6. Cartes-de-Visite, Miniaturization and the Materiality of Circulation

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Even though the history of the carte-de-visite has been told many times before (McCauley 1985; Sagne 1998), it will be retold here—however, with a focus on the mediality of mobility or the mobility of media. Image mobility and the mass of circulating images, which is often labeled with the somewhat pejorative term 'flood of images,' are not exclusively phenomena of the digital age. Nonetheless, the enormous traffic of digital images in our time makes it retrospectively evident that the processes of image distribution and practices of image sharing already played a decisive role in analog media, and that certain media phenomena should therefore be viewed from a different perspective—such is one of the basic theses of this volume. In the following, I will link the concept of circulation with that of dissemination, since circulation in this context does not mean a symmetrical circuit, as, for example, in the case of the system of blood circulation, but must be understood as the "asymmetrical, uncontrollable movement of a-centric circuits" (Bickenbach 2001, 123).[1] The 19th century in Europe and the USA seems to have been a particularly prolific era of mobility of the analog, because the circulation of goods, the expansion of free markets and freedom of trade, as well as the consumption and 'shrinking' of space through new means of transportation (Engell 1992, 20) gave this epoch a physiognomy of dynamics that was fundamentally reflected in economic, social and aesthetic fields (von Plessen 1993, 12). During that time, a downright revolutionary expansion of portrait photography occurred, bringing along major changes regarding "image logistics" (Rothöhler 2018)[2] in photographic production.

Two standardizations were responsible for the mass production of portraits. First, Frederick Scott Archer publicized the wet plate collodion process in 1831, which harmonized the various photochemical techniques for developing negatives for a certain period of time. This process enabled a much greater brilliance in the reproduction of photographs than that of Talbot's paper negatives. Daguerre's silver plate method created equally brilliant images, but, unlike the calotype, was not reproducible. Thanks to the wet plate collodion process, it was now possible to combine brilliant images with reproduction, and photography was subsequently standardized in its relationship to paper—making it a light and, thus, transportable,

mobile image. Since then, photographs have become, as Flusser puts it, "flyers" (Bickenbach 2001, 94):

> Even though the photograph remains a flyer for the time being and therefore can be distributed in the old-fashioned way, gigantic complex apparatuses of photograph distribution have come into being. Attached to the output of the camera, they absorb the images flowing out of the camera and reproduce them endlessly, deluging society with them via thousands of channels. Like all apparatuses, the apparatuses of photograph distribution also have a program by which they program society to act as part of a feedback mechanism. Typical of this program is the division of photographs into various channels, their 'channeling.' (Flusser 2000, 53)

It is no coincidence that Flusser's terminology and description are already reminiscent of experiences of circulation in the digital world.

Secondly, it was the standardization of the format of photography by Adolphe-Eugène Disdéri (1819–1889) that led to a true 'cartomania.' Even if the idea of the carte-de-visite format cannot be attributed to Disdéri alone, the credit for having decisively changed and advanced the development of photography still belongs to him (von Dewitz 1996, 99).[3] He recognized that if photography was to be used commercially on a large scale, its format had to be reduced and compressed, and easy reproduction had to be guaranteed. Only then would it be possible to reduce production costs and, thus, offer photographic services at a lower price, and only then would photography be attractive to a broader mass of people (Freund 1976, 67). As will be shown in the following, this also had a considerable impact on the aesthetics of the carte-de-visit.

A Question of Representation

Thanks to a keen business sense, Disdéri had his technical innovations patented in 1854. One of his first actions was to reduce the format to just 9 x 6 cm, which corresponded to the usual business card size at that time, so that the term carte-de-visite refers less to its social use and more to the small format (Meyer 2019, 66; Krauss 2010, 28). Nevertheless, public authorities and companies often used carte-de-visite pictures as photo identification cards by sticking a full-size label on the back, which gave the user's credentials (Starl 2009, 52). Disdéri also used a special camera with four lenses, which was able to record four images on one half of a collodion wet plate simultaneously, or one after another; then the plate was moved with the help of a cassette, with which the second half of the plate could be exposed (Freund 1976, 68; Meyer 2019, 66). Afterwards, the albumen paper prints were produced, cut out and mounted on (initially quite inferior) sturdier

cardboard, so that finally eight single images could be made in a relatively short time. This resulted in a "formatting of the gaze,"[4] as Timm Starl puts it (1989, 82): "All efforts—as far as the image carriers were concerned—went towards creating uniform dimensions. But it was not until the beginning of the 1860s that a final size was found in the form of the carte-de-visite, which allowed the use of machines in cardboard and paper production, in plate manufacture and, to a certain extent, in camera construction" (Starl 1989, 83).[5] With these measures, Disdéri was able to considerably increase productivity and significantly reduce manufacturing costs at the same time (Krauss 2010, 28; Meyer 2019, 66).

This made portrait photography affordable not only for the upper classes, but also for large parts of the bourgeoisie (Freund 1976, 68). For Elisabeth A. McCauley it was precisely the compressed dimensions of the carte-de-visite that disengaged it from the courtly portrait: "The small size of the carte-de-visite photograph helped to break the traditional association of the full-length portrait with the aristocracy" (1985, 36). This new photographic achievement was celebrated as a "triumph of democracy and social equality" (H. d'Audigier, quoted from Starl 1991, 27),[6] as class differences on this level were now regarded as eliminated. Gisèle Freund also states: "The needs of the lower classes for representation and approximation were thus equally satisfied" (1976, 69).[7] Although this initiated a process of equalization in the production of portraits, it remained very selective at the level of those portrayed because the possibility of producing portraits still depended on the social stratum—the majority of the rural population and the proletariat were excluded from it (Bickenbach 2001, 93). Moreover, the process of equalization and democratization had not yet advanced to the same extent in other areas than media representation (von Dewitz 1996, 104). For the bourgeoisie was by no means as homogeneous as it might appear, and, at that time, it was competing with the nobility on the one hand and with the emerging proletariat on the other. It was precisely this social plurality and fragility of the bourgeoisie that nourished the desire for the portrait as the identification and self-affirmation of a class (Bickenbach 2001, 93).

However, precisely this function of the carte-de-visite as a medium of representation for the bourgeoisie has been and is still being questioned in recent research—not least because the intended individuality and factual conformity in the portraits ran counter to one another: even the photographers of the time complained about the stereotypical and conformist way of presenting people on cartes-de-visite. A small incident from this period, whose concrete circumstances and exact time are disputed[8]—although the existing portrait is actually the decisive factor—, deals with this question of representation (Fig. 6.1): Emperor Napoleon III is said to have had himself photographed by Disdéri in 1859—even before the troops left for Italy—in the manner of the carte-de-visite. Looking at this picture provokes wonder because one would have imagined a portrait of an emperor in a different way. Bodo von Dewitz describes the aforementioned photograph as follows:

> Although the third Napoleon, like his ancestor, presents himself in a distinguished posture—slightly turned out of the picture axis, his head and eyes turned towards the viewer, heightened by a few ingredients that are supposed to lend him dignity—he does not, unlike him [Napoleon Bonaparte, N.W.], present himself in soldier's or 'statesmanlike' clothes, but in a bourgeois street suit, like some well-to-do member of Parisian society. The background has also changed: instead of a festive hall or a battleground, we see a sort of private salon. And finally: compared to the enormous paintings of his uncle, his 8.5 cm x 6 cm pictures seem extremely modest, almost unsightly. (1996, 99–100)[9]

Even the emperor no longer represents himself 'according to his rank,' but is embedded in the same decoration as every other person photographed in carte-de-visit format.

While many contemporaries celebrated the new format and especially the "standard pose in a standard interior in standard size" (Adam 1996, 28),[10] some also complained about the decline of good taste. Contemporary photographer Henry Peach Robinson lamented the unimaginativeness of carte-de-visite photographs (Starl 1991, 27), which almost without exception embellished the image space with random columns, balustrades, consoles or pedestals. Likewise, the almost baroque-looking curtain must be understood as an obligatory accessory, regardless of which photo studio the pictures ultimately came from, because standardization had quickly become international (von Dewitz 1996, 104; Sagne 1998, 111). In his famous *Short History of Photography*, Walter Benjamin sardonically refers to the absurdity of columns standing on carpets and makes the following biting comment: "It was the time when those studios appeared with draperies and palm-trees, tapestries and easels, looking like a cross between an execution and a representation, between a torture chamber and a throne room . . ." (1972, 18). Compared to the conformity of the photographic representation on the front, the backs of the cartes-de-visite appear downright individualistic (Adam 1996, 28): on the cardboard, in addition to the name and address of the photo shops, one finds lithographed (after 1900 occasionally also photographed) views of the studio buildings or places known for tourism, medals, elaborate decorations as well as various optical devices and laboratory utensils, etc. (Starl 2009).

Despite the rather banal photographic aesthetic, the carte-de-visite triggered a new passion for collecting among contemporaries, so that even the Empress Elisabeth of Austria enjoyed the new fashion and collected numerous such cartes-de-visite in albums—even though it may at first seem strange that an empress should have joined this bourgeois leisure activity. In this regard, von Dewitz speculates that "the empress was not interested in collecting individual portraits or subjective representations, but in the similar scenarios of representation that soon found international validity" (1996, 104). The conformity of the presentational form ulti-

Figure 6.1: Napoléon III, Emperor of France, by Disdéri, albumen carte-de-visite, approximately 1859.

mately erases any notion of representation and individualism. Due to the stereotypical arrangement of persons and hardly distinguishable decorations, one picture equals the other. Matthias Bickenbach, too, describes the pictorial program of the

bourgeoisie as a paradoxical undertaking, since the bourgeoisie did not present itself individually but instead in a standardized manner (2001, 95). The self is no longer depicted and the portrait fails to represent, whereas a "representative portrait is based on the idea of the uniqueness of the autonomous individual. The portrait is a mirror of his or her personality, the individuality of the sitter is embodied in the individuality of the representation" (Meyer 2019, 65).[11]

The Operational Portrait

Since the carte-de-visite gave up individual representation in favor of standardization, according to Meyer, we must speak of operational portraits:[12] "Operational portraits . . . are based on formats that regulate the production of large quantities of images, independent of the individual picture and its subject. Thus, before a picture is produced, its coordinates are already fixed: the people depicted enter a space of comparison in which the others are always already waiting" (Meyer 2019, 65).[13] The carte-de-visite breaks with the representational logic of the conventional portrait, since the standardization of the format and the technical production process shape the aesthetics of portraits prescriptively. At the same time, this redundant aesthetic is an expression of a visual culture that is oriented towards access, transmission and the exchange of goods. The individual single portrait becomes altogether less important in favor of serial photos:

> Operational images are a special case of technical-instrumental images; they are not only produced by an apparatus and optimized for specific purposes, they are also integrated into regulated processes of production, storage, distribution and evaluation, which aim to limit the contingency of possible interpretations in order to extract stable information from images. (Meyer 2019, 22)[14]

Although the terms 'storage,' 'evaluation' and 'information' could be associated especially with digital data sets, Meyer does not only mean digitally stored images but explicitly refers to the analog image worlds and data sets of photography. The technological intervention of the digital merely continues the initial conditions of analog photography. In line with this, Martin Lister also points to the stability of the photographic practices before and after the digital turn: "The difference between analog and digital image technology is only one factor within a much larger context of continuities and transformations. In short, in order to stress the significance of new image technologies we also have to look at how images are used, by whom, and for what purposes" (2004, 317). The contexts in which photography is used have indeed remained essentially untouched; it is only on the level of media convergence that digitization brought changes to photography. As early as 1895, Oliver Wendell Holmes emphasized the accelerated distribution and mobility in

photography: "There is only one Coliseum or Pantheon; but how many millions of potential negatives have they shed,—representatives of billions of pictures,—since they were erected! Matter in large masses must always be fixed and dear; form is cheap and transportable" (1895, n.p.). And: "The consequence of this will soon be such an enormous collection of forms that they will have to be classified and arranged in vast libraries, as books are now" (1895, n.p.).

From a technological point of view, digitization seems to have advanced primarily what has always been the practice of the 'public image' of photography, so that the long history of multiple uses and proliferation of photography in and through non-digital dispositives rather culminates in digitization (Wiedenmann 2019, 220). If seriality, reproduction and circulation are to be regarded as constitutive for photographic distribution phenomena, it makes sense to speak of "photography in the plural" (Geimer 2009, 139).[15] Already with the carte-de-visite, a circulation and dissemination of the photographs can be observed. As operational portraits, they were produced in large numbers and in processes based on the division of labor; due to their standardization, they were interchangeable in a certain sense, and exhibited a high degree of circulation in the social realm (Meyer 2019, 23).

In his study, Meyer draws on the theoretical-methodological concept of the actor-network theory (ANT) put forward by science historian Bruno Latour. According to ANT, agency cannot be attributed to a single entity, such as an image; instead, action must be understood as distributed between human and non-human actors, which form complex agential networks (2019, 23–24). Latour's term 'immutable mobiles' points in this exact direction, focusing on images' contribution to complex chains of action. In his essay "Visualisation and Cognition: Drawing Things Together," Latour attempts to explain the technological superiority of the West since modern times with the introduction and blatant use of such 'immutable mobile elements,' which mean: "*Anything* that will accelerate the mobility of the traces that a location may obtain about another place, or *anything* that will allow these traces to move without transformation from one place to another, will be favored" (1986, 13).

The term 'immutable mobiles' signifies that the mobilized data are transferred over space and time into other interpretational environments without the original information being changed or transcribed. Evidently, this applies also and in particular to photography, although Latour himself does not give it as an example—his objects of reference are primarily book printing, maps, statistical recording systems or accounting registers. Elisabeth Edwards, however, quite naturally regards photography as 'immutable mobiles' (2003, 342). Moreover, the ambiguity of the title "Drawing things together" explicitly indicates not only the moment of joining together but also that of drawing or visual representation (Wiedenmann 2019, 223). Latour himself, of course, already mentions the factor of "optical consistency" (1986, 7), i.e., the geometric organization of the image starting from central

perspective and the ideal-typical transformation of the three-dimensional world of objects into the flatness of the image, which he sees manifested above all in the prototype of all cameras, namely the camera obscura (1986, 9). The different groups of phenomena, which are decisive for the Western European advantage of knowledge and information since the Reformation, have in common that they allow for a massively increased operationalizability due to the interplay of mobility (transport), data persistence (stability) and combinability (accumulation, mixing). It is no coincidence that Latour's summary of the properties in question also reads like a description of corresponding photographic material qualities: "In sum, you have to invent objects which have the properties of being mobile but also immutable, presentable, readable and combinable with one another" (1986, 7). One could object that photographs can be 'modified' by changing the carrier medium, for example by varying the image detail, color values and contrasts—as the numerous examples of image manipulation, especially in political contexts, bear witness to. Of course, this applies equally to all the objects listed by Latour. However, this kind of reasoning fails to recognize the core of what Latour means by 'immutable': namely the omission of distortions, time-consuming transcriptions or translations, while at the same time maintaining (for the most part) the consistency of form and signs.

Operational portraits, Disdéri's invention of the carte-de-visite, and the associated standardization and reproduction possibilities can be considered as a "logistics of immutable mobiles" (Latour 2009)[16]: "They aim to increase the mobility of inscriptions, to ensure their stability, to multiply the possibilities of their combination and to optimize the techniques of making them readable" (Meyer 2019, 25).[17] However, changes in the media setting always also transform the perception of images and ways of dealing with them: "Only from a logistical perspective do images actually come into view in the plural: namely not as a diffuse 'flood,' but as elements in regulated and coordinated operations of arrangement and distribution, assessment and evaluation, assembly and linking" (Meyer 2019, 26).[18]

The Miniaturization of the Format

Dealing with the historiography of operational portraits implies not looking at singular works, but observing the changes concerning the standardization of production, circulation and archiving. One aspect of this standardization relates to the format—the normalized measures that are reflected in the size and materiality of the image (Meyer 2019, 26–27). Meyer defines the format as follows: "In this sense, the term format here shall encompass all those simultaneously material and symbolic arrangements, divisions and subdivisions that turn image carriers into data carriers by framing them, structuring them and embedding them in larger technical ensembles such as albums or archives" (2019, 27).[19]

However, the increased mobility resulting from this is not reserved for technically reproducible or small formats only. As the art historian Jennifer L. Roberts has shown, an expansion of transportation can also be observed in the paintings from the 18th and 19th centuries. Due to changed material properties of the image carrier, especially the widespread introduction of the canvas from the 16th century onwards, pictures became more flexible. And also, for economic reasons, paintings became mobile to a greater extent and attracted attention as mobile goods (Rothöhler 2018, 4):

> Supposed that one wanted, during the eighteenth and nineteenth centuries, to engage in what we might now call "visual communication"—to disseminate, circulate, or otherwise transmit. This would have meant that a picture (a physical thing) had to be floated, rolled, or dragged across the surface of the earth. This process took muscle and it took time. It introduced the picture to what economic geographers call the friction of distance, exposing it to the risk of damage, spoilage, theft, or miscarriage and subjecting it to the contingencies of topography, seasonality, and territorial politics. It submitted the picture to the captivation of extrinsic transport and communications systems managed not by artists, patrons, or critics, but by customs agents, packers, drivers, couriers, postmen, and slaves. (Roberts 2014, 1)

Referring to Roberts, Rothöhler emphasizes that the increasing transport movements require complex socio-technical infrastructures and logistics in order to mobilize, carry, pack and store the images (2018, 5). It is therefore hardly surprising that it is precisely these challenges posed by transport that draw attention to the materiality, format and also the weight of the images: "Everything is heavier when it has to be picked up and moved; pictures hefted through space necessarily become 'ponderous bodies'" (Roberts 2014, 8). Such heaviness and thingness become particularly apparent when pictures have to be moved (Roberts 2014, 9). In this case, Roberts refers to the transport of paintings. However, the telegraphic and photographic inventions of the 19th century fundamentally change the forms and speed of image movements, since pictorial distribution and production are now delegated to technical processes, making these images 'easy to move' (Rothöhler 2018, 5).[20]

While all these factors almost inevitably amount to a diminishment of the media in question, the miniaturization of the carte-de-visite, which will be described in more detail below, can hardly be understood without the counter-tendencies within the media constellations and visual culture of the 19th century. According to Erkki Huhtamo, this period is characterized by a "'Gulliverization' of the visual" (2009, 20), which is paralleled by the development of new image formats: Not only miniaturizations but also enormous enlargements of visual products emerged. Through economic developments in the cities and optimizations in printing tech-

nology, it was possible to produce chromolithographic posters and advertisements in various colors. Increasingly, graphic designers also learned to handle very large formats, reduced the text portions and focused on trademarks that could be recognized from a distance (Huhtamo 2009, 19). As particularly gigantic picture installations of the 19th century, panoramas and dioramas, which completely immersed the viewer thanks to their enormous size, became very fashionable (Huhtamo 2009, 20). These immersive structures and the sociological function of the panoramas, to make things sensually perceptible and concretely visible, bring such images closer to the cinema (Engell 1992, 36), whose rise led to the decline of the panorama culture at the beginning of the 20th century. Although the size of the panoramas seems to make their mobility unlikely, these images were often designed for circulation. For example, Aston Barker's depiction of Napoleon's defeat at Waterloo, one of the most lucrative panoramic images of the early 19th century, was even shipped to America, where it traveled and was shown until it fell from the wall in shreds. By implication, transport and circulation inscribe themselves into the material itself. The changing programs of the panoramas were intended to keep the public's attention. Therefore, an international network for the exchange of panoramic screens was created. For this purpose, a certain standardization of the format was necessary, since only the same dimensions of screens and rotundas could ensure the functioning of an international network system. On a social level, the changing image programs of the panorama rotundas corresponded to the increasing mobility of professional people who were free to pursue a trade, so that professional wanderings became commonplace (von Plessen 1993, 13–17).

A look at today: The panorama *Dresden during the Baroque* by Yadegar Asisi (Fig. 6.2), which was created in the 2000s and reworked again, reflects the pictorial movements in earlier centuries. One detail of the panorama shows how a painting wrapped in sheets is being unloaded from a horse-drawn carriage. August III had purchased Raphael Santi's *Sistine Madonna* for a great deal of money; despite the very unfavorable winter weather, the painting was transported in a box across the snow-covered Alps to Dresden in January 1754, while being stretched on a frame (and curiously not rolled) (Asisi 2016, 59). This giant mobile painting (the Dresden Panorama has also been exhibited in Pforzheim and Rouen) deals with the pictorial movements of—still quite large—paintings in the 18th century, and, thus, with trajectories that Roberts traced in her above-mentioned work.

In addition to the proliferation of gigantic images, there was also a countermovement: shrinking, miniaturization and compression of formats—the images became Lilliputian (Huhtamo 2009, 19–20). Chromolithography and photographic processes led to the production of images that were smaller than usual and could be disseminated and distributed en masse, for example in the form of printed images, stereoscopic photographs and also cartes-de-visite. Precisely because of the material properties of the physical image carrier and its standardized formatting, the

Figure 6.2: Raphael Santi's Painting *Sistine Madonna* in the panorama *Dresden during the Baroque* by Yadegar Asisi.

carte-de-visite was particularly easy to move and was conceived as a visual medium of mobility—or, to put it with Holmes, its 'form is cheap and transportable.' The format and materiality were also responsible for the very low weight of cartes-

de-visite, which already suggests its circulatory nature due to its easy transportability—a fact that has received little attention in research to date: "Quite possibly not a single line in any history of photography addresses the weight of images. It is, however, a crucial question: it determines their mobility and thus their propensity for exchange" (Cheroux 2019, 10). Even though the low weight is not explicitly mentioned as a reason for easy transportation, the materiality of photography is nevertheless brought into focus: "the mobility of pictures and other photographic items was embedded in photography's material character. As material objects, photographs are able to circulate and to challenge distance of space" (Natale 2018, 43). According to Natale, early photography was already considered a circulating commodity and a modern technology that was able to paradigmatically change the entire structures of communication:

> Photography was conceived as a medium that put images in movement, allowing pictures taken from reality to be carried, marketed and transported. In fact, photography was from the very beginning a medium of communication in the strictest sense of the term. Putting images taken from reality in movement, and allowing them to circulate across space, photography was perceived and used as pertaining to a range of new technologies that were transforming the very functioning and conditions of human communication. (2018, 35)

It is obvious that distribution and circulation possibilities would accumulate especially for the carte-de-visite, due to their small size and manifold standardization. Even before Disdéri, Edouard Delessert and his Parisian friend Count Olympe Aguado had the idea to print small portraits on business cards and thereby to replace the name. This way, everyone should carry a series of these small portraits of themselves, so that instead of exchanging the usual social rituals, one could (re)present oneself through a portrait appropriate to the occasion—as the French photography critic Ernest Lacan reported:

> Thus, for a ceremonial visit, the print would represent the visitor with his hands imprisoned in spotless gloves, his head slightly inclined, as for greeting, his hat resting graciously on his right thigh. According to etiquette, if the weather were bad, an umbrella faithfully reproduced under the arm of a visitor would eloquently declare the merit of his walk. (Ernest Lacan quoted from McCauley 1985, 28)[21]

Although this form of use of the carte-de-visite did not prevail, it was already intended as a series of mobile portraits which a person should always carry with her. Shortly after the publication of the two gentlemen's idea, Disdéri applied for a patent for the carte-de-visite. It was not meant as a communication substitute in the field of manners, but in the end, it turned out to be just as formulaic. The miniature format not only contributed to mobility and circulation, but also to the

standardization of aesthetics, which, for reasons of pictorial proportions alone, no longer obeyed a pure logic of representation. For the reduced size of the format and the mostly full-figure shot meant that the sitter's face was quite miniscule. John Tagg explains: "Carte-de-visite photographs were made to a formula. Posing was standardised and quick, and the figures in the resultant pictures were so small that their faces could not be studied" (1988, 50). Hence, miniaturization almost inevitably frees the carte-de-visite from the 'burden of representation' (Tagg 1988), since in a certain sense, the portrait's resemblance, which aims at harmonizing the nexus of the outer features with the character of the person depicted, is suspended. This brings us back to the operational portrait, which also shows individuals, but without aiming at a 'living similarity' between the image and the original (Meyer 2019, 18–24). In the case of the carte-de-visite, this similarity is hardly possible because of their size anyway.

> Operational portraits . . . are not directed at the gaze of an individual who recognizes a living counterpart in the picture, but at a specialized and disciplined gaze for which the picture becomes an abstract operating surface that can be dissected, filtered and measured. Therefore, the question of portrait's resemblance, understood as a characteristic overall effect that goes beyond the addition of mere pictorial details, is also less significant than that of the relation of the individual picture to other possible and comparable pictures. (Meyer 2019, 22)[22]

However, the question is raised of what function the carte-de-visite actually fulfills, when it no longer seems to be governed by the logic of representation. This function is compensatory: the small pictures and objects, which found their way into the salon, started to give the inhabitants an illusion of control that had increasingly been lost in the public sphere. If everything outside became faster, larger and more confusing, the private home offered a measure of the anthropomorphic and organized (Huhtamo 2009, 20). While images had become ever more gigantic in public space—for example in the case of billboards and panoramas—images shrank to miniature size at home. Although on the one hand the triumph of miniature and collectible pictures can be understood as the increasing intrusion of public space into the private sphere, on the other hand, it is precisely the carte-de-visite that loses every threatening aspect and instead offers a familiarity that is created by its reduction in size (Starl 1991, 123–124). The miniaturized images were not only palpable and thus tactilely perceptible but could be carried around like fetish objects in a wallet. In Walter Benjamin's work, similar considerations can be found regarding the relationship between mobility, format and tactility:

> Namely, the desire of contemporary masses to bring things 'closer' spatially and humanly, which is just as ardent as their bent toward overcoming the uniqueness of every reality by accepting its reproduction. Every day the urge grows stronger

> to get hold of an object at very close range by way of its likeness, its reproduction. (1969, 5)

To get hold of things and to re-establish manageability and contact was obviously one of the central reasons for the enthusiasm for the cartes-de-visite. Especially the inhabitants of big cities could no longer experience their environment as a regulated whole. Instead, fragmentation, abstraction, the unmanageable movement of goods as well as permanent mobilization and circulation challenged the experiences of reality that had been gained until then. Therefore, the carte-de-visite was the result and a child of these modern processes, since the visiting card could only emerge in the course of technical reproducibility, standardization, division of labor and circulation of goods, but at the same time it also figured as a form of compensation for these changes, which were often perceived as unreasonable (Engell 1992, 38).

Concrete Lines of Movement: Transporting, Collecting, Sharing

While my observations on standardization have so far been mainly related to the format, I will now focus on the conventionalized use of the carte-de-visite and on its technical, economic and social networks. Meyer's additional term, 'protocol,' which draws on Alexander Galloway, is useful in this regard: "Every formatting limits the contingency of possible images, every protocol stabilizes the links between images, data and bodies" (2019, 28).[23] This means that formats and protocols are mutually dependent on each other and produce higher-level logics of organization. In the following, I will delineate the logics involved in distribution and circulation movements. The re-contextualization of images resulting from various dispositives and networks is also of particular interest.

The photographer's studio will serve me as a starting point. Although Disdéri tells of the intimacy of the photographic act in his notes, he—as well as many other photographers—is in fact rather a manager of mass production in which standardized poses and a stock of the ever-same accessories are combined and recombined (Meyer 2019, 71–72). Most photo studios possessed a rich fund of decorative elements, which imitated bourgeois domestic culture and provided the insignia of the bourgeois—the book, the instrument, etc. Soon, this led to new business models, inasmuch as decor, such as balustrades and pedestals, were mass-produced by specialized suppliers from wood and papier-mâché, and companies produced backdrops that were interchangeable and circulated between the studios (Meyer 2019, 78). Thus, mass photographic production stimulated further professionalization and factory-based manufacturing processes in related areas, which in turn resulted in further standardization of the carte-de-visite on the aesthetic level. While

the profession of the portrait photographer had previously been a rather lonely one, Disdéri already employed over 60 people at his weddings. He devoted himself to celebrity clients, while other operators took over the day-to-day business following his instructions, and a large technical staff helped to cope with mass production. The Janus-faced character of the medium, on the one hand as an optical recording apparatus and on the other hand as a chemical process, also finds its way into the dual nature of the studio: in the 'glass house,' i.e. in the daylight studio, the photograph is taken, while the photographs are developed in the darkroom (Meyer 2019, 72). Bickenbach describes the photo studio of that time as a heterotopic and complex place with various functions, since divergent communicative structures are amalgamated here. The 'glass house' is the place of transparency and public access, a kind of salon for encounters, while the darkroom stands for the secret and the area accessible only to staff (Bickenbach 2001, 98). If possible, the darkroom should be directly connected to the photographic studio in order to keep the distances as short as possible and to guarantee an efficient interlocking of the different steps in the process. Meyer sketches two circuits: the route of the customers and the path of the photographic plate. After looking at the sample books in the reception room, the customers had themselves fitted out in the cloakroom according to the usual iconography and were then photographed in the bright studio. In contrast, the photographic plate was passed on to the auxiliary staff backstage to be developed, copied and archived. The plate remained with the photographer, while the paper prints mounted on cardboard were brought back to the light area and handed over to the customers. This separation of space and production structure also reflected the hierarchy of the division of labor, in the sense that the operator in the glass house interacted and bowed and scraped with the customers, whereas the laboratory assistants took over the chemical routines in the darkroom and were not able to communicate with the public (Meyer 2019, 72–73). In addition, the studio also became an exhibition space and resembled the soaring department stores and shopping temples as places for the circulation of commodities. The photo studio now also had shop windows—new *urban screens* in which common portraits, but also photographs of celebrities were displayed. The latter in particular were read as proof of the studio's high quality and its cultural and social status. The public images of famous people—emperors, actors and dancers—could be disseminated and acquired through the studios, but also through publishers and bookstores, which further explains the enormous increase in sales figures for photography in general and for carte-de-visite in particular (Bickenbach 2001, 99–100).[24]

The pirated copies made of portraits of famous people show how competitive the market was in this area. Since questions of copyright were not yet clarified, products by competitors could simply be photographed and circulated as reproductions of a reproduction (Adam 1996, 30; Meyer 2019, 74).[25] Around 1860, carte-de-visite pictures of famous people were sometimes sold 1000 times a day. The

studios produced portraits of citizens as well as photographs of celebrities. The customers, in turn, wanted to have their own portrait made and to distribute it to friends, and at the same time to own portraits of political and cultural notabilities. Thus, these small pictures became an important branch of industrial commodity capitalism. "In view of this almost 'unlimited picture gallery,' selection and collection seem to be the necessary consequence of the flood of images" (Bickenbach 2001, 96).[26] For the photographs were offered both individually and in collected works: the photo or collector's album therefore resulted directly from this dissemination, constituting a new archiving technique and a concrete place where the abstract space of comparison, created through technical (re)production and standardization, was manifest (Fig. 6.3).

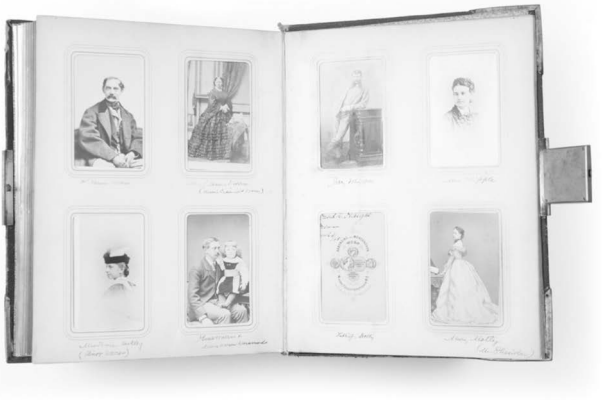

Figure 6.3: Carte-de-visite album, "Photograph Album of John Collins Warren 1842–1927."

As a format, the album was also largely standardized and represented a mass-produced storage medium for the prints (Meyer 2019, 79). It was bound in leather; its individual pages were mostly squared and the cards only had to be inserted into the pages.[27] The photograph was pushed through a slit and then appeared on the page that was aptly called the 'scenery.' The cardboard sheets with the carte-de-visite photos were sometimes trimmed by customers at two or four corners so that they could be inserted more easily into the sceneries of the albums (Starl 2009, 28)—the practice of inserting photos thus leaves material marks on the pictures. As a dispositive, the album also changed the reception of photography: the albums were displayed as decorative objects, preferably in the salon, where they could be

presented to visitors (Meyer 2019, 79). They were now literally in one's hand, allowing the images to be experienced tactilely and allowing a close-up view, which of course suited the small format. In contrast to the distant presentation of portraits on the wall, the cards could be touched and continually exchanged.

Structurally, the album was based on a variable arrangement: since the images were not glued to the pages, they were loosely coupled elements that could be rearranged, reassembled and supplemented (Bickenbach 2001, 100–101). Entirely designed for mass production, minimum orders of 25 per photo motif were not uncommon, so that images continued to circulate and be exchanged in loose friendship networks—they were considered, so to speak, the "'currency' of friendship and community" (quoted from Meyer 2019, 80),[28] as an American article from 1867 explains. Portraits of celebrities were added to family and one's own portraits, thus allowing images of private and public space to diffuse into one another. "As a genre of mixing, the album is a place of recombination of role models, both one's own and others', and thus it becomes a space for the restabilization of photographic circulation" (Bickenbach 2001, 104).[29] Collecting the cartes-de-visite and storing them in albums, however, did not represent an end point of circulation, but only a further stage in the process of exchange and transmission. The albums themselves became a driving force behind the industrial circulation of goods over several decades, generating numerous patents on fasteners and boosting the import of leather from overseas. Finally, specialized albums on a wide variety of topics were introduced and the circle of avid collectors became differentiated accordingly (Bickenbach 2001, 101). Such collectible pictures were not only distributed by publishers, but also by art or paper dealers and other shops dealing in photographic articles (Starl 2009, 88). Whole series were created, promoting their accumulation, collecting, exchange and distribution. The relationship between photo albums and carte-de-visite prints alone corresponded to an interdependent system that favored dissemination: while the photographs wanted to be stored and viewed, the scrapbooks waited to be filled up.

One specific feature was prints of photos which were added to a manufacturer's individual products or could be ordered in tranches; they were stuck by the buyers into the corresponding collector's albums, in which each picture could be assigned to a labeled empty space (Starl 2009, 126–127)—similar to today's popular sticker albums by Panini.[30] The close connection between the general circulation of goods and the trajectories of photographs called for photographs in a very small format in order to ensure joint dissemination: "Another interesting example of the inclusion of photography in a commercial commodity of wide circulation is the eight thousand picture cards produced by Ogden's Tobacco company and distributed with packs of cigarettes, which promised to offer a 'panorama of the world at large'" (Natale 2018, 42–43).[31]

In addition, the carte-de-visite was linked to another distribution network, namely that of the postal service. The latter was very often used in order to receive, exchange and give away pictures. As Henkin documented, money and photographs were the things most often sent by post in the middle of the 19th century (Henkin 2018, 38–55; Natale 2018, 43). Referring to Henkin, Simone Natale clarifies how important and popular this kind of photographic 'participation' was: "In fact, . . . receiving photographs of a son could be such a powerful form of symbolic contact that it came to be considered 'as good as a short visit'" (2018, 40). The enormous distribution and dissemination of photography was enabled by a coupling of different organizational structures and networks; it could be fed easily into all these structures mainly because of its small format and light weight. Finally, it can also be observed, as the trimmed underlaying cards already show, that the mobility of the photographs, their trajectories and their value as exchangeable articles simultaneously left traces on the tactile surface, and that media mobility has thus reinscribed itself into the mobile matter in the form of indices of use. Many of the carte-de-visite portraits still available today show various traces of wear and tear, such as worn edges, torn cardboard bases or stains.

From the beginning, photography was a medium based on circularity, and it still is today: "And from the beginnings of mass participation in the ritual of photographic portrait exchange, such portraits were media of communication, not simply media of representation or reproduction. . . . The light, miniaturized impressions of human faces that flooded . . . cities at midcentury were built to travel, to circulate, and to communicate" (Henkin 2018, 55). In the case of the carte-de-visite, it was precisely the small, compressed format that must be understood as an innovative step towards the acceleration and circulation of photography, or as Michael Gamper and Ruth Mayer write about the small format:

> For a long time now, media and technical apparatuses have been helping to bring the new into the world ever faster and in ever more compressed form. The career of the short formats is closely connected with cultural achievements of the 17th century, which rapidly gained momentum until the 19th century: with the development of a national and transnational press system, with the formation of global public spheres and markets, with scientific professionalization and with the emergence of new media technologies. In the course of this reorganization of the communication and information economy, formats that promised to respond to the unknown and the new in a compact and compatible manner gained in importance (Gamper and Mayer 2017, 7).[32]

The long path of the photographic image from its beginnings, through the various reproduction and input technologies, to today's omnipresence on computer screens, mobile phone displays and projection screens can be traced, as I have suggested in this article, as a process of massive increase in dispositives and show-

places in which and on which the photographic dataset appears—as a history of photography, which conceptualizes digitization not as a caesura, but only as a further proliferation of the photographic in its manifold manifestations (Wiedenmann 2019, 221).

Translated by Henning Persian

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Notes

1 "asymmetrische, unkontrollierbare Bewegung a-zentrischer Kreisläufe" (Bickenbach 2001, 123).

2 "Bildlogistik" (Rothöhler 2018).

3 The basic idea probably goes back to the photographer Louis Dodero, who thought ahead of his time that small-format photos could replace the cumbersome descriptions of people on passports and hunting licenses and supplement signatures in business transactions. In his letters, he placed a small portrait of himself next to his signature (Baier 1965, 506).

4 "Formatisierung des Blicks" (Starl 1989, 82).

5 "Alle Anstrengungen gingen—was die Bildträger betraf—dahin, einheitliche Abmessungen zu schaffen. Doch erst gegen Beginn der 60er Jahre fand sich mit dem Visitformat eine endgültige Größe, die in Karton- und Papiererzeu-

gung, in der Plattenfabrikation sowie in gewisser Hinsicht auch im Kamerabau den Einsatz von Maschinen erlaubte." (Starl 1989, 83)

6 "Triumph der Demokratie und der socialen Gleichheit" (H. d'Audigier, quoted from Starl 1991, 27).

7 "Repräsentations- und Angleichungsbedürfnis der unteren Schichten waren damit gleichermaßen befriedigt." (Freund 1976, 69)

8 "Nadar's story that Napoléon III stopped at Disdéri's studio while leading French troops to Italy in May 1859 and so catapulted the photographer to celebrity is not confirmed by reports of Napoléon's movements in biographies and the Moniteur universel. Napoléon's route on May 10, 1859, from the Tuileries to the Gare de Lyons did not take him near Disdéri's studio, and eyewitness accounts of the progress of his carriage through applauding crowds fail to mention a break in the parade. Furthermore, the emperor left the capital at six in the evening, well after the time that a portrait could possibly have been taken." (McCauley 1985, 45)

9 "Zwar präsentiert sich der dritte Napoleon wie sein Vorfahre in repräsentativer Haltung, leicht aus der Bildachse gedreht, den Kopf und die Augen dem Betrachter zugewandt, erhöht durch einige Zutaten, die ihm Würde verleihen sollen. Aber er zeigt sich anders als dieser [Napoleon Bonaparte, N.W.] nicht in Soldaten- oder 'Staats'-Kleidung, sondern im bürgerlichen Straßenanzug wie irgendein Wohlbetuchter der Pariser Gesellschaft. Auch der Hintergrund hat sich geändert: Statt eines festlichen Saals oder des martialischen Kriegsaufzugs erblicken wir eine Art privaten Salon. Und schließlich: Im Vergleich zu den gewaltigen Bildnissen seines Onkels muten die seinen im Format von 8,5 cm x 6 cm ausgesprochen bescheiden, beinahe unansehnlich an." (von Dewitz 1996, 99–100)

10 "Standardpose in einem Standardinterieur in Standardgröße" (Adam 1996, 28).

11 "Das repräsentative Porträt basiert auf der Idee der Einzigartigkeit des autonomen Individuums. Das Bildnis ist Spiegel seiner Persönlichkeit, die Individualität des oder der Dargestellten verkörpert sich in der Individualität der Darstellung." (Meyer 2019, 65)

12 Meyer's concept of operational portraits is inspired by Harun Farocki's terminology of 'operational images,' which Farocki uses to describe a new type of technical image. Images such as those used in satellite reconnaissance, surveillance, or missile guidance systems, which intervene very concretely in action sequences and no longer primarily understand humans as perceptual actors, but are integrated into further technical and automated action sequences (Meyer 2019, 22).

13 "Operative Porträts . . . basieren auf Formaten, die unabhängig vom einzelnen Bild und seinem Gegenstand die Produktion großer Mengen von Bildern regu-

lieren. Bevor also ein Bild entsteht, sind dessen Koordinaten bereits festgelegt: Die Abgebildeten begeben sich in einen Raum des Vergleichs, in dem immer schon andere warten." (Meyer 2019, 65)

14 "Operative Bilder sind ein Spezialfall technisch-instrumenteller Bilder, sie werden nicht nur apparativ erzeugt und für spezifische Zwecke optimiert, sie sind auch eingebunden in reglementierte Prozesse der Herstellung, Speicherung, Distribution und Auswertung, die darauf zielen, die Kontingenz möglicher Interpretationen zu beschränken, um aus Bildern stabile Informationen zu extrahieren." (Meyer 2019, 22)

15 "Fotografie im Plural" (Geimer 2009, 139).

16 This is the title of Latour's paper "Logistik der immutable mobiles," published in German in 2009.

17 "Sie zielen darauf, die Mobilität von Inskriptionen zu erhöhen, ihre Stabilität zu sichern, die Möglichkeiten ihrer Kombination zu vervielfachen und die Techniken ihrer Lesbarmachung zu optimieren." (Meyer 2019, 25)

18 ". . . erst unter einer logistischen Perspektive kommen Bilder tatsächlich im Plural in den Blick: nämlich nicht als diffuse 'Flut,' sondern als Elemente in regulierten und koordinierten Operationen der Anordnung und Verteilung, Erfassung und Auswertung, Versammlung und Verknüpfung." (Meyer 2019, 26)

19 "In diesem Sinne soll der Begriff des Formats hier all jene zugleich materiellen wie symbolischen Anordnungen, Aufteilungen und Gliederungen umfassen, die Bildträger zu Datenträgern werden lassen, indem sie sie rahmen, strukturieren und in größere technische Ensembles wie Alben oder Archive einbetten." (Meyer 2019, 27)

20 In the middle of the 19th century Giovanni Caselli invented the pantelegraph—a kind of forerunner of the fax machine. "The apparatus is—and this is remarkable—precisely the first apparatus to transmit images commercially. . . . The image is initially thought of as handwriting and as a written image in the form of signatures, scenarios of use such as the transmission of plans are added later, portraits and ornamented greeting cards are telegraphed for demonstration purposes." ["Der Apparat ist—und das ist ja bemerkenswert—eben der erste Apparat, der kommerziell Bilder überträgt. . . . Das Bild wird zunächst als Handschrift und als Schrift-Bild in Form von Unterschriften gedacht, Nutzungsszenarien wie das Übertragen von Plänen kommen später hinzu, zu Demonstrationszwecken werden Porträts und ornamentierte Grußkärtchen telegraphiert."] (Zons 2015, 16) The pantelegraph was an electromechanical device used to receive and transmit image information line by line via telegraph lines. An electrochemical process was used to generate images. Caselli had his invention patented in 1855. In the patent,

he also described very extensively his ideas for the use of the pantelegraph (Zons 2015, 57).

21 In 1861, under the heading "Correspondence from Paris" ("Correspondenz aus Paris") in the journal *Photographisches Archiv* (Vol. 2, p. 260), the author referred to these ideas of Mr. Delessert and Aguado. The correspondent was Ernest Lacan, who also mentioned this episode in an article in *La Lumiere* (Peters 2004, 169).

22 "Operative Porträts . . . richten sich nicht an den Blick eines Individuum, das im Bild ein lebendiges Gegenüber erkennt, sondern an einen spezialisierten und disziplinierten Blick, für den das Bild zur abstrakten Operationsfläche wird, die sich zergliedern, filtern und vermessen lässt. Daher ist auch die Frage der Porträtähnlichkeit, verstanden als charakteristische Gesamtwirkung, die über die Addition bloßer bildlicher Details hinausgeht, weniger bedeutsam als die der Relation des Einzelbildes zu anderen möglichen und vergleichbaren Bildern." (Meyer 2019, 22)

23 "Jede Formatierung begrenzt die Kontingenz möglicher Bilder, jedes Protokoll stabilisiert die Verknüpfungen zwischen Bildern, Daten und Körpern." (Galloway 2019, 28)

24 In the case of portraits of famous people, there was also a differentiation of the market. While Nadar's focus was on artists, scholars and bohemians, princes, dignitaries and statesmen tended to go to Disdéri and Mayer & Pierson, while Pierre Petit photographed bishops and celebrities (von Dewitz 1996, 100; Bickenbach 2001, 98; Sagne 1998, 106).

25 This also means that the actual author of the photographs did not receive any remuneration. This legal uncertainty existed in the early phase of photography until different copyright laws came into force in the individual countries (Adam 1996, 30). The problem of the legal situation also arose, among other things, from the question of whether photography must be understood as art, as an original product of intellectual work, or as a merely mechanical and apparative form of reproduction (Meyer 2019, 74).

26 "Auswahl und Sammlung scheint angesichts dieser fast 'uneingeschränkten Bildergalerie' . . . die notwendige Konsequenz der Bilderflut zu sein." (Bickenbach 2001, 96)

27 At the beginning of the 1860s, the slip-in albums were initially only designed for one carte-de-visite picture per page. By the end of the decade, however, the albums mainly had sceneries for two or four pictures per page (Starl 2009, 97).

28 "'Währung' der Freundschaft und Gemeinschaft" (Meyer 2019, 80).

29 "Als Genre der Mischung ist das Album Ort der Rekombination von Vorbildern, eigener wie fremder, und damit wird es zum Raum der Restabilisierung fotografischer Zirkulation." (Bickenbach 2001, 104)

30 Another feature of the carte-de-visite is the mosaic card, which Disdéri patented in 1863. This card combined several portraits of different people into one picture. Thus, for example, the portraits of all the marshals of France or the cabinet ministers were united on one card. A particularly original montage by Disdéri shows the legs of the dancers of the Paris Opera. Here, miniaturization had reached its peak as the sitters' heads—or other parts of the body—were often the size of a pin. Such mosaic cards were lucrative advertising material for a photo studio (Sagne 1998, 112).

31 In Nazi Germany, Joseph Goebbels established a company called *Cigarette Picture Service* [*Cigaretten-Bilderdienst*] to distribute Lilliputian pictures on the subject of 'Hitler's life' or Nazi uniforms. Advertising strategies and collecting passion were thus coupled to the Nazi ideology (Huhtamo 2009, 20–21).

32 "Schon seit langem tragen mediale und technische Apparaturen dazu bei, dass das Neue immer schneller und komprimierter in die Welt getragen wird. Die Karriere der kurzen Formen hängt eng mit kulturellen Errungenschaften des 17. Jahrhunderts zusammen, die bis zum 19. Jahrhundert rasant an Fahrt aufnahmen: mit der Entwicklung eines nationalen und transnationalen Pressewesens, mit der Formation globaler Öffentlichkeiten und Märkte, mit der wissenschaftlichen Professionalisierung und mit der Herausbildung neuer Medientechnologien. Im Zuge dieser Neuordnung der Kommunikations- und Informationsökonomie gewannen Formate an Gewicht, die auf das Unbekannte und Neue kompakt und kompatibel zu reagieren versprachen." (Gamper and Mayer 2017, 7)