sasse gradually extends his survey with two types of projects increasingly addressing image systems, with a larger number of photographs. The *Skizzen* (sketches) series addresses the source material used for his *Tableaus*, which he exhibits from 2004 on. They are reproductions of the photographs Sasse collected, and are reproduced as such, without filters or manipulation. The depicted scenes recall very common images mostly connected to leisure – vacations, travel, noteworthy sites, architecture and family –, which are the most common types of vernacular photographs. The variety of cultural areas, places and their display

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are especially echoed in Wolfgang Tillmans' *Neue Welt*[48] project shown at the Kunsthalle Zurich (2012), addressing globalized imagery, or they are reminiscent of the photo-historical canon of compounded vacation images, David Fischli and Peter Weiss' *Sichtbare Welt* shown at the *documenta X* in 1997.[49] All three projects are attempts to understand the world through its culturally and visually shaped photographic representation. In Sasse's case though, the *Skizzen* were initiated after the *Tableaus*, for which they were used as source material. But despite their initially specific use as sketches, they gradually gained importance in Sasse's strategy on image storage and circulation.

The second type of projects started in the 2000s reflects this new approach. They compound numerous photographs into databases, addressing the image through a mnemonic and referential structure underlying a shared vernacular visual culture. While the *Skizzen* already constituted the material of a database – the data without its containing structure – these projects address its very core, the processual articulation and the mathematical functions defining the relationship *between* the images. One major work series and two minor types of works reflect that particular approach, in which the digital is explicitly dealt with: the *Speicher* series (started in 2008), Sasse's website www.c42.de (1999[50]) and the "*world image archive*," an unrealized project that the photographer mentions repeatedly in the early 2000s.[51] While the *Tableaus* were chiefly an interrogation of images as symptoms of a particular visual culture, subjected to trends and historically unstable, these projects rather confront processual features of the photographic apparatus: the image as outcome of a selection process and the image as part of a database system.

Skizzen

In *The Düsseldorf School of Photography*, Stefan Gronert describes the *Tableaus* through a commonly used dialectical relationship between two media, emphasizing the often ambiguously perceived relationship of photography and painting in a digital context (e.g., imprint versus construction): while the use of the sketches in order to enlighten the work process of the *Tableaus* is clearly reminiscent of the model of

48 Wolfgang Tillmans, *Neue Welt*, Cologne, Taschen, 2012.

49 The concept had also been displayed as a twelve-hour loop video on the TV channel *Arte* during *documenta X* in 1997, but also exists as a three-channel video installation, a light box installation and a book. See for example *Peter Fischli and David Weiss. Fragen und Blumen. Eine Retrospektive*, exhibition catalogue (Kunsthaus Zurich, 2007), Zurich, JRP, 2007 and *Peter Fischli and David Weiss. Sichtbare Welten*, Cologne, Verlag der Buchhandlung Walter König, 2000.

50 According to the web history tools of www.archive.org and www.netcraft.com the website went online in 1999. The date is not mentioned on www.c42.de, however.

51 Some information about the project can be found in Jens Schröter, "Archive-post/photographic," at medienkunstnetz.de. Available at http://www.medienkunstnetz.de/themes/photo_byte/archive_post_photographic/textsummary/, accessed on June 27, 2018 (based on a conversation between Jörg Sasse and Jens Schröter in Düsseldorf on July 25, 2002). In another conversation with Suzanne Holschbach (undated, after 2005), he claims that he has lost interest in such projects, where users tag images. See "Bilder-(neu)-Ordnungen. Podiumsgespräch mit Jörg Sasse, Dieter Daniels und Susanne Holschbach" (transcript), op. cit.

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painting, *Speicher* addresses digital computing technologies and the status of the image in digital communication systems.[52] The *Sketches* project however, while conceptually and etymologically referring to the painterly model, also plays an important role in Sasse's database projects. It consequently cannot be delimitated from his inquiry of visual culture through mechanical images. In an exhibition in Grenoble, which was held between November 2004 and January 2005, Sasse exhibited for the first time a selection of *Sketches* along with his *Tableaus*, suggesting the preparatory steps that underlie the series. While the *Tableaus* were displayed individually in large formats without margins, the sketches were hung in small format, framed more conventionally with a white passe-partout. In a text published in the exhibition catalogue,[53] the artist comments on the role of these sketches and the implications of their selecting process:

> *As basic material for my sketches I use amateur photos or photos I have taken myself. I then make a selection from the pictures available to me and rework them on the computer. The result is a batch of sketches, a small number of which will be used subsequently as a basis of my works. The fact that a basis relies on an original outside or one from my own output doesn't matter at all. As far as the sketches are concerned, on the other hand, the link with the original photo is more obvious, which is why a separation between the photos taken by me and those taken by other people seems to make good sense. All the sketches reproduced here are from amateur photos.*[54]

Vernacular visual culture plays a central role, which suggests why Sasse hardly ever includes images shot by himself. He seeks to investigate a generic rather than a particular approach to visual culture, and the shared criteria are of chief interest to him. Similar to painting, where sketches prefigure the final result and embody an analytical and experimental approach, the *Sketches* serve as inquisitive models.[55] They reflect Sasse's interrogation concerning the formal properties of these images. But while this relationship seems obvious theoretically or conceptually, it is hard to establish a strict correlation between both series. In the Grenoble exhibition, there are 184 *Sketches* and forty-five *Tableaus*. The catalogue only shows fifty-six sketches, four on every page, without date or title. The *Tableaus* are shown individually in larger scale. But it is hard, especially through the information given in the catalogue, to establish a specific correspondence between both series, as there seems to be no visual equivalence and not enough factual data (e.g., dates) to correlate particular images. Only a

52 Stefan Gronert, "Photograhische Emanzipation," in *Die Düsseldorfer Photoschule*, op. cit., p. 63 – 64.

53 *Jörg Sasse. Tableaux et Esquisses*, exhibition catalogue (Musée de Grenoble, 2004 – 2005), Munich, Schirmer/Mosel, 2004.

54 Ibid., p. 117.

55 In a more aesthetic approach, Guy Tosatto calls them a "breeding ground." Guy Tosatto, "Little Improvised Poems," in *Jörg Sasse. The Grenoble Block*, Munich, Schirmer/Mosel, 2006, p. 202.

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subsequent editorial project, which informs readers about some of those aspects, emphasizes Sasse's growing interest for the *Sketches* and, to formulate it differently, for an increasingly important interrogation of image selection processes rather than a visual result.

Fig. 105: Jörg Sasse, *Speicher*, 2008

In 2006, two years after the exhibition and the publication of the catalogue, Sasse realizes another book on the Grenoble exhibition called *Skizzen – Der Grenoble Block*,[56] also edited by Schirmer/Mosel. The same format publication reproduces every *Sketch* of the series in full-page, gives them a title and dates the series.[57] The sketches were all made in 2004, while most *Tableaus* shown in the exhibition – which are absent in the subsequent artist book – were made between 2000 and 2004. The book further contains installation views showing the correspondence of *Sketches* and *Tableaus* in an exhibition (the catalogue only shows the reproductions of the images themselves), suggesting a shift in interest toward image series and sequences, as opposed to the more visually independent and autonomous *Tableaus*. The term "block" in the title may refer as much to the physicality of the book – it is almost twice as thick as the catalogue – as to the idea of batch, group or cluster. As such, the publication constitutes a physical outcome of Sasse's concept. It addresses dynamic relationships between images, which are – not unlike historic examples of photography books – arranged as a system. There is no particular layout suggesting narrative, linear or highlighting criteria. All images share the same status – size (except panoramic images), placement, layout are similar –, unlike Sasse's photo books of the 1990s (e.g., Fig. 78). Photographs can thus hardly be interpreted individually, and the status of the single image, in the exhibition as in the editorial context, can be questioned. The system or concept, which prefigures the idea of image database central to the forthcoming *Speicher* project, pervades.

56 *Jörg Sasse. The Grenoble Block*, Munich, Schirmer/Mosel, 2006.
57 Ibid., p. 195.

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While formalizing the exhibition and the series in book form, *Der Grenoble Block* entails a supplementary character that addresses image batches. But interestingly, the *Skizzen* are not displayed on Sasse's website c42.de, suggesting that the way Sasse addresses the database implies a shift and decontextualization of medium – book or physical *Speicher*. As the saving of the images on the web would *literally* be a database, it would somehow defeat the purpose.

Database projects: "*Speicher*," "www.c42.de" and the "World Wide Web Archive"

As will be discussed more exhaustively in part 4, various visual strategies extending the reading of the discrete image to a dynamic relationship between multiple images predate Sasse's work. The re-emergence of interest for chronophotography in the 1960s in the work of Dan Graham or Sol LeWitt addresses the temporality between images, the theoretical and art historical debate on serial imagery reflects an interest in dynamics between images (e.g., John Copland's book *Serial Imagery*), Bernd and Hilla Bechers' typologies emphasize comparative mechanisms and, various atlas projects, such as Gerhard Richter's *Atlas* or Hans-Peter Feldmann's *Bilder*, envision a production of meaning or interpretation that extends the strict indexical ability or potential of still images to their perception by a specific viewer in a specific cultural and media context. Jörg Sasse's various database projects can be interpreted as the continuation of these strategies, addressing the grammar of photographic images and their reception by a specific viewer, but they extend this inquisitive approach to the technical apparatus mediating these imageries in a digital context. Image viewing and display in digital systems invariably relies on three core elements responsible for the management of the information: firstly, the database, which stores the images, secondly the classification system, which handles the organization of the stored data and finally the interface, which allows for its retrieval. On a purely technical level, these three functions control the way an image is saved or displayed on a computer, and they could thus be strictly evaluated in the context of a technological history of digital imaging systems. But as is becoming increasingly evident, these components seem to play a central role in contemporary visual culture, as a diffusion apparatus such as the web increasingly replaces traditional media and might endorse an equivalent role in the constitution of specific visual culture as did news magazines in the first half of the twentieth century or television in the second half.

Three of Jörg Sasse's projects explicitly address the concept of such database and data classification systems. The installation *Speicher*, first shown at the *Objectivités* exhibition of the Musée d'art Moderne de la ville de Paris in 2008 takes shape as a physical database, containing 512 framed *Sketches* in a metal cabinet (Fig. 106).[58] The project has had two declinations, *Speicher II* (2010) shown in

58 Subdivided into eight sections containing sixty-four images each.

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Essen[59] and recently in Berlin,[60] *Speicher III* (2012) shown in Vienna[61] and *Speicher IV* (2015) shown in Bielefeld.[62] Sasse's interest in such database systems also appears in less formalized projects, however. Two other endeavors with a different status will also be addressed in parallel. What will henceforth be called the *World Wide Web Archive*, a never realized project, envisioned a web classification system in which users could have tagged and organized images found on a website themselves.[63] While it is only a concept, it can provide insight into Sasse's database strategy. His personal website c42.de finally, while offering resources such as catalogue texts or interviews of the artist, also contains most of Sasse's images in a cross-referenced database, accessible through generic (e.g., colors) or specific categories (e.g., content of images, places of exhibitions of particular works).[64] As such it reflects processes at work in the two previous projects, while strictly speaking just being a communication or self-advertising tool.[65] Sasse's core interrogation, as established earlier, is primarily visual.

But his works nevertheless rely on a syntactical categorization, as much in the way the images are stored or displayed as in their process of perception, in which a viewer – often unconsciously – labels the images he acknowledges with words. In order to understand this assigning mechanism, we shall at first explore it in the elaboration of the works, before evaluating its impact on a viewing subject. The labeling with categorical nametags, central in all three works, can be traced back to Bernd and Hilla Becher's typologies. The systematic depiction of industrial architecture is shaped by a certain amount of categories, types, subtypes and work groups, based on both the "functional and structural" and the "aesthetic appearance" of the depicted structures.[66] Their entire work corpus – as much in its inscription in the history of industrial architecture as in the history of conceptual artistic practices – is thus categorized with tags such as winding towers, silos, blast furnaces or water towers and assembled in typologies of images (9, 12, 15, etc.), according to both criteria. Very pragmatically, the numerous series combine various types from various periods or geographical areas, categorizing them by form and function, rather than context or dating. A similar system of categorization,

59 Exhibition *Ruhrblicke*, Zeche Zollverein, Sanaa Building, Essen, 2010.

60 Exhibition *Jörg Sasse. Common Places*, C/O, Berlin, 2012.

61 *Speicher III* is a small wall-mounted sixty-four image version exhibited for the first time in the gallery Nächst St. Stephan in Vienna in 2012. See *Jörg Sasse. Durchsicht*, press release, Gallery Nächst St. Stephan, February 2012.

62 Exhibition *Serendipity. Vom Glück des Findens*, Kunsthalle Bielefeld, 2015.

63 Jens Schröter, "Archive-post/photographic," op. cit.

64 Sasse's photographs can also be classified by exhibition. It is possible to know in which venue a single image has been shown or to make a list of all the displayed works of a specific show, which makes the website a very valuable tool for art historians. Currently 86 out of 141 listed exhibitions are connected to the image database.

65 Sasse's historiography has sometimes acknowledged the site as a part of his work, but this particular stance is rather uncommon. See for example entry "Jörg Sasse. Computer manipulierte Bilder," in medienkunstnetz.de. Availlable at http://www.medienkunstnetz.de/works/computer-manipulierte-bilder/, accessed on August 8, 2018.

66 Susanne Lange, "Chapter 9: Typologies and Comparative Juxtapositions" and "Chapter 10: Work Groups and Families of Objects," in Susanne Lange, *Bernd and Hilla Becher. Life and Work*, Cambridge (MA) and London, The MIT Press, 2007 (2005).

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based on the represented object or the visual output, can be found in all three database projects but is already present in another book project, *Jörg Sasse – d8207*. In the publication[67] created for the 2007 exhibition at the Museum Kunst Palast in Düsseldorf, Sasse had already grouped sets of *Skizzen* by categories (in this case geographical), also using the term "block." The categories range from "Düsseldorf – Block 1" to "Düsseldorf – Block IV." Here again, bookwork can be considered a preliminary step preceding the database projects.[68]

Fig. 106: Jörg Sasse, *Speicher* (2008), individual images with codes.

Speicher (2008) and *Speicher II* (2010) contain fifty-six categories[69] that are associated to specific images, each tagged by a discrete alphanumerical code (see Fig. 106). The project etymologically addresses the idea of a database – its title in German refers as much to the idea of digital memory as to the generic word it stems from, meaning *storage* (a *Speicher* can for example be a water reservoir, a granary or an attic) –, but it also creates a visual output, based on an image categorization system. In Essen, these categories were even exhibited as such, as small paper tags next to the cabinet. They are responsible for the localization and the management of the images contained in the shelves, and thus function as a criterion for their storage and their handling in the exhibition. The installation generates sequences of photographs that are to be displayed next to each other on a horizontal axis on the walls of the exhibition space and changed regularly. Theoretically all combinations are possible, but Sasse suggests series, which are better matched than others, using a grade scale ranging

67 *Jörg Sasse. d8207*, exhibition catalogue (Museum Kunst Palast, Düsseldorf, 2007), Cologne, Verlag der Buchhandlung Walter König, 2007.

68 Sasse's books can further be inscribed in the image autonomization process in the Bechers' typologies and Ed Ruscha's bookwork, as analyzed by Martina Dobbe. See Martina Dobbe, "Typologie und Bookwork. Bildkonzepte des Seriellen bei Bechers und Ruscha," *Frame #2*, op. cit.

69 *Speicher III* does not rely on categories anymore. The images are chosen randomly. See *Jörg Sasse. Durchsicht*, press release, op. cit.

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from 1 to 5, guiding the spectator. The idea of classification makes explicit one of the key ideas of the project: the fact that some images are a better match than others, which is a part of Sasse's empirical investigation of visual culture through a visual output but also through the expression of the apparatus, the database.

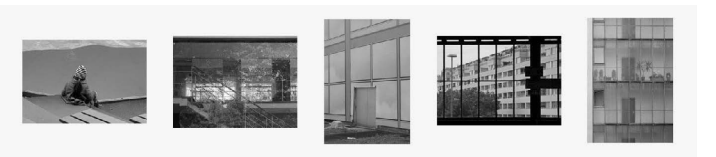

Fig. 107: Jörg Sasse, *Speicher III (Vienna)*, 2012, example of generated image sequence (individually ca. 22 × 30 cm)

Digital technologies – as much in their technical as in their structural expression – are central to the concept. The architecture of the cabinet, containing 512 photographs in eight sections of sixty-four images each, echoes the binary nature of digital computing mechanisms. The bit, based on the binary opposition of a true (1) and false (0) value, reflects the fundamental mathematical, conceptual and technical element of every digital system that all memories are based upon. Its number 2 base (the value is either true or false) is reflected in every quantification of a memory: 8 corresponds to 23, 64 corresponds to 26, 512 corresponds to 29 and so forth.[70] The title of the work and its architecture based on digits connected to the computation and memory mechanisms thus metaphorically and structurally addresses the digital storing and imaging systems.

Categorization, production of image sequences and perception by a viewer constitute a central articulation of Sasse's work. But clearly his position also bears a component, addressing and interrogating images in a broader context. This aspect thus collides with contemporary interrogations of Thomas Ruff or Andreas Gursky. One key aspect of the database projects lies in the emphasis on the image itself, with its "autonomous reality,"[71] independent from what is actually depicted, with focus shifting toward the economy of photographs in a digital context. The object of examination and documentation is a visual vector and the way its content is visualized and perceived, not a represented, pre-existing "reality." Interestingly, Jörg Sasse uses digitally altered, found vernacular imagery, which he incorporates in a physical installation to address the economy of digital images, making explicit and visible a process constantly enacted by users of computers or smartphones. These processes have become self-evident, and their infrastructure is thus logically overseen, much as the specific grammar of vernacular imagery reflected upon in the *Skizzen* is ignored in real time, only to be acknowledged as "from another era" once it becomes

70 Similarly, a 1 gigabyte (Gb) computer hard drive is in fact built upon 1024 (2^{10}) megabytes (Mb).
71 Stephan Berg, "La réalité autonome de l'image," in Maria Müller, Armin Zweite and Fabrice Hergott (ed.), *Objectivités. La photographie à Düsseldorf*, op. cit.

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old-fashioned. Through the visualization of the process of a database and the explanation of its functioning through categorization, Sasse makes tangible and visible something too abstract to grasp.

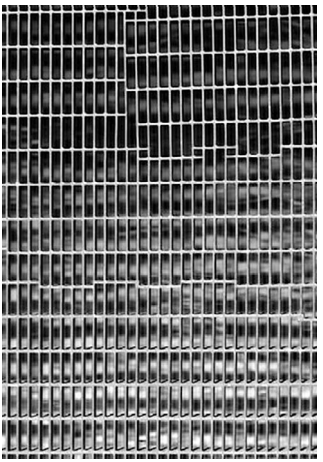

Fig. 108: Jörg Sasse, *5367*, 2008 (185 × 130 cm)

Systems, grids and picture-reality

In the 2000s, the role of digital image composition or retouching in Sasse's work remains similar to the role these processes played in his work in the 1990s. While the ten to twelve annually created *Tableaus* are likely to be processed digitally (scan, color corrections, cropping, filters, etc.), only a small percentage of those produced in the last decade *appear* digitally retouched.[72] An exhaustive study has yet to be conducted to establish the work process of the 180 existing *Tableaus*. While digital composites are central to Gursky's work, Sasse rather relies, through the *Speicher* and the *Skizzen* series, on comparative mechanisms. The approach is conceptual and self-reflexive. However, one formal feature, present already in the 1980s and particularly apparent in the *Tableaus*, interestingly compares with Gursky's work: the existence of orthogonal grid structures (See Fig. 108). Numerous *Tableaus* are based literally on grids[73] or construct visual spaces with arranged, intertwined or crossed elements reminiscent of grid structures, shifting the focus to the picture plane. As Rosalind Krauss argues,

72 Stefan Gronert mentions that in 2004 and 2005 only one digitally retouched photograph has been produced annually. Sasse's website used to display the category "digitally manipulated" [computer manipuliert], a tag which has now been removed from the site and reveals the limitations of digital sources. See Stefan Gronert, "Ohne Worte," in *Jörg Sasse. Tableaus und Skizzen 2004/2005*, exhibition catalogue (Kunstmuseum Bonn and Kunstverein Hannover, 2005 – 2006), Munich, Schirmer/Mosel, 2005, p. 61. Jens Schröter also point to Sasse's website, stating that he creates a yearly average of "maybe ten to twelve [Tableaus]." See Jens Schröter, "Das ur-intermediale Netzwerk und die (Neu-) Erfindung des Mediums im (digitalen) Modernismus. Ein Versuch," in Joachim Paech and Jens Schröter (ed.), *Intermedialität. Analog/digital: Theorien, Methoden, Analysen*, Munich, Fink Verlag, 2008, p. 596, footnote 78.

73 Reminiscent of Sol LeWitt's *Photogrids*, published in 1978.

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"unlike perspective, the grid does not map the space of a room or a landscape or a group of figures onto the surface of a painting. Indeed, if it maps anything, it maps the surface [...] itself."[74] Similarly as in Thomas Struth's *Paradise* series, even vegetal or more generally organic elements are adjusted on underlying grid structures, organizing the image into an orthogonal place surface (e.g., *2268*, Fig. 109).

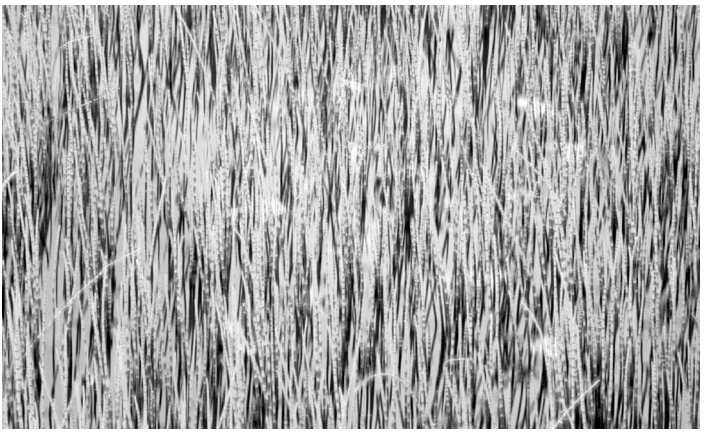

Fig. 109: Jörg Sasse, *2268*, 2001 (122 × 200 cm)

A specific trait of Sasse's vegetal images is the fact that they tend to be more retouched and clearly appear digital. The merger of the two-dimensional picture plane and the depicted reality seems to be easily achieved if grids or architectural structures are depicted. *5367* (Fig. 108) and *5440* do not appear to be retouched, except the probable cropping. Vegetal images such as *6478* (2000), *2268* (2001, Fig. 109) or *5302* (2010) on the other hand are artificially embedded into such structures, as if they were unable to match the grid, an impossibility that Struth's *Paradise* series, with its pristine constructions specific to architectural photography, clearly undermines (Fig. 110) Although all picture elements are vegetal, the image construction endorses a strict orthogonal point of view, which merges the various layers into a two-dimensional surface, organizing the organic components.

74 In this quote Krauss specifically addresses painting, but the concept can be extended to photography. See Rosalind Krauss, "Grids," *October*, Vol. 9, Summer 1979, p. 52. This particular quote has been used by Jens Schröter, who firstly associated Krauss' framework and Sasse's photographs. See Jens Schröter, "Das ur-intermediale Netzwerk und die (Neu-) Erfindung des Mediums im (digitalen) Modernismus. Ein Versuch," op. cit., p. 597 – 599.

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Fig. 110: Thomas Struth, *Paradise 9 – Xi Shuang Banna, China*, 1999 (270 × 340 cm)

Sasse's photographic two-dimensional constructions are commonly interpreted as an outcome of painterly processes conversing with photography.[75] While Struth's images retain to a certain degree a relationship with the depicted jungle, Sasse overtly redeems and rejects the indexical bond, to draw attention to the image surface even more explicitly, exemplifying "the autonomy of the photographic image and its visual self-logic."[76] The specific retouching filter applied to *5302*, for example (see Fig. 112), feigns a painterly effect. It highlights forms and shapes and simulates a three-dimensional depth by adding a shadow – the dark green on the right of the poppy flower –, and a bevel and emboss effect.[77] The original three-dimensional plant is levelled off to a two-dimensional image, and in a second step the 2D color shape is extruded as a simulated 3D form. While the effect might be painterly, its implication for the photographic apparatus reveals a self-reflexive strategy, which highlights the imbrication of image and depiction, rejecting indexicality as a defining parameter. Similar to the pixelated structure of Thomas Ruff's *jpegs* or Gursky's anamorphic *Rhein II* picture (even though it's invisible in that case[78]), the facture of these overtly retouched *Tableaus* inscribes the series in another visual regime, in which the focus is not a connection with "reality," but a relationship with images.[79]

75 See for example Stefan Gronert in *The Düsseldorf School of Photography*, op. cit., or Stephan Berg in "Die Autorität der Bildoberfläche," in *Jörg Sasse. Tableaus und Skizzen 2004/2005*, op. cit.

76 Stephan Berg in "Die Autorität der Bildoberfläche," in *Jörg Sasse. Tableaus und Skizzen 2004/2005*, op. cit., p. 8.

77 A common Photoshop filter.

78 If not numerous, there are a few examples of photographs of Gursky, which clearly give away their composite nature, the most overt being probably *Stockholder Meeting* (2001) or the *Cocoon* series (2007 – 2008).

79 While common in the work of Thomas Ruff and Jörg Sasse, the picture surface is only rarely made visible in the work of fellow photographers from Düsseldorf. Elger Esser's photographs of old postcards in his series on French seascapes (e.g., *39. Fécamp*, 2007 or *Biarritz*, 2005) for example reveal the materiality of the source-image, but such a strategy is virtually nonexistent in the work of Andreas Gursky, Candida Höfer, Thomas Struth, Axel Hütte, Simone Nieweg or Laurenz Breges.

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Fig. 111: Jörg Sasse, *5302*, 2010 (50 × 75 cm)

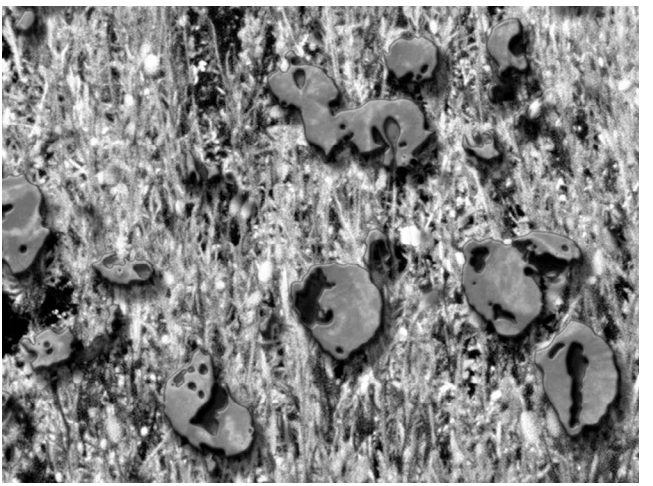

Fig. 112: Jörg Sasse, *5302*, 2010 (50 × 75 cm) detail

Sasse uses various strategies to apostrophize the viewer and make explicit this particular intent. Several images of the series contain optical errors or aberrations – out of focus snapshots, noise, lens flare or what might be a finger on the lens (see Fig. 113) –, which undoubtedly tag the photographs as images. But while these errors are clearly present in numerous source images and thus potentially reflect the amateur practice of photography, Sasse also adds these effects digitally. All these common parameters of the photographic apparatus considered errors exist in common retouching software,[80] which allows Sasse to simulate technical limitations and usual mistakes.

80 Adobe Photoshop CS6 for example contains over ten different blur filters (Gaussian blur, motion blur, radial blur, etc.).

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Jörg Sasse's use of digital technologies throughout the 2000s marks a shift from his investigation of the grammar of the photographic image, to a more conceptual examination of the economy of the image – analyzed, labeled, categorized, stored and re-distributed. While emphasizing the fact that the processed objects are primarily images, investigating the relationship between them or their connection with the visual culture of the viewer, Sasse interestingly confronts bookwork, installations of images in exhibitions and database projects, reconstructing the genealogy of the image in contemporary culture through its circulation systems. If the physical *Speicher* further addresses the computational mechanisms of digital systems, with Sasse even interpreting his grids as metaphors of global networks,[81] his project clearly extends beyond strictly digital media.

Fig. 113: Jörg Sasse, *6736*, 2012 (108 × 160 cm)

Lost Memories,[82] a recent series started in 2009, addresses found images altered through water, microbes or mold (Fig. 114). [83] Some images are completely abstract, while in others the photographic origin can be traced. Although the visible process seems to be strictly natural, reflecting an increasingly important tendency in photography to replace digital technologies by chemical processes to create

81 In "Ein paar Zeilen zu Netzwerken" (2009), Sasse addresses the automated exchange of data on the web and the political and economical importance of networks. See Jörg Sasse, "Ein paar Zeilen zu Netzwerken," on c42.de, 2009. Available at http://www.c42.de/text.php?tid=1, accessed on June 27, 2018.

82 Initially shown at the Gallery Wilma Tolksdorf, Frankfurt am Main, in the exhibition *Tableaus and Lost Memories* (September 3, 2011-November 20, 2010).

83 See for example Andreas Kreul, "Arbeiten am Bild (Wiederbetrachtungen)," at http://www.dzbank-kunstsammlung.de, 2013. Available at http://www.dzbank-kunstsammlung.de/de/artfoyer-detail/joerg-sasse-arbeiten-am-bild/info/#/info, accessed on June 27, 2018 and Anna Motz, "Fotografie im Fokus. Techniken der Fotografie," at *StädelBlog*, July 16, 2012. Available at http://blog.staedelmuseum.de/verschiedenes/fotografie-im-fokus-techniken-der-fotografie-teil-110, accessed on June 27, 2018.

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abstract images,[84] Sasse's series has been scanned and digitally edited.[85] Enhancing the materiality of the original prints (by working with sharpness and blur effects or enhancing the vividness of the prints),[86] he technically combines "two" technologies in an overall comment on the construction of knowledge – or memory – through the photographic medium, in all its manifestations. As Kai Uwe Hemken argues, "digital photography and in the end the technology of the digital merely intensified the problematic situation of representation of the medium; they did not create it. Thus the digital in general and with it digital photography is only one episode in the long history of the media, which has from the beginning raised the fundamental question of reality, representation, and perception."[87]

Fig. 114: Jörg Sasse, *LM-11–07*, 2011 (60 × 90 cm)

2 MEDIA, PORNOGRAPHY AND THE VIEWER EXPERIENCE: THOMAS RUFF'S JPEGS

Throughout the 1990s, Thomas Ruff's digital practice, on a technical level, chiefly relies on image retouching. The *Plakate* or the *l.m.v.d.r.* series, but also the more recent *Maschinen* (2003), resort to image composition or retouching tools to construct or edit images, using either photographs taken by Ruff or found archive material. The confrontation with the digital is at that time rather factual, similar to the

84 As for example in Raphael Hefti's series, which uses lycopodium spores to create abstract photograms. See for example Claus Gunti, "Post-, para- et champs élargis. Quelques réflexions sur les catégories alternatives à la photographie et au cinéma," *Décadrages. Cinéma, à travers champ*, No. 21–22 ("Cinéma élargi"), Winter 2012.

85 Andreas Kreul, "Arbeiten am Bild (Wiederbetrachtungen)," op. cit.

86 Ibid.

87 Kai Uwe Hemken, "Von Suchmaschinen und Normalismen. Anerkennungen zur digitalen Photographie bei Andreas Gursky und Thomas Ruff," in Monika Steinhauser and Ludger Derenthal (ed.), *Ansicht, Aussicht, Einsicht. Andreas Gursky, Candida Höfer, Axel Hütte, Thomas Ruff, Thomas Struth: Architekturphotographie*, op. cit., p. 38, quoted in Caroline Flosdorff, "Time Machines. Concepts of Reality in Thomas Ruff's Cycle Machines," in Caroline Flossdorf and Veit Görner (ed.), *Thomas Ruff. machines = Machinen*, Ostfildern, Hatje Cantz, 2003, p. 14.

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retouching of the *Häuser*. Ruff mentions for example that for the *Plakate* he used computer retouching tools for strictly technical reasons: "Initially I thought that digital photography was just a new tool, as a new lens or a new film [...] At that time it was the easiest way to do photomontages."[88] In the *I.m.v.d.r.* series he retouches the images of Mies van der Rohe buildings in order to distance himself from the iconic photographs, which have constructed the legacy of the famous architect and creates an individual aesthetic approach. In the *Maschinen* series he has retouched found images of industrial machines through coloring – similar to the *Retuschen*, which were colorized manually – and sometimes added some elements or enhanced a texture or surface, in order to free the object from the context.[89] If his interest lies also in their visual history, digital interventions are in these series rather pragmatic and reflect his uninhibited use of these tools. The end of the decade, however, marks new strategies, which endorse a much more far-reaching approach of the digital.

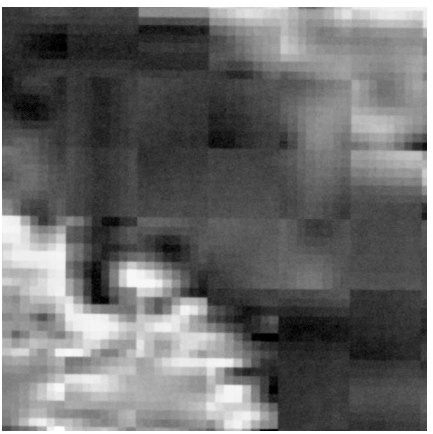

Fig. 115: Thomas Ruff, visible pixilation, detail (approx. 35 × 35 cm) of *jpeg pk01*, 2004 (244 × 188 cm)

Formal and categorial constructions in the "*nudes*"

In 1998, Ruff starts to focus on a nude photography series, while working in parallel on abstract, generated and pixelated images.[90] According to his own account, he becomes interested in the visual structure of these low-resolution images, while conducting research on pornographic websites for the series.[91] But he is also captivated by the particular visual economy and circulation of such photographs after witnessing "the rate of voyeurism and exhibitionism present on the

88 Interview of Thomas Ruff by Gabriele Naia, "Thomas beyond the Surface," at www.italy.exhibart.com, op. cit.

89 See Caroline Flosdorff, "Time Machines. Concepts of Reality in Thomas Ruff's Cycle Machines," in Caroline Flossdorf and Veit Görner (ed.), *Thomas Ruff. machines = Machinen*, Ostfildern, Hatje Cantz, 2003.

90 Matthias Winzen (ed.), *Thomas Ruff, Fotografien 1979–heute*, op. cit., p. 236.

91 Interview of Thomas Ruff by Gabriele Naia, "Thomas beyond the Surface," at www.italy.exhibart.com, op. cit.

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Internet, where the husband takes pictures of his naked wife and shows her to the world through a site."[92] Ruff thus starts processing those images to create his own photographs, addressing the entanglement of this particular visual economy with its technological preconditions. Usually compressed at 72 dpi, in order to achieve better download speeds, the jpeg is the most commonly used format on the web. Technically, it represents the best possible consensus between quality and usability. In terms of resolution, the compressed images remain readable if displayed in small sizes, embedded in a website, but in the late 1990s, their pixelated structure rapidly appears when enlarged or zoomed into. Ruff explains his interest in that particular series with the visual impact of that particular technical contingency, an unplanned parameter "that has nothing to do with aesthetics," a "collateral phenomenon"[93] that has considerably shaped the relationship to images in the digital age.

Fig. 116: Thomas Ruff, *blurred pixilation*, detail (approx. 35 × 35 cm) of *nudes obe06*, 2001

In the *nudes* series (1999 – 2004[94] and 2011) and later in the *jpegs* series based on iconic pictures found on the web (mostly from 2004 – 2007), Ruff also uses digital editing techniques. The main technical operation consists of interventions such as the application of blur or softening filters that make the pixel structure more or less distinct. In the forthcoming jpeg series, the double pixel structure is left visible and enhanced by the size of the formats (see Fig. 115). In that series, they constitute a core visual element. The pixels in the *nudes* on the other hand are blurred to such an extent that no line or grid is visible, but only the effect on color patterns (see Fig. 116). The discrete pixels structure is blended into blurred areas, and the pixel structure is not as such visible, but "ethereally" pierces through. The effect of compression algorithms remains visible through the mathematical

92 Ibid.
93 Interview of Thomas Ruff by Max Dax, *Spex. Magazin für Popkultur*, No. 316, Sept-Oct. 2008, reproduced in Carolyn Christov-Bakargiev (ed.), *Thomas Ruff*, op. cit., p. 72.
94 See *Thomas Ruff. Nudes*, texts by Michel Houellbecq, Munich, Schirmer/Mosel, 2003.

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color distribution. Every pixel originally contains only one plain hue. Even though the image is edited with softening filters, its prior decomposition into geometrical forms of same colored pixels and consequent color reduction remains apparent. Effects of jpeg algorithms thus remain visible, even if the pixels themselves are erased.

Fig. 117: Thomas Ruff, *nudes ap14*, 2001 (112 × 165 cm)

A parameter that consequently plays an important role in the *nudes* series is the size of the prints, a paramount factor of its perception. The images are printed and displayed in large formats (height and width vary from 80 to 150 cm), similar to the *Porträts* series. The enlargement process transposes the (attenuated) pixel grid, commonly apprehended on a small computer screen, into real space. The process produces a double perceptive movement implicating the viewer, oscillating between an image that can be seen in its totality – when seen from afar – and an image that exposes its blurry structure while hiding its content. From a position in front of the photographs, it is difficult to recompose a mental image from the indistinct surface. But while the same effect shows the pixel structure in the *jpegs*, the blurry treatment here rather produces a tendency to romanticize and somehow disarm the rough visual content. The *nudes*, independently from their potentially "seductive" content – while being images *on* pornography, they remain sexually explicit images –, are aesthetically appealing. Digital operations, such as the occasional removal of disturbing elements, alteration of chromatic scope[95] or reframing, clearly produce images with an aesthetic character, even though such a position is never clearly endorsed by Ruff, or even rejected.[96] In interviews he rather emphasizes the importance of structural elements in the *nudes* (jpeg format, pixel, compression algorithms, etc.) but avoids the discussion about aesthetic features (manipulated colors,

95 See Matthias Winzen (ed.), *Thomas Ruff, Fotografien 1979–heute*, op. cit., p. 236.
96 Helga Meister, "Das Bild ist schön," *K-West*, op. cit.

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etc.). In an interview with Helga Meister, for example, he mentions that these manipulations are made "in order to create a slight artificiality,"[97] directing the focus to the media itself, rather than to its aesthetic traits.

Fig. 118: Thomas Ruff, *nudes obe06*, 2001 (92 × 116 cm)

Sheer retouching and digital appearance are only two of the elements that address the digital. The use of images found on the Internet and the role of categories in the image selection process reflected in the titles embody another level of confrontation with these technologies and address more conceptual concerns. Ruff produces the cartography of the specific visual culture of the Internet and the circulation of such images. The blown-up pornographic material, for instance, answers to a categorial organization addressing various sexual practices and reflects the taxonomy used on the original websites to advertise them. In his appropriative process, Ruff explicitly broadens the scope of his survey to all kinds of sexual preferences or fantasies. He thus avoids a too conventional categorization, such as a heterosexual observer showing naked women, or art historically connoted classification only showing female *nudes*. In an interview with Hans Ulrich Obrist, Thomas Ruff recalls that the first nude pictures he stumbled upon on the Internet were fashion photographs of Helmut Newton or Peter Lindbergh, which he discarded as they seemed "too much like a nineteenth-century male heterosexual view of the female body."[98] Ruff consequently adopts another categorial system, reflecting both the consumer of these images and their producer: the series reflects the tags used by the pornographic industry, encompassing categories such as group, fetish, bondage, gay, blonde or lesbian. While the images correspond to these largely accepted categories, he uses generic personal tags in the titles. The *nude obeXX* series

97 "Um eine leichte Künstlichkeit zu erzeugen," ibid.

98 See "Thomas Ruff in Conversation with Hans Ulrich Obrist," in *Thomas Ruff*, London, Gagosian Gallery, 2012, p. 5 and 6.

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– *nudes obe01*, *nudes obe02*, *nudes obe03*, *nudes oba04*, *nudes obe06* (Fig. 118), *nudes obe07*, *nudes obe08* –, all contain sadomasochistic or bondage scenes, which suggests that the prefix "obe" stands for obedience, servility and domination being the two fundamental behavioral patterns defining these particular sexual practices. In other series made in the same period, Ruff has used acronyms such as *l.m.v.d.r.* for Ludwig Mies van der Rohe or *d.p.b.* for "*deutsches Pavillon Barcelona*," but in the *nudes* series he doesn't use the dots between the letters, which indicates that the categories are rather short forms or prefixes rather than acronyms. *Nudes pant11* (1999) shows a close-up of panties, which suggests a connection, but many particles used in the titles are hard to establish; "dyk" could suggest "dyke" – a pejorative appellation for lesbians – but since *nudes dyk* shows a man and a woman, the supposition isn't conclusive. Another category such as *nudes asd 04* (2001) couldn't possibly be a short form, as there are no words beginning with "asd" in German or English. Similar to the blur filters, which conceal the compression algorithm while leaving its traces apparent, Ruff's title methodologies prohibit a too literal relationality. The used acronyms or prefixes further suggest an unfinished state of the photographs, as such forms are reminiscent rather of an automated file naming system – the native names of photographs produced by a digital camera often use acronyms and number (e.g., dsc0001, dsc002, etc.), defined by a set of rules[99] – than of *conventional* titles of artworks. Ruff addresses the workflow and image circulation, the architecture of digital imaging systems, and the processes it is defined by, rather than the autonomous tableau in an artistic context.

Comparable to Jörg Sasse's database projects, image categorization and articulation plays an increasingly important role in Ruff's strategy. Especially on the Internet, images are necessarily defined by a linguistic classification that defines their circulation and perception. If today photographs can be found using visual parameters such as color, resemblance or anthropometric data – visible information contained *in* the images –, the most common processes rely on invisible linguistic categories, which are stored *within* (e.g., meta-tags)[100] or *beside* an image (e.g., captions).[101] Ruff's project addresses as much the medium through which the image is made accessible on the web – the jpeg image format –, as the storage and categorization system, which allows the user to access it. Much as Sasse's *Speicher*, the *nudes* reflect the core functions of digital imaging: the (compressed) image

99 The file naming and storing method of digital cameras for example are defined by an industry standard called Design rule for Camera File system (DCF), a specification of the Japan Electronics and Information Technology Industries Association (JEITA). It sets the directory structure, the file naming system or the metadata formats. See for example https://www.jeita.or.jp/english/standard/html/1_4.html, accessed on August 13, 2018.

100 A meta-tag is based on information, which is stored inside the digital image file. The most common meta-tags are those written directly to the image file by the camera, called EXIF data (e.g., geo-tags, camera model, date, aperture, exposure time, lens, etc.), but an image file can also be associated with any generic (e.g., house, portrait, dog, etc.) or specific (e.g., Brasilia, Oscar Niemeyer, etc.) tag.

101 Images on the Internet can further be connected with similar tags, which are hidden in the HTML code in which they are embedded.

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itself, the database that stores the images, and the classification system that handles the organization of the stored data. While laid out less conceptually than Sasse's project, the *nudes* clearly constitute a response to an expanded understanding of digital technologies in which the image itself is not necessarily emphasized, but its inscription into an image circulation system. In Foucaldian thought this architecture encompassing image, circulation and perception has always existed – in an epistemological rather than in a sheer technical perspective –, but digital networks have made them visible and more susceptible to theoretical articulation. But before further pursuing the epistemological implications of Ruff's appropriative methods with the *jpegs*, some aspects of the *nudes* ought to be discussed, as some contextual aspects are important for their reading.

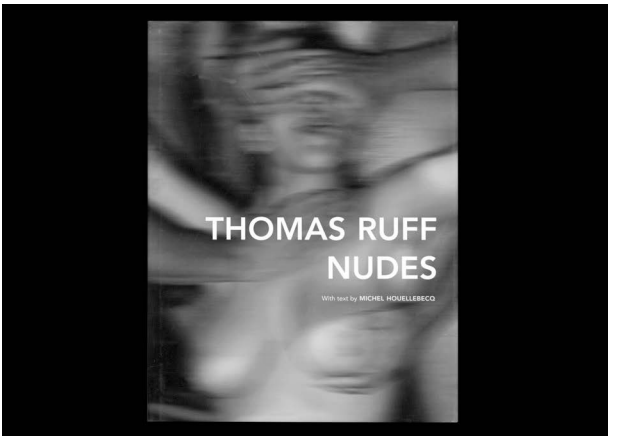

Fig. 119: Cover of *Thomas Ruff. Nudes*, New York, Harry N. Abrams, 1999

Gender and the "*nudes*"

Ruff's categorial strategy is somehow undermined by the art market and numerous editorial projects, as the most visible and most expensive nudes are mostly naked women, often alone in a color photograph, in erotic (e.g., Fig. 117) rather than pornographic (e.g., Fig. 118) poses. The catalogue of the series, prefaced by French writer Michel Houellebecq,[102] shows a clearly suggestive image (Fig. 119) – the torso of a naked woman with several pairs of hands touching and restraining her – but remains non-explicit and eventually less offensive, blurring the ambiguity between "pornography," "erotic photography" and "nude art photography."[103] But Thomas Ruff adopted this stance himself in the 2011 *nudes* series, which doesn't respect the categorical

102 *Thomas Ruff. Nudes*, op. cit. Houellebecq is famous for several novels, *The Elementary Particles* (1998) and *Platform* (2001) in particular, centered on libertinism in various forms. Both books are incidentally contemporary to Ruff's early research and production of the *nudes*.

103 See Valeria Liebermann, "'*nudes*.' The Art of Pornography," *Eikon. Internationale Zeitschrift für Photographie und Medienkunst*, No. 32, Vienna, June 2000. Reproduced in Carolyn Christov-Bakargiev (ed.), *Thomas Ruff*, op. cit., p. 228.

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pattern of the previous series. The series only depicts women, mostly alone, without any explicit sexual or pornographic qualities.[104] The five images displayed at the Gagosian Gallery in London in early 2012[105] only show solitary female nudes without any explicit attributes, like the six displayed on the website of the Mai 36 Gallery in Zurich[106] or the two images for sale at the Gallery Rüdiger Schöttle in Munich.[107] The fact that only attractive young women are represented and that the most explicitly pornographic image shows oral intercourse between two nurses, suggests that the series addresses the most conventional male heterosexual fantasies only.[108] This position might on one hand be interpreted as an interrogation of the dominant paradigm in popular culture and advertising – the female nude as object of desire and as sales argument. The only image with two characters – the two nurses – could then be seen as a way of emphasizing the fact that representations of women are ruled by masculine heterosexual fantasies and gaze. On the other hand, the ambiguous position of these more conventional representations of the nude – Ruff does in fact only depict young and sexually attractive women in erotic poses in a hidden (although suggested) pornographic context –, might also suggest that the series responds to personal preferences or art market demands, an uncertainty neutralized in the early series by the confrontation of various categories and fantasies. For the series exhibited in the Gagosian Gallery in London, the very large formats of up to 260 centimeters in height (much bigger than the older *nudes* or the multiple edition 2011 *nudes*) and the rarely adopted single-print edition might further point at a marketing strategy. The focus on historical images of female *nudes* in the recent *Photograms* (2014) series rather points at a personal interest.[109]

Historical "*nudes*"

A conceptual model for the nudes can interestingly be found in the pre-history of digital imaging systems. In 1968, the artist-engineers Ken Knowlton and Leon Harmon showed a photomosaic of dancer and choreographer Deborah Hay, transformed through binary ASCII

104 As the new series has just started many of them are still held by galleries and for sale, having never been exhibited.

105 See catalogue of the exhibition *Thomas Ruff*, essay by Geoff Dyer and interview with Thomas Ruff and Hans Ulrich Obrist, London, Gagosian Gallery, 2012. The *nudes* were exhibited in London at the Gagosian Gallery at Davies Street, while the *ma.r.s.* pictures were shown at the same time at its location at Britannia Street.

106 Available at http://www.mai36.com/thomas-ruff-selected-works/18-artists/thomas-ruff/415-thomas-ruff-works-nudes, accessed on April 4, 2013 (selection now offline).

107 Available on artnet.com at http://www.artnet.com/artists/thomas-ruff/artworks-for-sale, accessed on April 4, 2013 (selection now offline).

108 An aspect reflected in the critical reception, as Geoff Dyer for example wrote in *The Guardian* that "porn can be all things to all *men*" (my emphasis), chiefly basing his argumentation on male teenagers. In Geoff Dyer, "Porn and the Shadow Side of Paradise. Thomas Ruff's Nudes," Friday March 2, 2012. Available at http://www.guardian.co.uk/artanddesign/2012/mar/02/porn-shadow-side-paradise-thomas-ruff, accessed on June 27, 2018.

109 On the history of the female nude in the history of representations see for example Lydia Nead, "The Female Nude. Pornography, Art, and Sexuality," *Signs*, Vol. 15, No. 2, Winter, 1990.

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code,[110] in an exhibition focusing on "how artists of this century have looked upon and interpreted machines,"[111] titled *The Machine as Seen at the End of the Mechanical Age* (Fig. 120).[112] The show took place at the MoMA in New York and was curated by Pontus Hultén. One of the most famous of these ASCII images, was printed in the *New York Times* on October 11, 1967. Twenty-five years later, Thomas Ruff realizes very similar images based on the jpeg algorithm (Fig. 121), conceptually not very different from the binary code with which Knowlton and Harmon transformed a scanned photograph.[113] Both processes digitally translate an image of a naked woman – a consistently stable subject in the genealogy of digital imaging systems[114] – into mathematically defined discrete picture elements relying on an orthogonal grid pattern. Although the first one emerges through the fascination of suddenly available technologies and the collaboration between an artist and an engineer, and the second one from a critical interrogation of the status of image circulation systems in the late twentieth century, both derive from technical contingencies. In the introduction of this research, we stressed that "technology is always a concomitant or subordinate part of other forces,"[115] which ultimately constitute the object of this research, although only addressed indirectly. Both Ruff and Knowlton arise from an epistemological context whose formalization is expressed by the shifting relationship to images. Clearly, these forces constitute a common ground that the work of Knowlton and Ruff are symptoms of, addressing radical transformations in the way images are produced and perceived.

110 The "American Standard Code for Information Interchange (ASCII)" is a codification system, which translates numbers, the alphabet and typographical signs into binary form, in order to display it on a computer screen.

111 MoMA press release No. 123, *The Machine as Seen at the End of Mechanical Age,* November 27, 1968, p. 1.

112 Pontus Hultén, *The Machine as Seen at the End of Mechanical Age,* exhibition catalogue, New York, Museum of Modern Art, 1968. The image has also been discussed by Gene Youngblood to illustrate his chapter "Computer Films." See Gene Youngblood, *Expanded Cinema*, New York, P. Dutton and Co. Inc., 1970, p. 201.

113 See Ken Knowlton, "The Portrait of the Artist as a Young Scientist," *YLEM Journal*, Vol. 25, No. 2, January/February 2005.

114 One of the first image ever displayed on a computer screen was a pin-up taken from *Esquire*, which was shown on a billion dollar IBM Sage computer in 1956, an aerial surveillance system primarily targeting Soviet bombers. See for example Benj Edwards, "The Never-Before-Told Story of the World's First Computer Art (It's a Sexy Dame)," *The Atlantic*, n.d., 2013. Available at http://www.theatlantic.com/technology/archive/2013/01/the-never-before-told-story-of-the-worlds-first-computer-art-its-a-sexy-dame/267439/, accessed on June 27, 2018.

115 Jonathan Crary, *Techniques of the Observer. On Vision and Modernity in the Nineteenth Century*, op. cit., p. 8.

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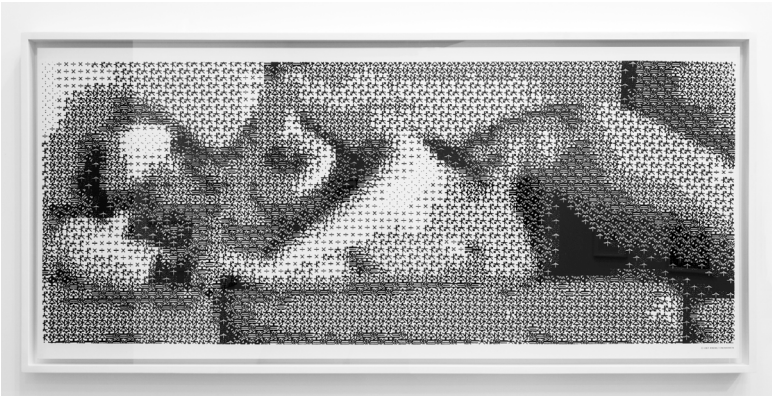

Fig. 120: Ken Knowlton and Leon Harmon, *Studies in Perception I (Deborah Hay)*, 1967 (screenprint, 86.4 × 185.4 cm)

Fig. 121: Thomas Ruff, *nudes er21*, 2000 (144.7 × 94.5 cm)

In the 1970s, the work of Knowlton and Harmon was not unknown in Germany. Herbert F. Franke and Gottfried Jäger's important book *Apparative Kunst: Vom Kaleidoskop zum Computer* – one of the earliest publications focusing on computer-generated art in Germany – acknowledges both of them.[116] It also extensively quotes A. Michael Noll, who also worked at Bell Labs. But as the evaluation of the construction of specifically German documentary forms has shown, the paradigm Düsseldorf photography embodies from the 1980s until today has to a certain extent ignored forms of generative or abstract photography (e.g., Otto Steinert or Gottfried Jäger), as it had excluded non-Düsseldorf documentary photographers (e.g., Joachim Brohm or Manfred Hamm). The Düsseldorf School has become such a strong

116 Herbert W. Franke and Gottfried Jäger, *Apparative Kunst: Vom Kaleidoskop zum Computer*, Cologne, Verlag M. DuMont Schauberg, 1973.

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label – whose endorsement by the art market still ought to be evaluated – that its historicization has focused on a discursive field based on the documentary tradition and painterly models, which has limited its comprehension. Yet, these early digital imaging systems are interestingly echoed in Thomas Ruff's work based on appropriated digital image files. But if the strategy used in the *nudes* hints at the deconstruction of an image into discrete elements, characteristic of Knowlton and Harmon's "photograph," the association between them and Thomas Ruff's work becomes even more explicit in the *jpegs*.

Fig. 122: Thomas Ruff, *jpeg ny02*, 2004 (269 × 364 cm)

"jpegs"

The starting point of the *jpegs* series similarly resides in the use of imagery (mostly) found on the Internet, often connected to particular political events covered by media or reminiscent of images circulating on the web or in newspapers, without any particular historical importance. Ruff states that the initial influx for the series came from the photographs of the 9/11 attacks,[117] whose cultural pregnancy and sociohistorical significance are increasingly interpreted as symptomatic for a new globalized image circulation system.[118] The myth of their inception states that Ruff was in New York on September 11, 2001, main topic of the series (see Fig. 122). But for undetermined reasons, all the pictures he shot that day were lost, probably due to x-rays or camera failure, which led him to an appropriative approach.[119] As he didn't have images to work with, he became interested in the visual transfiguration in the media of such a traumatic event. He created a whole series based upon the original experience with the Twin Tower pictures,

117 See for example interview of Thomas Ruff by Max Dax, in *Spex. Magazin für Popokultur*, reproduced in Carolyn Christov-Bakargiev (ed.), *Thomas Ruff*, op. cit., p. 72.

118 See for example Clément Chéroux, "Le déjà-vu du 11-Septembre," *Etudes Photographiques*, No. 20, 2007.

119 See for example Carolyn Christov-Bakargiev (ed.), *Thomas Ruff*, op. cit., p. 126.

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adding small jpegs of natural disasters, accidents, terrorist attacks or consequences of warfare, mostly downloaded from the web. Sometimes he takes images himself with a small digital camera or uses photographs taken from books or postcards.[120] The obtained digital files are re-compressed at the "worst possible quality"[121] and retouched to a certain extent. The visual structure of the jpeg algorithm is enhanced, making visible the double level pixilation (see Fig. 124), which remains invisible if the large prints are seen from afar, but which gradually appears as the beholder approaches. The second type of editing addresses the hue and saturation of colors, which has been interpreted as a way to "emphasize the digital origin of the found images."[122]

The series, first exhibited in 2005 at the Zwirner Gallery in New York and in the Mai 36 Gallery in Zurich,[123] mostly spans from 2004 to 2008[124] and numbers 155 photographs according to Carolyn Christov-Bakargiev,[125] roughly 120 according to Christiane Grathwohl-Scheffel,[126] a count difficult to verify as no compete list is available and as some images are only available in selected galleries. A selection of sixty-three (undated) photographs has been published as a book by Aperture in 2009[127] and the Galerie Mai 36 in Zurich has a work list of sixty-five images.[128] The project addresses images depicting events that have entered the collective consciousness through their circulation in the media, and whose iconicity stands for that particular moment. As several scholars have shown, media coverage of a particular event is increasingly limited to a very small number of images. Clément Chéroux has, for instance, evaluated the images of the 9/11 attacks used by ninety American newspapers and concluded that roughly 72 percent of them were distributed by the Associated Press, obviously limiting the diversity of possible depictions of the attacks.[129] André Gunthert has similarly shown that the front pages of 442 newspapers covering the 2005 terrorist attacks in London used news agencies' images almost systematically, with only nine photographs coming from amateur or independent sources.[130] Those iconic photographs, which stand for "five, ten or one hundred other images" – Ruff calls them "exemplary" [exemplarisch][131] – constitute the core element of Ruff's investigation of contemporary visual culture,

120 Interview of Thomas Ruff by Guy Lane, October 24, 2009, on Foto8.com. Available at http://www.foto8.com/live/thomas-ruff-interview/, accessed on June 27, 2018.
121 Ibid.
122 Carolyn Christov-Bakargiev (ed.), *Thomas Ruff*, op. cit., p. 126.
123 See exhibition listing in Carolyn Christov-Bakargiev (ed.), *Thomas Ruff*, op. cit., p. 274.
124 According to Ruff's latest monograph the series is ongoing. See *Thomas Ruff. Works 1979 – 2011*, exhibition catalogue op. cit., p. 196.
125 In the most up to date monographic publication on the artist. See Carolyn Christov-Bakargiev (ed.), *Thomas Ruff*, op. cit., p. 126.
126 Christiane Grathwohl-Scheffel, "Cosmos of Images," in *Thomas Ruff. Schwarzwald. Landschaft*, exhibition catalogue (Museum für Neue Kunst, Freiburg, 2009), Nuremberg, Verlag Museum für neue Kunst, 2009, p. 30.
127 Bennett Simpson, *Thomas Ruff. jpegs*, New York, *Aperture*, 2009.
128 Email correspondance with the Gallery Mai 36, February 2013.
129 Clément Chéroux, op. cit.
130 André Gunthert, "'Tous journalistes?' Les attentats de Londres ou l'intrusion des amateurs," in Gianni Haver (ed.), *La photo de presse. Usages et pratiques*, Lausanne, Antipodes, 2009.
131 See interview of Thomas Ruff by Guy Lane, op. cit.

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particularly through their distribution on the Internet. Image posting or re-blogging, often without any copyright or source information, is a very common practice on the web nowadays, while official media (in print and online) use a more traditional image managing economy. Iconic, easily recognizable pictures of well-known events thus constitute an important part of the series, whose relationship with a visual referent thus considerably differs from the *nudes*, whose circulation is widespread but very secretive.

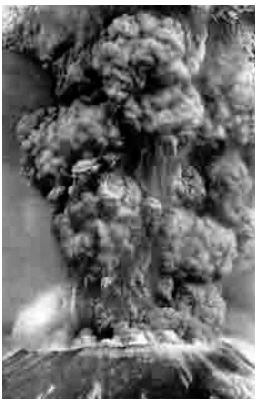

Fig. 123: Thomas Ruff, *jpeg msh01*, 2004 (276 × 188 cm)

Ruff voluntarily produces many images that are difficult to trace and that do not necessarily point to a particular moment in time. All of them are not iconic. The series thus produces a productive dialectical response of the beholder confronted with those images, who either immediately recognizes their origin – as for example the 9/11 pictures (e.g., *jpeg ny02*, 2004, Fig. 122) – or is solely confronted by a familiar visual grammar, without being able to trace its referent. Many images consequently acquire a generic status, with type-images standing for a type-event – war, terrorist attack or natural disasters – rather than a specific moment in time or a geographical location. The process is gradual rather than discrete, as the images range from easily recognizable images such as the burning twin towers to the close-up of a palm tree forest (e.g., *jpeg pt01*, 2006) that cannot be correlated to any particular moment or place. All the "intermediate" stages, like, for example, tombs in a rocky terrain in the mountains (e.g., *jpegs ag1* and *jpegs ag2*), might lead the beholder to associate them with images seen in the news, – in this case, the memory (and the titles) may point to Afghanistan. Less explicitly, a temple in a tropical forest might suggest Southeast Asia (e.g., *jpeg ca03*, 2004). In those two cases, the initials either enhance the generic nature of the picture – "pt" in *jpeg pt01* probably stands for palm tree –, or, on the other hand, they point in a particular direction: "ca" in *jpeg ca03* is probably the short form of Cambodia. Ruff thus addresses various levels of interpretation of the images, accessing the visual memory of the viewer. While some images allow an explicit pinpointing of an event, allowing the viewer

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to understand the series or have access to its mechanisms, most images rather remind viewers of images that are recognized as familiar but cannot be identified clearly. Further images rather embody recognizable type-images, whose grammar or overall formal construction appears familiar without being linked to explicit knowledge or an explicit source.

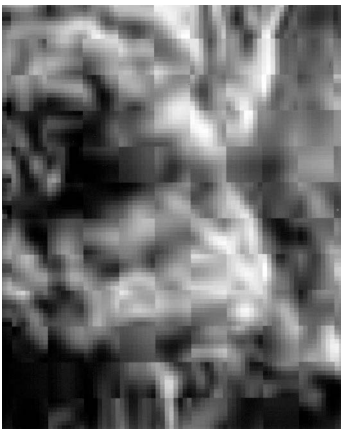

Fig. 124: Thomas Ruff, *jpeg msh01*, detail

This dialectical relationship between the recognizable and the familiar – the specific and the generic – is further expressed through another movement, physical for instance, implicating the spatial experience of the *jpegs*. The act of recognizing the picture implies a certain distance from the print, while a close-up inspection only reveals the digital structure and formal construction, preventing the beholder to grasp it as a whole. "'Seeing' and 'recognizing' cannot occur in a single gaze," as Valeria Liebermann notes,[132] a phenomenon that is intensified by the extremely large formats. While enlargements or zooming of high-resolution images (those taken with a large-format camera, for example) increases the amount of readable information, in Ruff's case the result is only the extrusion of the pattern of the image[133] – the pixelated structure and the manifestations of the jpeg compression algorithm – producing a semantic dead end.[134] The paradigmatic example of an attempt to enlarge an image to reveal more information, quoted repeatedly by Ruff's commentators, Michelangelo Antonioni's *Blow Up* (1966), shows that a synthetic gaze from a distance often produces more information than the blowing up of an image. In the context of digital image editing processes, it is further

132 Valeria Liebermann, "Dissolving the Image," *Foam*, No. 13, Winter 2007 – 2008, p. 113.

133 Maren Polte, *Klasse Becher. Die Fotografieästhetik der "Becher Schule,"* op. cit., p. 136.

134 The effect works to a certain extent with the large-format *Aperture* publication (28.3 × 381 cm), while being ineffective on a regular computer screen or average-sized catalogues. See Bennett Simpson, *Thomas Ruff. Jpegs*, op. cit. The artist booklet (17 × 12 cm) *Thomas Ruff. jpeg ny03* circumvents the problem, by decomposing *jpeg ny03* into small portions of the picture, printed on every page, thus only showing the pixel structure and withholding the bigger picture. See *Thomas Ruff. jpeg ny03*, Cologne, Salon Verlag, 2005.

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interesting to note that in the movie the attempts to blow up the analogue photograph fail; the enlargements are resolved into structural raster, a feature often invoked to emphasize the weaknesses of digital media. Obviously, Thomas Ruff's series addresses the 72-dpi structure of the images used, whose quality could be considered poor, compared to high resolution photographs, digital or analogue. But if their actual use is taken into account, their widespread dissemination on the web and their consumption on computers and smartphones, the focus shifts toward the construction of the meaning of an image though its mediation, rather than through its strict connection to its referent, to what is photographed. It then appears that it is less the low quality or the loss of information that in fact matters in the series than the fact that these images nowadays constitute the main visual vector of knowledge *despite* their low quality, through their widespread diffusion and through the imprint they leave in the collective consciousness. As soon as an image of 9/11 is acknowledged as such, the amount of information contained in that very image is pointless, as memory and visual culture reconstruct its meaning. In that respect, Ruff operates and witnesses a shift away from the strict referential features of photography in the semiotic sense, theorized under numerous forms or concepts such as indexicality, to build upon an expanded (or extended) field of reference, defined by its circulation and its perception, and mediated by verisimilar rather than "indexical" images.

The construction of such an expanded field relies, as noted earlier, on various degrees of recognizability of the images. In order to identify them more clearly, it is useful to suggest a categorization of the photographs of the series. According to Ruff, they can be divided into several groups. Catastrophes created by men, initiated by the 9/11 attacks, was the first batch he undertook and depicts specific wars (e.g., bombing of Baghdad, burning oil fields in Iraq, etc.; see for example *jpeg wi01*), warfare technologies, which are not necessarily connected with a specific conflict (e.g., nuclear bomb testing in the Bikini Atoll, missiles, etc.) or terrorist attacks (e.g., 9/11). This particular group pre-eminently embodies Ruff's interest for the circulation of media imagery: "catastrophic" events are particularly resilient in the collective consciousness, many of those images thus retain a strong connection with media or physical realities. The 9/11 pictures constitute the core body of images, as the representation of this particular event provides at least fifteen to twenty images[135] that depict the towers or the debris at Ground Zero. The historic circulation of these imageries is also addressed by Ruff, as he reflected on recent events, but also on images that have remained in the collective memory through time, such as nuclear bomb testing in the Bikini Atoll in the 1940s and 1950s. With such examples he confronts the viewer with a visual history in the strict sense but also with more elaborate reflections on the role of these images in history. For a photographer or a photography historian, the

135 As no complete worklist of the *jpegs* exists, there might be other examples. The *jpeg ny* series showing the towers goes up to *jpeg ny15*. Several other images are connected to 9/11, such as *jpeg de01* (debris), *jpeg td02* (smoking towers), *jpeg co01* (collapsing tower), according to the Mai 36 gallery work catalogue and Internet research.

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atomic bomb might recall the image of a nuclear bomb in the next-to-last room of *The Family of Man* exhibition in the MoMA in 1955, curated by Edward Steichen, which exemplifies Ruff's interest for the political implications of such iconography. But Ruff also implies phenomenological issues, as the relationship between image and trauma constitutes an evident articulation of this body of work. Ruff interrogates images connected to violent or traumatic events, evaluating their status in contemporary visual culture. Although conceptual and auto-reflexive, the series clearly addresses the beholder's reaction to them in an interrogation of the implications of images in media, or images as media.

The second category shows photographs of disasters created by nature, such as volcano eruptions (e.g., *jpeg msh01*, 2004, Fig. 123) or floods (e.g., the tsunami flooding in Southeast Asia in 2004). While in this case some images are recognizable, they often circumscribe generic natural catastrophes, without a pre-existing visual model. They embody type-images, whose typology has entered the collective consciousness. The third group shows contemporary man-made creations, architectural landmarks such as skyscrapers or stadiums (e.g., the Allianz Arena Munich in *jpeg dhem05*), which could be opposed to antique made-man creations (e.g., temples in Cambodia, etc.), conquered by nature. This final topos – nature – constitutes the last category, which represents images of pristine, untouched nature. If Ruff often emphasizes the fact that it is actually man-made[136] – he recalls spending holidays on an artificial island created for Western tourists, where sand and palm trees were brought in –, some images of the series also depict real locations. *Jpeg sl01*, *jpeg sl02* and *jpeg sl03*, all made in 2007, depict wilderness in the Black Forest in Germany, the prefix "sl" in the title referring to *Schwarzwald* and *Landschaft*, the name of a recent exhibition displaying many photographs taken in Ruff's home region.[137] But rather than a comment on original or primitive nature, these photographs address an environment which is now increasingly controlled, shaped and organized, despite looking original or natural. Its depiction through type-images serves advertising and merchandizing industries and constitutes the vision of what nature might or ought to look like in the collective consciousness. The process pushes Paul Virilio's thesis that representation now preceded real even further: representation has become that reality and has supplanted it.

As in many of Thomas Ruff's series, a sub-categorization of Jacques Herzog and Pierre de Meuron buildings can be found in the jpegs. If the *jpeg* series contains some iconic buildings from other firms, such as the Burj tower in Dubai – the world's tallest monument at this time –, most contemporary architecture displayed has been realized by the two architects from Basel. Tagged "*hdem*," the acronym for Herzog and de Meuron, the body of images shows a Ricola administrative building in Laufen Switzerland (1999), the Dominus winery in the Napa Valley, California (1998), the De Young Museum in San Francisco (2005), the Eberswalde Library (D), the Allianz Arena

136 Interview of Thomas Ruff by Guy Lane, op. cit.
137 *Thomas Ruff. Schwarzwald. Landschaft*, exhibition catalogue, op. cit.

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in Munich, the Edificio Forum in Barcelona, named *hdem 01* to *hdem 06* respectively. The sub-series contains at least these six images, none of which is contained in the *Aperture* publication,[138] which is instead focused on disasters. The presence of the *hdem* pictures suggests a sub-layer in the series, which could be interpreted as addressing the visual culture of a public oriented toward, while the whole series would rather express a less specific visual culture, centered on media. The series further reflects Thomas Ruff's personal ties with the two architects.

The Internet and new visual economies

When read in relation to the *jpegs*, the *nudes* suggest an interestingly diverging relationship between the image and what is depicted in the photograph. Pornography might be tagged fictional, as *actors* are performing scenes and events. If it retains a degree of realism, acted sexual intercourse remains sexual intercourse. Ruff's *nudes* series thus addresses a type of imagery that has no concrete relationship to reality (an "authentic" scene that has supposedly taken place in time and space) – except the fact that it is actual sexuality and not simulated sexuality. But it *does* produce the fantasies the audience demands, declined in various categories, despite this distance from reality. The outcome is eminently generic, as the "blonde" or the "orgy" appeals to a reality constructed by the viewer and doesn't refer to a particular "blonde" or a particular "orgy" in time or space[139] but retains a connection to a reality, as a pornographic image is necessarily pornographic. The reality constructed by the viewer through the *jpegs* is a similar cognitive reality, save the fact that the tautological relationship that exists in pornography, the knowledge that depicted sex is necessarily sex, vanishes in the *jpegs*, as only the knowledge and the image remain. As such, the *nudes* could be interpreted as a first step in Ruff's interrogation of the construction of meaning through imagery found on the web, confronting fictitious images with the viewer experience. While the *jpegs* presumably show real events, Ruff shows to which extent such images acquire an autonomous presence and are read *as* reality, rather than as a depiction of it. The variety of categories in the series, ranging from easily recognizable images referring to actual events or places to familiar type-images without a known referent, reflects upon the process of reading them, showing that they are equivalent to the viewer. The digital filtering grid, achieved through the pixilation and the algorithmic structure, subordinates them to their digital structure and digital distribution vector, the world wide web.

138 Bennett Simpson, *Thomas Ruff. Jpegs*, op. cit.

139 Except for the category "reality," which displays sex tapes of "real" individuals (sex tapes showing stars, amateur pornography, etc.).

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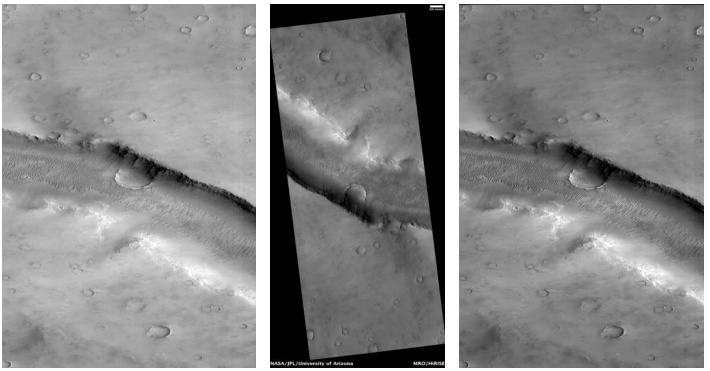

Fig. 125: Thomas Ruff, *ma.r.s. 06*, 2010 (256 × 186 cm)
Fig. 126: *HiRISE Image PSP_003273_1675, Evros Vallis and Nearby Craters* (NASA/JPL/University of Arizona)
Fig. 127: Equivalent to *ma.r.s. 06* created by the author from NASA footage

3 AUTOMATED IMAGES AND 3D EFFECTS: THOMAS RUFF'S *MA.R.S.*

Thomas Ruff's recent *ma.r.s.* series relies on the appropriation of photographic material not captured by the artist himself, similar to the *jpeg* and *nudes* series. While the source material has also been downloaded from the Internet, it addresses yet another image circulation apparatus. In recent years, numerous scientific image databases have been made available to Internet users. The photographic holdings of important cultural and scientific institutions, such as the Library of Congress or NASA, became accessible on their respective websites, often in high-resolution and non-compressed image formats (e.g., TIFF). With the increase of Internet speed and the intensification of digitalization of visual material by various institutions (e.g., museums, archives, etc.) – often the outcome of digital conservation strategies –, numerous photographs from various scientific fields have been made available to the public. (e.g., aerial photography, historical data, astronomical imagery, etc.). For his *ma.r.s.* series (2010 – 2013), Thomas Ruff has used high-resolution photographs made by NASA's *Mars Reconnaissance Orbiter* spacecraft since 2006. The images taken with a HiRISE camera are sent via satellite to Earth and are freely distributed on their website for research purposes.[140] Thomas Ruff has repeatedly stated his interest in astronomy,[141]

140 The HiRISE camera photographs in high-resolution (1 pixel = 30cm). It operates in wavelengths visible to the human eye, but also in near-infrared range, allowing determining the mineral nature of the photographed Mars soil. Laser readings with the MOLA (*Mars Orbiter* Laser Readings) further allows creating elevation maps from the pictures. The images are made accessible online for the scientific community, and even observation requests can be submitted. See marsoweb.nas.nasa.gov/HiRISE, accessed on August 21, 2018.
141 Most recently in "Thomas Ruff in Conversation with Hans Ulrich Obrist," in *Thomas Ruff*, op. cit., p. 3.

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a curiosity first expressed in the *Zeitungsfotos* already through various photographs of constellations, planets or space exploration (e.g., *Zeitungsfoto 031* and *Zeitungsfoto 032*, 1990). But the 146-print *Sterne* series (1989 – 1992) constitutes Ruff's main work group connected with astronomy. These photographs are based on appropriated 29 × 29 centimeter negatives of the starry sky of the southern hemisphere, taken by the European Southern Observatory (ESO).[142] His longing interest for the subject has for instance been formalized as an exhibition in the LWL-Landesmuseum für Kunst und Kulturgeschichte Münster under the title *Thomas Ruff: Stellar Landscapes*. It combines all series concerned with astronomy (*Sterne*, *Cassini*, *Zycles*, *ma.r.s.)* and numerous photographs of the *Zeitungsfotos*, *Nächte* and *jpegs* concerned with the subject.[143] In these various work groups, found imagery plays an important role. The *Sterne*, the *Cassini* and the *ma.r.s.* series use appropriated material, provided by the main space agencies (i.e., the ESA[144] and NASA). Like with the *Sterne* created twenty years earlier, Ruff uses high-resolution photographic material. The oblong images from the Mars surface can exceed 1Gb, 20,000 times more than an average jpeg (50 kb) found on the Internet.

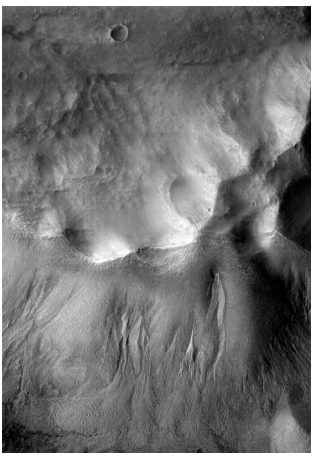

Fig. 128: Thomas Ruff, *3D-ma.r.s.03*, 2012 (255 × 185 cm)

Colorization

After the selection process where Ruff chooses portions of the source files, he extensively retouches the photographs, producing a result he situates between the "realistic" and "the fictional,"[145] a stance repeatedly mentioned in interviews and reflected upon by critics. Many images are clearly reminiscent of a planet through the presence of craters, but some could be associated with sand dunes

142 Matthias Winzen, *Thomas Ruff. 1979 to the Present*, op. cit., p. 193.
143 See *Thomas Ruff. Stellar Landscapes*, exhibition catalogue (LWL-Landesmuseum für Kunst und Kulturgeschichte Münster, 2011 – 2012), Berlin, Kerher, 2011.
144 European Space Agency.
145 See "Interview of Thomas Ruff by Sandra Hofmeister," p. 50 – 51.

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or macroscopic views of mineral substances. Color plays an important role in that de- and re-contextualizing process. The originally black and white images[146] are colorized in earthy colors (Fig. 125), reminding the surface of the "red planet" (orange, red, brown, sand, gray, green, blue). Colorization of the images clearly answers to compositional and aesthetic features. But epistemological concerns are also addressed, echoing an important aspect of the history of science. Color has been widely used to highlight elements of scientific imagery – as much in biology as in astronomy –, and photographic representations completed with chromatic data have been historically constructed as being scientific.[147] Ruff himself proves aware of such scientific discourse:

> *In thinking of NASA pictures, everybody has in mind the fantastic photographs of intergalactic mist or stellar clusters made by the Hubble Space Telescope. In fact, color is very common in astronomical photography. That has driven us to a very multicolored conception of the universe [...]. But colors in space are relative. The various kinds of light as we see them are only a very small portion of the diversity of electromagnetic waves that exist in space. In coloring the Mars photographs, I sometimes used scientific references, and sometimes my imagination.*[148]

Ruff emphasizes the subjective nature of representative protocols used in astronomy, which are used concomitantly with photography. The HiRISE camera for instance, is able to generate color images, but the visual outcome is calculated using measurements recorded with a laser and is not *per se* photographic, although the process obviously challenges the very idea of photography (laser *is* a light beam). He further points at the fact that for the non-scientific observer, these images become reality, especially since the represented stellar clusters or intergalactic mist cannot be compared with a referent in the physical world. As such, the colorization of his images is not a strictly formal or aesthetic feature. The digital process engages primarily with the perception of these images, which Ruff calls his first landscape photographs.[149] But in order to grasp the modalities of this movement, another main digital post-productive operation of the source images ought to be discussed: the perspective shift.

146 The use of laser measurements also allows NASA to produce modeled color images, even though the photographic images as such are taken with a black and white camera. See marsoweb.nasa.gov/HiRISE, accessed on August 21, 2018.

147 See for example Lorraine Daston and Elizabeth Lunbeck, *Histories of Scientific Observation*, Chicago, University of Chicago Press, 2011.

148 See "Interview of Thomas Ruff by Sandra Hofmeister," *DAMn° Magazine*, No. 32, March 2012, p. 50.

149 *Kultur 21. Unbekannte Landschaften – Das Universum des Thomas Ruff*, documentary film, Die deutsche Welle, 2011.

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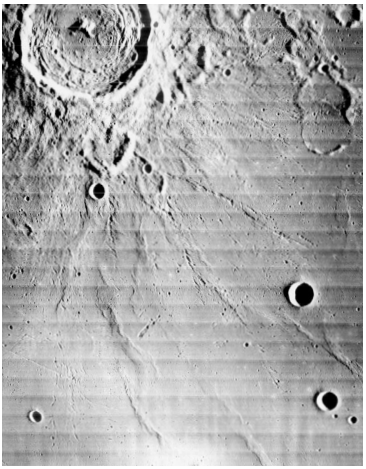

Fig. 129: Image of the moon surface transmitted by *Lunar Orbiter I*, 1967

Perspectives and 3D

Besides the colorization, the images have been cropped and digitally retouched in order to achieve a 3D effect, similar to a diagonal bird's-eye view.[150] The HiRISE camera has originally taken the images orthogonally (see Fig. 126). But Ruff reframes and stretches them geometrically, in order to create an image that appears to be taken from a lower angle. In the source image of *ma.r.s. 06*, the crater in the middle bears a strictly round shape due to the orthogonal capture. In Ruff's photograph, it has an elliptical shape, suggesting another perspective. The operation is extremely simple when using digital retouching technologies but would imply a much more complex apparatus, if done with an analogue image (e.g., an exposure unit, which allows the negative to be projected with distorted optical parameters on photo-sensitive paper). As the computer calculates the new perspective according to mathematical data, the outcome only slightly differs from a shot (e.g., projected shadows, etc.), which would have been taken at the theoretical location where the perspective lines would merge (or where the theoretical observer would be situated). Even though *ma.r.s. 06* is an anamorphosis of the image captured by the HiRISE camera, the resulting photograph is – to a certain degree – optically correct, unlike Andreas Gursky's *Rhein II* mentioned earlier. Fig. 126 shows the source image of Ruff's *ma.r.s. 06*, which has been modified with a 3D effect filter in Adobe Photoshop. The produced image is almost identical to Ruff's photographs, which is revealing of the photographer's creative process. While the original black and white images appear to be the outcome of scientific imaging systems

150 Thomas Ruff commenting on the perspective change says that he "squashed these images, hence generating a pseudo perspective – a new point-of-view, much like observing the Mars landscape from an aeroplane." See "Interview of Thomas Ruff by Sandra Hofmeister," *op. cit.*, p. 51 – 52.

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– suggested by various meta-tags, legends and the protocolled rigor of a strictly orthogonal view –, *ma.r.s. 06* possesses a more suggestive formal construction. The shift of point of view places the beholder in the position of a traveler, while the original images retain a scientific character. Based upon a strict protocol, the HiRISE photographs are reminiscent of the work of the Bechers, with their assumed bi-dimensional work and lack of visible authorship. Ruff's image clearly endorses an aesthetic stance and possesses a suggestive character, addressing a "utopian" or "romantic" vision of space, as the (very recent) critical literature acknowledges.[151]

In the shift between scientific imagery and evocative photographs, perspective and orthogonality play a central role, an aspect further emphasized by a recent declination of the series. In 2012, Ruff has created 3D versions of some Mars photographs, using different sources images. The *3D-ma.r.s.* series bears two specific interconnected traits, which sets it apart from the earlier 2D examples. Ruff has edited the images with a red and green filter, which produces a three-dimensional effect (for the beholder), when used with special 3D glasses chromatically matching. In the process, Ruff reflects upon an important trend of the late 2000s in cultural industries. Numerous film productions are now digitally projected in 3D in theatres and as much television set manufacturers as pornography producers have endorsed the trend as well. But while these fields resort to digitized, elaborate 3D coding processes,[152] Ruff uses a very primitive (analogue) technical trick, known since the mid-twentieth century:[153] the paper glasses with a red and a green lens. The other distinctive aspect of the *3D-ma.r.s.* series resides in the use of source material in which the perspective has not been modified. Most 3D images are orthogonal photographs – craters are round and not elliptical (see Fig. 128) – the 3D effect being achieved by the dichromatic filters and the reception by the viewer. Both series thus possess an immersive character, but while the first (perspective change) occurs in the viewers' mind and confronts him with his familiarity of landscape imagery, the second (red-green filter and glasses) operates optically, shaping his perception of the image. A key process of the *ma.r.s.* and the 3D *ma.r.s.* series therefore resides in the re-contextualization of the appropriated images, which can be associated with a scientific discourse – the terminology of the titles (in *ma.r.s.*, but also in the *Cassini* series) and the repeated mention of the NASA source, spacecrafts or the used apparatus inscribes the series in a specific field –, while deconstructing the visual characteristics of scientific representation (i.e., orthogonality, black and white imagery). On the other hand, the

151 Melanie Bono for example assesses the series as a transformation of a "supposed reality, [...] preconditioned by the media, into dreamlike scenarios focused on the utopian nature of space and space travel." See Melanie Bono, "Stellar Landscapes," in *Thomas Ruff. Stellar Landscapes*, op. cit, p. 54.

152 See *Les cahiers du cinéma*, No. 672 ("Adieu 35. La révolution numérique est terminée"), November 2011.

153 The Gagosian Gallery catalogue reproduces the dichromatic images and the paper glasses, which extends the project. See *Thomas Ruff*, essay by Geoff Dyer and interview with Thomas Ruff and Hans Ulrich Obrist, op. cit.

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colorization seemingly inscribes the series in an aesthetic approach, but while the visual impact of the large format images is unquestionably central, the process is also reminiscent of scientific protocols, whose result is particularly resilient in the layman's eye.

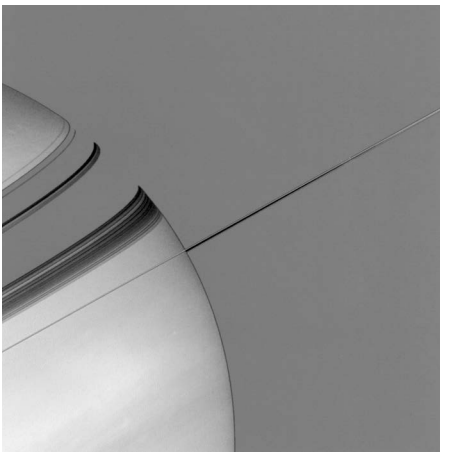

Fig. 130: Thomas Ruff, *cassini 16*, 2009 (108.5 × 108.5 cm)

Automation and self-reflexivity

The genesis of the series and Ruff's work process highlight his interest in contemporary forms of photography and of its circulation and distribution, as well as the technical aspect of the capturing apparatus. In this particular case, photography converges with astronomy in a technical sense. The HiRISE camera combines photographic capturing technology with the lens of a telescope.[154] The device itself is transported through space in order to photograph a planet and sends back to Earth the images across considerable distance. But besides the capturing process itself, Ruff's project addresses another noteworthy parameter of the photographic apparatus that ought to be discussed: the *automation* of the capturing. Unlike many conventional photographic approaches, the *ma.r.s.* images have not been taken through the action of an operator but are completely automated. The capturing device is commanded by mathematical data, such as geographical tags, set time lapse or the interaction with sensors, but not by human hand. While technically this is not new – time-lapse photography (e.g., chronophotography) or delayed shutter release have, for example, existed since the end of the nineteenth century – it reflects an increasingly ubiquitous phenomenon in contemporary photographic uses. Nowadays, numerous images are shot without the intervention of a

154 While a camera (commonly) records visible light only, telescopes are sensitive to various ranges of wavelengths (e.g., infrared, X-ray, radio waves, etc.), considerably extending the spectrum of available data. See for example www.wikipedia.org/wiki/telescope, accessed on June 27, 2018.

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human operator, a phenomenon Ruff indirectly reflects upon.[155] Drone or satellite data is recorded systematically and automatically, according to pre-set parameters. Digital technologies considerably simplify these operations, and the phenomenon has been addressed by a growing number of artists (e.g., Doug Rickard, who uses Google Street View images or Raphaël Dallaporta, who uses a camera attached to a drone) and exhibitions (e.g., *Le mois de la photo à Montréal 2013* subtitled "*Drone: The Automated Image*," curated by Paul Wombell).[156] Clearly, automated imagery (still or video) constitutes an increasingly important visual source, which entails various transformations that Ruff reflects upon. The point of view and the object of the photograph differ, as many of those operational images are the outcome of aerial or satellite photography. Their formal construction varies accordingly, as the process of framing is automated. Finally, the role of the photographer shifts from the capture of the image to the selection from a multitude of visual sources, an aspect already addressed by Ruff or by Sasse in earlier projects. If at some point the outcome of those technologies seems to correspond to the modernist fantasy of technology improving human perception, the downside might be the fact that the human is withheld from the equation – except from the perspective of the beholder. That shift becomes particularly apparent and explicit in the *ma.r.s.* series, as the visual material is produced 55,000 million kilometers from Earth, a distance the *Mars Orbiter* covered in roughly seven months. As such, the image is probably one of the most remote photographs ever taken, and echoes one of the first "digital"[157] images, transmitted similarly with a Kodak camera by NASA's *Lunar Orbiter* in 1967 (Fig. 129). While such images have existed for quite some time,[158] they were accessible through specialized publications only. The access to the rough data – for research or for leisure purposes – constitutes an important change of paradigm in the circulation of such imagery. The accessibility of databases such as NASA's high-resolution HiRISE image interface reflects an expanding phenomenon, which takes place concurrently with the spread of low or average quality jpegs, omnipresent on the Internet. High-quality photography is very often connected with research, used as much in humanities as by scientific disciplines, because managing databases with important amount of data remains complicated, expensive and economically unviable, except for with specific purposes (e.g., image databases for the press). But clearly it constitutes an alternative to the open web, often unavailable with common image research engines.

155 For an introduction on these processes and an early attempt of their categorization see Claus Gunti, "L'image automatisée, entre drones et apropriation," in Claus Gunti (ed.), *Décadrages. Cinéma, à travers champ*, No. 26 ("Drones, cartographie et images automatisées"), Autumn 2014.

156 See Paul Wombell (ed.), *Drone. The Automated Image*, exhibition catalogue (Le mois de la photo de Montréal, 2013), Bielefeld/Berlin, Kerber Verlag, 2013.

157 The images of the analog film camera were developed in the Orbiter with a Kodak process similar to Polaroid. They were then scanned and transmitted to Earth.

158 An important amount of NASA data of the early ages of digital storage has been lost, as the fantasy of unlimited storage did not consider its technical contingencies and its unsuspected obsolescence.

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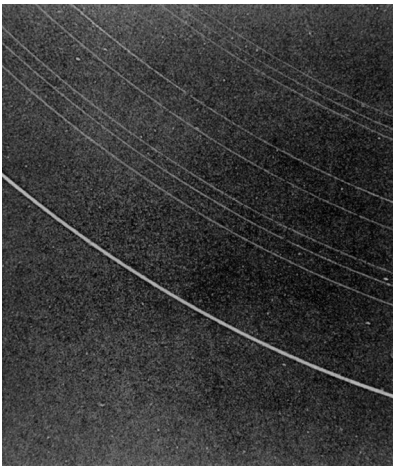

Fig. 131: Thomas Ruff, *Zeitungsfoto 354*, 1991 (b/w, 331 × 28 cm)

Image, reality, index: "*ma.r.s.*" and "*Cassini*"

More than any other object, Mars does not constitute a physical reality, despite its various associations – as a planet potentially harboring living organisms (from a scientific perspective) or as a remote fantasy (correlated to science fiction or space exploration). No human being has ever set foot on its surface or even remotely approached it. As such, photographs of Mars operate as surrogates for the physical planet, more than the equivalents of the moon. Its photographic representation *becomes* its reality, and Ruff's deconstruction of the various modalities of the photographic apparatus – particularly the interrogation of indexicality through the anamorphoses of the series – thus questions the relationship between objects, their representation and their perception by a viewer. A key strategy in this process relies on the shift in context of the image. The outcome of an elaborate, expensive, scientific imaging apparatus, the photographs are decontextualized, fictionalized and associated with various visual referents: the images could rather be linked with travel imagery or landscape photography, craters suggesting generic space exploration, more than they inform about the study of the Evros Vallis (see Fig. 125). Somehow paradoxically, the distanciation from photographic transparency and the references to the indexical images of the surface of Mars, is achieved by focusing on the perception of the images: the 3D *ma.r.s.* photographs create a more immersive view of the Mars surface, which could be correlated with augmented reality. But while seemingly documentary, the self-reflexive strategy addresses the apparatus – as often in Ruff's work – and interrogates the construction of a visual output, rather than the source referent.

The ongoing *cassini* series, started in 2008, works very similarly. The photographs are based upon images taken by the NASA Cassini spacecraft, launched in 1997, which photographs Saturn and its moons since 2004 (see Fig. 134). As in the *ma.r.s.* series, the visual

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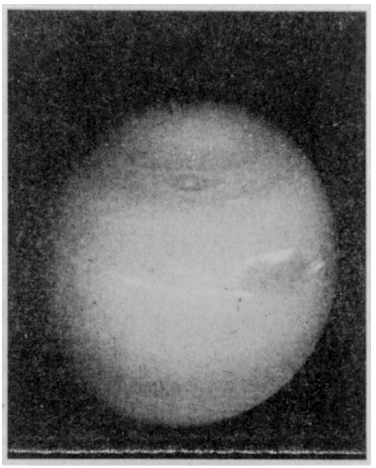

Fig. 132: Thomas Ruff, *Zeitungsfoto 072*, 1991 (b/w, 16.6 × 13.5 cm)

data is freely available on the Internet.[159] The images are heavily retouched, in order to enhance the graphic characteristics of scientific imagery. Although in some examples Saturn remains clearly identifiable with its distinctive rings (e.g., *cassini 10*, 2009, Fig. 133), many photographs of the series look like digitally generated abstract patterns, such as *cassini 31*. If the name of the series, contained in the individual titles of every picture, clearly points to the spacecraft and thus implicitly to Saturn, most images proceed graphically and consequently "lose the capacity that is attributed to them of 'having a meaning.'"[160] In this case, this shift is not achieved by the perspective corrections, which manipulates the viewer's perception of the images, but through the graphical editing. In *cassini 16* for example (Fig. 130), the dark portions of the planet and the background (i.e., space) have been replaced by a single plain color, deconstructing the three-dimensional construction of the image and explicitly pointing at digital post-production tools. This genesis of this particular effect and the motive can already be found in Ruff's atlas of photographs, the *Zeitungsfotos*. *Zeitungsfoto 354* (Fig. 131) shows the two-dimensional structure of the Saturn rings, resulting in an abstract image, which could be associated with examples of *generative Fotografie*. *Zeitungsfoto 072* displays Ruff's interest for Mars (Fig. 132). The two-dimensional focus on the picture surface is also evident in *cassini 31*. In this case, rings of Saturn are shown orthogonally, producing a strictly two-dimensional image, which serves as a model for Ruff's forthcoming projects.

159 *Thomas Ruff. Works 1979 – 2011*, op. cit., p. 210.

160 Alexandra Matzner, "Thomas Ruff. *Zycles* and *Cassini*. Beyond the Horizon," *Eikon*, No. 69, 2010, p. 14.

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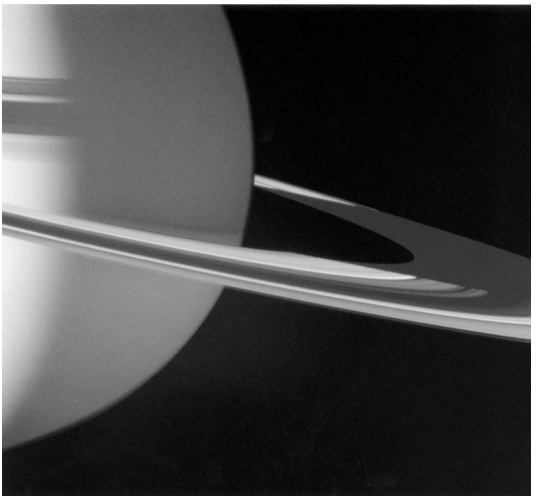

Fig. 133: Thomas Ruff, *cassini 10*, 2009

The double shift toward and away from bi-dimensional image constructions operates paradoxically in the *ma.r.s.* and the *Cassini* series. While numerous work groups could be interpreted as being symptomatic of Ruff's preoccupation with the image surface – a focus clearly visible in the *Cassini* –, the *ma.r.s.* images reverse that movement, reconstructing a 3D perspective. But through that process, Ruff shifts the focus toward the observer, using the perspectival change as a vector, which highlights the viewer's visual culture. In that case, the orthogonal source images correspond to the scientific representation of a physical reality, while Ruff's 3D pictures function as a reflective surface, on which the observer projects his preconditioned vision of the subject. The work on the *jpegs* has interestingly shown that while representing a three-dimensional space – unlike the orthogonal *Häuser* or *Porträts* – the recycled *jpegs* remained orthogonal, structured by the two-dimensional pixel grid. The important alteration brought by the *ma.r.s.* images lies in the understanding that any image showing a three-dimensional space remains two-dimensional. Throughout the 1980s and 1990s, Ruff – much as Andreas Gursky or the Bechers before them – has sought to produce a correspondence between the physical reality and the photograph, aligning various motives on a two-dimensional picture plane. Since the late 1990s, he increasingly depicted images, which seemingly undermined that equivalence – the depicted objects are not parallel to the photograph anymore. But that correspondence has been reconstructed, using other strategies, such as the underlining pixel grid. In the *ma.r.s.* project he literally undermines the equivalence, emphasizing the importance of the relationship between observer and image surface. Considering the history of Ruff's oeuvre, his photographs can be considered images and not depictions and thus need no formal rapprochement such as frontality or pixel grids anymore.

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Fig. 134: First photograph of Earth taken from Saturn (arrow, bottom right), published in *Libération*, July 23, 2013

Digital technologies play an essential role in this formal-aesthetic shift. The anamorphic and the red/green 3D effects represent a technical operation, which fundamentally contributes to the series, in a much more prevalent manner than in projects such as the *Häuser*. They reflect the generalization of digital retouching tools. But its implications go beyond what is technically possible: the widespread use of such editing possibilities reflects a new approach to the photographic image, where the idea of imprint is increasingly fading. The anamorphic construction of the *ma.r.s.* images conclusively rejects the idea of indexicality, rebuilding meaning with source material, cultural codification (e.g., color code) and visual references distributed through the media. The technological parameter can be considered, on a self-reflexive level, another chief interest of the series. Automation of image capture, besides image appropriation, further constitutes a distinguishing trait of Thomas Ruff digital work of the 2000s. None of his Düsseldorf colleagues have adopted similar approaches[161] engaging with news forms and uses of photography. Image production and distribution is increasingly automated and submitted to extensive meta-visual information, which completes visual data: meta-tagging conflates visual, indexical date with other types of information, which produces an extended field of photography, where the strictly visual relies increasingly on digits – in the sense that pictures are correlated with other types of numerical data. Considering that digital visual information is digitized, the possible differentiation between the visual and the meta-visual vanishes, leading to new conceptions of the photographic, such as the non-figurative *substrates* and *Zycles*.

161 Except very few cases, such as Andreas Gursky's *Oceans* series, based on satellite images.

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