

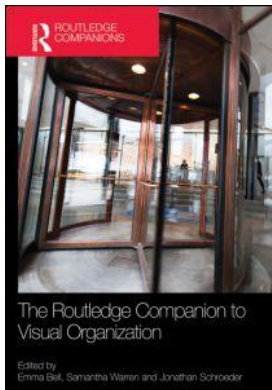
This article was downloaded by: 10.2.97.136

On: 29 Mar 2023

Access details: *subscription number*

Publisher: *Routledge*

Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered office: 5 Howick Place, London SW1P 1WG, UK



## **The Routledge Companion to Visual Organization**

Emma Bell, Samantha Warren, Jonathan Schroeder

### **The organization of vision within professions**

Publication details

<https://test.routledgehandbooks.com/doi/10.4324/9780203725610.ch22>

Alexander Styhre

**Published online on: 22 Aug 2013**

**How to cite :-** Alexander Styhre. 22 Aug 2013, *The organization of vision within professions from: The Routledge Companion to Visual Organization* Routledge

Accessed on: 29 Mar 2023

<https://test.routledgehandbooks.com/doi/10.4324/9780203725610.ch22>

**PLEASE SCROLL DOWN FOR DOCUMENT**

Full terms and conditions of use: <https://test.routledgehandbooks.com/legal-notices/terms>

This Document PDF may be used for research, teaching and private study purposes. Any substantial or systematic reproductions, re-distribution, re-selling, loan or sub-licensing, systematic supply or distribution in any form to anyone is expressly forbidden.

The publisher does not give any warranty express or implied or make any representation that the contents will be complete or accurate or up to date. The publisher shall not be liable for an loss, actions, claims, proceedings, demand or costs or damages whatsoever or howsoever caused arising directly or indirectly in connection with or arising out of the use of this material.

# Part V

## Visual representations of organization

---

*This page intentionally left blank*

# The organization of vision within professions

Alexander Styhre

---

## Introduction: Visual cultures and the epistemology of the eye

In the Western tradition of thinking, the tradition of Plato and Descartes, the separation between the human intellectual faculties and the sensuous faculties has influenced everyday thinking about perception. Human cognition, the capacity of reason and critical thinking, has always been privileged over the sense impressions. In Platonist ontology, the world of appearances is separated from the world of ideas and, consequently, what is observed and perceived is at peril of being deceptive. Therefore, one must not put too much emphasis on what is seen; only critical reflection based on systematic doubt is to be trusted. In addition, until at least the mid-nineteenth century, Crary (1990) argues, human visual perception was rendered unproblematic as it was conceived of as a mere registration of external events. The *camera obscura*, a device known since at least the medieval period, served as a model for human visual perception. In the mid-eighteenth century, however, both philosophers, such as Arthur Schopenhauer, and scientists, such as the German scientist Herman von Helmholtz, started to theorize on human visual perception. They began to conceive of human vision as a form of trained capacity and a matter of attention rather than a passive registering of the external world. Instead of being a universally shared human capacity, vision was portrayed as a subjective and highly personal skill bound up with other cognitive and perceptual systems. For instance, the ability to concentrate the gaze for longer periods of time was found to be a matter of training and personal interest and not an inherent capacity.

This shift in focus from the cognitive to the visual occurred in a period of time characterized by swift urbanization and the development of new visual media. As Friedrich Kittler (1990) has emphasized, during the nineteenth century, the telegraph, the photograph, the cinema, and the gramophone were invented and developed. These new media shifted the focus from the printed book – the principal medium by the year 1800 – to other media and consequently to other senses. In the urbanized nineteenth century, there was an almost insatiable demand for visual media and entertainment such as theatre, cabarets, cinema, and other forms of spectacle. During that century, the visual culture that predominates today in the age of the Internet and social media was founded. In a nutshell, with urbanization and modernity of the nineteenth century,

first observable in metropolitan areas of London, Paris and New York, came a shift in focus from the linear text and human cognition to visual media and human perception.

In organization studies, there has been a recent interest in concepts such as the ‘aesthetic economy’ (Böhme 2003), ‘the attention economy’ (Davenport and Beck 2001), or the ‘creative industries’ (Caves 2000). These conceptual elaborations all emphasize the central role and importance of aesthetic, visual, perceptual (e.g. tactile, olfactory and gustatory skills) and sensual capacities. In the contemporary economy, economic value is no longer strictly a matter of transforming natural resources into commodities or services but also derives from the capacity to attract attention from consumers and the public. The film theorist Jonathan Beller, using a Marxist vocabulary, speaks about the ‘cinematic mode of production’ and the ‘the production value of attention’ (Beller 2006: 108, original emphasis omitted) that underlines the perceptual constitution of economic value in the contemporary period. In the present era, when consumers dwell in a world saturated with information, messages and impressions, the capacity to attract attention is of central importance. Attention, not information or knowledge, is what is in short supply, as several scholars have remarked (Lanham 2006; Eriksen 2001).

The term ‘visual culture’ is used in this chapter to refer to the totality of practices, traditions, beliefs and assumptions pertaining to vision and visibility in organizations (Styhre 2010). Vision and visibility include a variety of elements including what Daston and Galison (2007: 368) term, on the one hand, the ‘practice of seeing’ – the actual work to use visual perception in everyday life – and, on the other, ‘theories of vision’ – the underlying ontological and epistemological framework constituting an integrated image of vision. ‘Visual culture’ is, therefore, a somewhat loose term that seeks to accommodate a series of discourses and debates regarding the role of visual perception in organizations. More specifically, professional expertise, in many cases, is constituted by the capacity of shared practices of seeing, being able to make credible and authoritative statements on the basis of visual materials. Such professional expertise, ultimately rooted in what Lave and Wenger (1991) term ‘communities of practice’, is accomplished and rendered credible by combining visual inspection and descriptions and explanations of what is visually displayed. To serve as a member of a professional or organizational community is thus to enact certain ways of perceiving the world.

This chapter also presents case study material to demonstrate how visual cultures are constitutive of economic value and worth in the contemporary period. Rather than taking visual cultures for granted, I suggest they need to be understood as forms of collective professional vision or enskilled vision that rests on underlying beliefs and assumptions regarding how and what to observe in day-to-day work. The observing subject, say, an architect, a scientist or a physician, all execute a specific disciplined, professional vision in order to accomplish their work. That is, vision is both collective and situated: what one specialist physician (e.g. a radiologist) sees may be different from what another specialist (e.g. a surgeon) observes because they arrive at different conclusions on the basis of varying underlying bases of knowledge and expertise; their observations are theory-laden (Hanson 1958). At the same time, the radiologist or the surgeon needs to share visual practices with other members of their community; no radiologist observes Magnetic Resonance Imaging (MRI) plates representing the patient’s body in isolation but always articulates his/her diagnosis on the basis of visual practices that are collective and disciplined in every sense of the term. When it comes to professional fields where there is less scientific evidence guiding visual practices, say, in the area of fashion journalism or art criticism, visual practices become even more precarious, being bound up with institutional arrangements and a specific economic regime of ‘credibility’ (Karpik 2010; Velthuis 2003). However, in all cases, any claim to expertise resides in the capacity of seeing and saying

(Foucault 1973), of combining visual perception and discursive resources rendering the observations meaningful.

The chapter is structured as follows: in the first section, the concept of aesthetics and its role in shaping vision and ways of seeing is examined. The second section, where the core argument of the chapter is put forth, addresses how vision is mediated through the use of various tools and technologies (e.g. the microscope and other medical visualization technologies), and stresses that vision is always simultaneously an individual competence – a learned professional skill – and a collective capacity. Drawing primarily on studies of scientific and medical practices, the chapter makes a distinction between *visual cultures*, based on the use of certain media and visualization technologies, and *professional vision*, as defined on the basis of an underlying theoretical framework used when examining a material substratum; visual cultures may thus accommodate many forms of professional vision.

### Aesthetics and visual cultures

During the last decade, interest in the influence of art and aesthetics on organizing has been repeatedly articulated (Barry and Meisiek 2010; Carr and Hancock 2003). This literature suggests that the arts by no means serve only a decorative function in society, but that they, and aesthetics more broadly, serve as a production factor in the contemporary economy. While the arts have always been supplementary to commerce and finance, in today's attention economy, creativity and aesthetics are brought to the fore. Taylor (2002) and Taylor and Hansen (2005) use the term 'aesthetic knowledge', while Strati (2007) introduces the term 'sensible knowledge'. Such a source of knowledge that '[e]nables us to see in a new way' (Taylor and Hansen 2005: 1213) may be used to inform research on both professional work commonly associated with aesthetics, such as architects (Ewenstein and Whyte 2007), but also in potentially unexpected domains such as the finance industry (Guve 2007) or software engineering (Piñeiro 2007). While the professional vision, for example, of scientific communities seeks consistency across time and space, industries dominated by aesthetic and sensible knowledge are less concerned about similarity and consistency, and more with novelty. If a hundred architecture competition submissions offer a hundred alternative solutions to prescribed problems, it is not a failure for the community of architects but is instead indicative of the heterogeneity and creativity of the field. On the other hand, if a hundred psychiatrists articulate, say, fourteen different diagnoses of one single patient, it would not benefit the credibility of the profession. Moreover, a common concern for both architects and the evaluators of their work is that there is *too little* variation in their proposals. Architects themselves tend to deplore the 'conformism' and 'lack of creativity' of the profession, in many cases blaming contractors for not recognizing the value of qualitative architecture.

Speaking in terms of visual cultures, in the case of architects, there may be too strong an emphasis on adhering to past accomplishments and enacting analytical frameworks, a tendency informed by modernism and functionalism in large parts of the Western world. Drawing on recent research in neurology, Stafford emphasizes that, rather than being an act of simply perceiving the world, consciousness '[p]roduces its own content, i.e., the world' (2009: 281). That is, what we have previously seen, the experiences we have acquired over the course of a lifetime, shape our sense impressions. In Bergsonian terms, perception does not begin with sense impression leading to the engagement of the memory function stored in the human brain, but, on the contrary, it is memory that precedes and triggers perception (Bergson 1988 [1910]). The attention needed to perceive an object or an event in the external world is derived from

memory and cognition, not from the visual apparatus. Consequently, the human brain and more specifically the limbic system, Stafford says, ‘reinforces certain perceptual and cognitive constants of reality’ (2009: 282). This means that the human brain and its accompanying visual apparatus *make us see what is previously seen*. For creative and innovative professional groups, this imposes certain problems that need to be overcome. In fact, Stafford suggests ‘creativity may well lie in escaping, not giving in to, our autopoietic machinery and focusing carefully on the world’ (ibid.: 289).

Adults are often charmed by small children’s questions regarding why ‘the sky is blue and not pink’, and so forth, and both Gregory Bateson (1972) and Gilles Deleuze and Félix Guattari (1983) have written about the peculiar life-world of schizophrenia patients, perceiving the world so differently from other human beings. Children soon enough learn how the world is constituted and refrain from asking such questions as their attention is directed elsewhere and, while taking a romantic view of psychological disorders must be resisted, the ability to ‘see things differently’ is commonly praised as a skill. When Picasso was told by a woman that she, in fact, did not look as she was portrayed, he snapped that she may eventually do so, seeking to defend the artist’s right to see beyond what is immediately present. Stafford (2009) warns that aesthetic knowledge is the capacity to transcend everyday life experiences and perceive the world in entirely new terms. Our perceptual competencies, acquired over years of training and practical experience, may, in fact, be our prison, a delimited field containing a set of possibilities that should be explored. In professions dominated by aesthetic knowledge and in the domain of innovation and in entrepreneurship, this capacity for seeing the world in new terms is highly acclaimed, even a source of veneration. However, the difference between *ex ante* and *ex post* needs to be recognized; innovative thinking and creative work may be praised in hindsight when they are rediscovered (the works of Mendel and van Gogh here being standard references), while their originators may have been ignored or even scorned during their lifetimes. Seeing differently, outside of conventions and well-charted routes is thus both a curse and a blessing. In avant-garde communities, there is a sense of shared obligation to recognize such alternative perspectives, and experts on innovation emphasize the need to provide space for mavericks in mainstream settings (e.g. R&D divisions in large corporations). However, being an innovator is of necessity to operate in hostile territories, potentially undermining the status and positions of certain groups (e.g. Dougherty and Hardy 1996). Consequently, the innovator may expect little understanding of his/her endeavours until the innovation has proven its market value and starts to generate an income. Under all conditions, innovators in industries and fields determined by aesthetic knowledge should pay attention to Stafford’s (2009) warning that our ways of seeing restrict new thinking as our limbic system prevents us from seeing the world differently. Just as professional vision is an accomplishment in its own right, so is the capacity to transcend its boundaries.

A key point here is to avoid thinking of the concepts of aesthetic knowledge and sensible knowledge as reserved for artistic and cultural activities and forms of production. Rather, we should look to the etymology of aesthetics as first formulated by Alexander Baumgarten, as ‘the whole region of human perception and sensation’ (Eagleton 1990: 13). All forms of practices of seeing are based on the capacity to discern and identify differences and variation in visual objects. The work of a radiologist inspecting photographic plates is, in this respect, not very different from the art dealer’s examination of a painting, inasmuch as both of them draw on specific professional ways of seeing that, in turn, include attentiveness to aesthetic features of the image observed. Practices of seeing in both cases are trained yet collective capacities that, by and large, constitute professional expertise. Aesthetic and sensible knowledge is part of all forms of human perception, in the ‘ways of seeing’ enacted by different professional communities.

## Ways of seeing

Biologically speaking, visual perception is based on a number of interrelated perceptual and cognitive systems (see Gregory 2004a, 2004b for an overview). While vision *qua* sense impression is 'given' as a biological process, the ability to discriminate between elements in the visual field demands intricate cognitive systems. Experimental psychologists such as Lev Vygotsky have shown that small children may identify elements in a picture but basically see them in isolation. As the child grows older, developing their cognitive capacities and integrating perceptual apparatus and vocabulary, they are able to tell stories of what is about to happen in an image or what may have happened previously. Studies of primates show no such development and the visual field remains strictly limited to what is observed. Vygotsky and other developmental psychologists thus conceive of human intelligence not as a single capacity but as the interrelation and mutual constitution of a variety of perceptual and cognitive systems. Enskilled and qualified visual practices are therefore a matter of training and expertise, often in collaboration with other members of the professional community.

### *Visualization technology in medicine*

Foucault's (1973) study of medicine emphasizes the integration of visual practices and articulation. A physician, touching and looking at the patient's body, draws on formal training and conceptual vocabularies as well as previous experience when articulating his/her diagnosis. In some cases, in common and recurring illnesses, the diagnosis is unproblematic as the physician travels well-charted territories, while, in other cases, the symptoms and stories told about the illness by the patient are less easily interpreted and related to the entrenched medical framework. Under all conditions, Foucault writes, the physician must transform him/herself into a 'speaking eye', maintaining a close connection between 'seeing and saying'. In fact, the professional expertise and authority of the practising physician reside in the ability to visually observe, to draw conclusions on the basis of observations, and to point to adequate therapies. In this view, seeing never occurs in isolation from the operative vocabularies employed; the one is constitutive of the other. Foucault's case is deceptively simple, yet illustrative. First, it portrays the physician as operating in isolation in his/her practice, individually making inferences from the inspection of the patient. Second, the diagnosis is unmediated, in that it occurs separated from instruments and technologies, the various 'vision machines' that increasingly shape and form human perception (Virilio 1989). In many cases, especially in healthcare practices, vision is collective and mediated.

At the end of the nineteenth century, new medical instruments for visualizing the human body were developed. The X-ray, developed by Wilhelm Röntgen, enabled the medical gaze to enter the interiority of the human body. In the community of physicians, this new technology was not praised from the very beginning as cases of malpractice would be more easily detected and X-ray plates could be used as evidence in court (Golan 2004). Little wonder then that lawyers embraced the X-ray as 'a silent witness', 'speaking for itself' as it lay bare the human body in the form of a photograph. In addition, new professional groups within the community of physicians such as orthopaedic surgeons could advance their position as their work was supported by the use of X-ray images. The introduction of X-ray as a visual medium indicates that new technologies destabilize dominant institutional arrangements and open up new ways of working. The naive but appealing idea that X-ray plates 'speak for themselves' is an assumption that accompanies virtually all visual media, well into the contemporary period. Dumit (2004) examines the use of Positron Emission Tomography (PET), providing colourful images



of the activities of the human brain. In the trial of John Hinckley, the man who attempted to assassinate President Ronald Reagan in 1981 to impress his idol, the actress Jodie Foster, Hinckley's defence invoked PET images of his brain as evidence of a psychological disorder. In Dumit's view, this is a precarious juridical practice as such images never speak for themselves. The PET images are what Dumit calls 'expert images'; that is, they demand highly skilled expertise in interpreting, and, as soon as they are 'interpreted' by the expert, they no longer serve their role in the court as being self-evident proofs:

Expert images are objects produced with mechanical assistance that require help in interpreting even though they may appear to be legible to laypersons. The paradox of expert images in a trial is that if they are legible, then they should not need interpretation, but if they need interpretation, then they probably should not be shown to juries.

(Dumit 2004: 112)

Hinckley's defence, on the one hand, assumed that the images could speak for themselves, demonstrating their client's inability to be held responsible for his actions, while at the same time the lawyers conceived of the PET images as being an authoritative account of the underlying material substratum, i.e. Hinckley's brain, and, arguably, his psychological condition.

Hinckley's defence is here guilty of assuming that visual media are developed and used in isolation from wider social interests and concerns. As Gaston Bachelard (1984 [1934]) has emphasized, scientific technologies always already embody a series of assumptions of the community developing and using the technology; scientific technologies do not fall from the sky or emerge from some 'extra-social' domain but are always of necessity products of this world, and consequently they cannot be conceived of as being in a position to provide absolutely objectively true images of material substrata. Seen in this view, PET images may be helpful in diagnosing and prescribing relevant therapies (e.g. surgery or medication), but it would be problematic to use such images, complicated as they are to interpret, to provide evidence for psychological disorders. More recently, Daemmrich (1998) has pointed out that traces of DNA at crime scenes are never *per se* evidence of anything; instead, they need to be accompanied by explanations and commentaries from experts in court. Again, similar to the case of the PET images, as soon as 'expert witnesses' are needed to explain the uses of scientific instruments and their images, the juridical value as evidence is lowered as there is always of necessity an element of interpretation. Expressed differently, the scientific discourse relying on systematic doubt and the juridical discourse favouring unambiguous evidence are largely incompatible discourses; they constitute what Stark (2009: 19) would call an *heterarchy*, a field characterized by 'dissonance' and 'diverse principles of evaluation'.

Studies of visual practices in professional communities more or less support the view of perception held by the first generation of experimental psychologists, that visual skills are trained and acquired and embedded in concentration and attention rather than being natural-born competencies. Studies of the uses of MRI have demonstrated the skills needed to account for what is observable in the images (Beaulieu 2002; Burri 2008). Alac (2008) argues that radiologists working with MRI brain scans encounter a two-dimensional image on the computer screen, but that they are trained to think of the brain as a three-dimensional organ and therefore project their theoretical understanding of it onto the screen when making their assessment of the photographic plates. The entire visual practice is, therefore, Alac suggests, an *embodied* experience wherein radiologists use their hands and bodies to explain to themselves and one another how images are to be interpreted. In Alac's account, the radiologists are engaging in an iterative process, wherein the two-dimensional image of the screen, the three-dimensional

conceptual image they have acquired through their formal training, and their bodies are folded into one another. Similar to the practice of surgeons as studied by Hirschauer (1991), the actual body of the patient and the virtual and abstract model of the 'typical' human body are interrelated; deviances from the prescribed typical model need to be corrected. Alac's (2008) study of the uses of MRI supports the view of Dumit (2004) that expert images are by no means devoid of inconsistencies and ambiguities. In fact, one needs substantial formal training and years of experience to be able to execute the professional vision of the visual culture one is taking part in. 'Expert seers' such as radiologists strongly dislike when other professional groups ignore the skills needed to interpret and decode the images, suggesting that such images are to be 'read like an open book'. As one radiologist says:

Orthopedists might comprehend something about orthopedics but they do not have a generalized gaze. Other clinicians do not understand the meaning of the images, since there is a lot of hidden information which they overlook. Internists should leave it to radiologists to get that information out of the message.

(quoted in Burri 2008: 48)

### *Individual and collective vision*

This skill in seeing as a professional, to execute *professional vision* (Goodwin 1994, 1995) or *enskilld vision* (Grasseni 2004), has been of special interest to students of technoscience. In science and technology studies, Rheinberger (2010) has declared a shift in focus from a Kuhnian view of *science as theory* (i.e. the gradual advancement of new theories being tested and verified empirically) to a Fleckian (after the Polish philosopher of science Ludwik Fleck) view of *science as experimentation*, the actual work to stabilize what Rheinberger calls 'experimental systems' and accompanying epistemic objects. Within this new perspective, the *process* rather than the *output* is emphasized and, consequently, there is more focus on how actual research work is organized. The historian of science Lorraine Daston cites Fleck and what Fleck referred to (writing in German) as *Denkkollektiv*, a 'thought collective', and *Denkstille* (a thought style), as the communal resources being drawn on in joint research work. For Daston, one of the principal challenges for the neophyte is to acquire the capacity of seeing as a member of the professional community.

Again, rather than being a natural-born capacity, a form of 'gift' or 'talent', the learner arrives at such competencies through months or even years of training: 'The novice sees only blurs and blobs under the microscope; experience and training are required in order to make sense of this visual chaos, in order to be able "to see things"', as Daston (2008: 99) says. Kruse's (2006) ethnographic study of the work in a bioscience laboratory in Sweden nicely illustrates how a newcomer to a field is expected to learn to execute a specific form of professional vision – Kruse (2006) speaks of the 'ability to look', which sounds like a deceptively simple practice – while getting little help from a senior researcher on how to acquire such skills:

Just how much this ability to look was a product of practice and experience did not become clear to me until I watched a doctoral student try to make sense of the raw data from an analysis she had just completed for the first time ... Senior colleagues she asked for help gave her advice like 'You have to look at them' ... The doctoral student became quite frustrated about her failure to understand how others reasoned when interpreting results and about their inability to explain. 'I don't have the experience,' she said,

adding that she would have to learn and that interpreting this kind of data probably would be easy once she had grasped it, but right now it was really difficult. An experienced person, on the other hand, could tell with a glance whether a result was good or worthless, including additional factors into her judgment: something may have gone wrong with the sample being analysed, or the machine might be out of calibration or might simply behave ‘strangely,’ which the experienced person could tell by the same glance.

(2006: 111–112)

One of the great paradoxes in both scientific and aesthetic work like the arts is that the skilled practitioner, on the one hand, must be able to see things like a member of a particular community, while, on the other hand, must also be able to transcend this disciplined gaze in order to advance what is new and creative. However, prior to any digressions, the neophyte must submit to the disciplined gaze of the professional community:

[S]cientific perception – especially when elevated to the level of systematic observation, often in carefully designed setups – is disciplined in every sense of the word: instilled by education and practice, checked and cross-checked both by other observers and with other instruments, communicated in forms – text, image, table – designed by and for a scientific collective over decades and sometimes centuries.

(Daston 2008: 102)

In Daston’s Fleckian view of scientific observations, Kantian terms such as ‘subjective’ and ‘objective’ (and terms like ‘objectivity’, derived from these terms) are of less relevance when understanding scientific work. The difference between skilled and commonsensical vision is not a matter of the former being more (or less) ‘objective’, but is framed in terms of being experienced and related to legitimate and corroborated, widely shared analytical frameworks.

Professional vision is thus not so much a matter of looking and speaking ‘objectively’ – if that were the case, it would not be a problem to use statements from scientists in courts – but as looking and speaking in the same manner as other scientists would do under the same conditions. That is, scientific thought communities are characterized by *consistency* rather than the capacity to tell what is objectively true (Timmermans 2008: 170). This goes also for other visual cultures such as the British naturalists studying moss (an expertise formally labelled *bryology*) examined by Ellis: ‘[V]ision itself emerges through associated rituals of participation and a sharing of socially aesthetic sensibilities’ (2011: 772). She continues:

[W]ays of seeing cannot be extricated from the socio-cultural and political forces through which they are shaped. In such accounts, the forces of discipline and control – a hegemony of standards – appear to activate or trigger the relationships required to generate a shared visual account of the world in the face of potential perceptual differences.

(*ibid.*: 785)

At the same time, some visual cultures are more vulnerable to weakly developed professional standards of visibility than others. In some cases, such as where diagnoses in medicine differ across time and space, the entire discipline may be discredited. Psychiatry is a good example, having historically been subject to much criticism as the diagnoses of certain psychological illnesses have differed between for example the US and the UK (Lakoff 2006: 29). Where American psychologists diagnosed schizophrenia, the British diagnosed manic depression, leading critics to suggest that there is a low degree of ‘disease-specificity’ in psychiatry, making the

diagnosis a highly situated and contingent practice by and large uncorrelated with the diagnoses of other psychiatrists. In another famous experiment, the so-called Rosenhan experiment, David Rosenhan sent eight sane colleagues with no previous experience from psychiatric institutions to twelve mental hospitals to investigate how they would be handled by the psychiatrists. The outcome was surprising:

Of the 12 separate diagnoses, 11 found schizophrenia. Once admitted to the hospital, the 'pseudo-patients' acted normally, evincing no other symptoms of the diagnosis. However, the average time spent interned by the experimenters extended to 19 days, with the longest lasting a full 52 days. During their time, their normal behaviour was often recorded as symptoms of their disease ... As Rosenhan and others learned, the only way to convince the staff of their normality was to agree with the diagnosis, submit to treatment, and then act as if they were making progress toward overcoming the disorder.

*(Strand 2011: 294)*

In Daston's (2008) terms, the field of psychiatry could not, at least at this point in time, draw on a shared professional vision including both guidelines for how to look and how to articulate diagnoses that are consistent over time and space. What we learn from this case is that, in some disciplines, there are loose couplings between, on the one hand, the observational practices and, on the other, the analytical framework.

When shifting focus from the sciences and healthcare to the performing arts and the domain of aesthetics, there is an even more ambiguous relationship between professional vision and 'objective accounts'. For instance, there is a seemingly longstanding rift between the architecture favoured by professional architects and the architecture favoured by the proverbial man on the street. In the liberal arts and in art critique, works acclaimed by critics are not necessarily appreciated by the public and bestsellers are not necessarily held in esteem by critics. 'Elite preferences' and 'public taste' do not always converge. As Pierre Bourdieu (1993) has argued, for the untrained eye, modern and especially non-figurative art is complicated to decode and understand. Instead, Bourdieu suggests, people with little experience of modern art favour figurative art portraying landscapes and buildings, images that can be understood on the basis of the life-world of the spectator. The spectator's gaze is thus of necessity always already constituted by previous experiences and personal biographies, and consequently common-sense thinking resists objects of art that cannot easily be decoded within the present horizon of understanding. Again, similar to the scientists studied by Daston (2008) and Kruse (2006), the gaze of the spectator needs to be disciplined to be able to decode the messages of both photographic plates generated by visual media and art objects.

## Concluding remarks

In summary, being a member of a visual culture means to almost effortlessly participate in specific visual practices. A visual culture as it is used here still needs to be distinguished from professional vision. It is a broader term that stresses the uses of certain visualization technologies (e.g. MRI, PET or genomics technologies), but one visual culture may include many forms of professional vision. For instance, a computational chemist seeking to create patterns or structures on the basis of large genomics or proteomics data sets, i.e. a form of structural and formalist analysis (Styhre 2011), perceives the genomics data differently from a protein crystallographer who seeks to construct morphological models of individual proteins (Myers 2008). Both professional categories draw on the same visualization technologies (genomics and

proteomics) but they pursue different ends. Visual technologies provide empirical data in the form of images, photographic plates and other representations, but professional vision is always already theory-laden and derived from specific knowledge interests.

Once acquired, the capacity of seeing as a scientist, radiologist, art dealer, cattle breeder or bryologist may be taken for granted as it is part of the actor's professional expertise, but, when encountering newcomers and trainees, there is once again a need for the actor to reflect on his/her 'ways of seeing'. However, there is commonly an element of what Jordan and Lynch (1992: 91) term 'autoreification' in professional vision, meaning that, 'once "you suddenly seem to be able to do your work", you already take it for granted, without being able to fully articulate its "inner logic"'. That is, executing professional vision is one thing; teaching others how to do it (as demonstrated by Kruse 2006) is quite another. Imperatives such as 'just look!' are, as Wittgenstein (1953) has suggested, not very useful when teaching visual practices because they already assume too much regarding the experience of the newcomer. Ultimately, 'there is no such thing as just looking', as Elkins (1996: 31) contends.

Vision and visual cultures remain relatively little studied in mainstream organization theory. Instead, sociology, science and technology studies, history and anthropology are disciplines where vision has been examined. In addition to visual perception, four more senses (or seven, in Elkins' (1996) view) are used to guide human beings in their day-to-day life. In addition, these senses have their own epistemologies and practices, adhering to certain norms, standards and institutional arrangements, being translated into domains of expertise that are part of the contemporary economy and society. This volume is dedicated to visual practices and visual cultures, but, in many cases, experiences rely on the combination of one or more senses. For instance, sight and sound are part of the cinematic and digital media that dominate the Internet, and the restaurant business and food industry pays much attention not only to how the food tastes and smells but also to how it looks. When using concepts such as aesthetic knowledge, it may be problematic to examine various forms of perception in isolation, as human beings enter the world ceaselessly perceiving it through the totality of their senses (Grosz 2008: 82). In fact, sight, sound and the other senses in many ways are interrelated, as one sense impression may reinforce the other, courtesy of the limbic system and its ability to structure and organize our experiences in our life-worlds. Regardless of such methodological concerns, a number of studies, some reported in this chapter, point to the importance of a more systematic analysis of the role that professional vision and visual cultures play in contemporary organizations and the production of economic value.

## References

- Alac, M. (2008) 'Working with brain scans: digital images and gestural interaction in fMRI laboratory', *Social Studies of Science* 38(4): 483–508.
- Bachelard, G. (1984 [1934]) *The New Scientific Spirit*, Boston: Beacon Press.
- Barry, Daved and Meisiek, Stefan (2010) 'Seeing more and seeing differently: sensemaking, mindfulness, and the workarts', *Organization Studies* 31(11): 1505–1530
- Bateson, G. (1972) *Steps to an Ecology of Mind*, Chicago: University of Chicago Press.
- Beaulieu, A. (2002) 'Images are not the (only) truth: brain mapping, visual knowledge and iconoclasm', *Science, Technology and Human Values* 27: 53–86.
- Beller, J. (2006) *The Cinematic Mode of Production: Attention Economy and the Society of the Spectacle*, Duke Hanover: Dartmouth College Press.
- Bergson, H. (1988 [1910]) *Matter and Memory*, New York: Zone Books.
- Böhme, G. (2003) 'Contribution to the critique of the aesthetic economy', *Thesis Eleven* 73: 72–82.
- Bourdieu, P. (1993) *The Field of Cultural Production: Essays on Art and Literature*, edited by Randall Johnson, Cambridge: Polity Press.

- Burri, R.V. (2008) 'Doing distinctions: boundary work and symbolic capital in radiology', *Social Studies of Science* 38: 35–62.
- Carr, A. and Hancock, P. (eds) (2003) *Art and Aesthetics at Work*, Basingstoke and New York: Palgrave.
- Caves, R.E. (2000) *Creative Industries*, Cambridge and London: Harvard University Press.
- Crary, J. (1990) *Techniques of the Observer: On Vision and Modernity in the Nineteenth Century*, Cambridge and London: MIT Press.
- Daemmrich, A. (1998) 'The evidence does not speak for itself: expert witnesses and the organization of DNA-typing companies', *Social Studies of Science* 28: 741–772.
- Daston, L. (2008) 'On scientific observation', *Isis* 99: 97–110.
- Daston, L. and Galison, P. (2007) *Objectivity*, New York: Zone Books.
- Davenport, T. and Beck, J. (2001) *The Attention Economy*, Cambridge: Harvard Business School Press.
- Deleuze, G. and Guattari, F. (1983) *Anti-Oedipus: Capitalism and Schizophrenia*, Minneapolis: University of Minnesota Press.
- Dougherty, D. and Hardy, C. (1996) 'Sustained product innovation in large mature organizations: overcoming innovation-to-organization problems', *Academy of Management Journal* 39(5): 1120–1153.
- Dumit, J. (2004) *Picturing Personhood: Brain Scans and Biomedical Identity*, Princeton: Princeton University Press.
- Eagleton, T. (1990) *The Ideology of the Aesthetics*, Oxford and Cambridge: Blackwell.
- Elkins, J. (1996) *The Object Stares Back: On the Nature of Seeing*, New York: Simon & Schuster.
- Ellis, R. (2011) 'Jizz and the joy of pattern recognition: virtuosity, discipline and agency of insights in UK naturalists' arts of seeing', *Social Studies of Science* 41(6): 769–790.
- Eriksen, T.H. (2001) *Tyranny of the Moment*, London and Sterling: Pluto Press.
- Ewenstein, B. and Whyte, J. (2007) 'Beyond words: aesthetic knowledge and knowing in organizations', *Organization Studies* 28(5): 689–708.
- Foucault, M. (1973) *The Birth of the Clinic*, London and New York: Routledge.
- Golan, T. (2004) 'The emergence of the silent witness: the legal and medical reception of X-ray in the USA', *Social Studies of Science* 34: 469–499.
- Goodwin, C. (1994) 'Professional vision', *American Anthropologist* 96(3): 606–633.
- (1995) 'Seeing in depth', *Social Studies of Science* 25: 237–274.
- Grasseni, C. (2004) 'Skilled vision: an apprenticeship in breeding aesthetics', *Social Anthropology* 121: 41–55.
- Gregory, R.L. (ed.) (2004a) 'Visual system: organization', in *The Oxford Companion to the Mind*, 2nd ed., Oxford and New York: Oxford University Press, 931–937.
- (ed.) (2004b) 'Perception', in *The Oxford Companion to the Mind*, 2nd ed., Oxford and New York: Oxford University Press, 707–710.
- Grosz, E. (2008) *Chaos, Territory, Art: Deleuze and the Framing of the Earth*, New York: Columbia University Press.
- Guve, B.G. (2007) 'Aesthetics of financial judgments: on risk capitalists' confidence', in P. Guillet de Monthoux, C. Gustafsson and S.-E. Sjöstrand (eds) *Aesthetic Leadership: Managing Fields of Flow in Art and Business*, Basingstoke: Palgrave Macmillan, 128–140.
- Hanson, N.R. (1958) *Patterns of Discovery: An Inquiry into the Conceptual Foundations of Science*, Cambridge: Cambridge at the University Press.
- Hirschauer, S. (1991) 'The manufacture of human bodies in surgery', *Social Studies of Science* 21(2): 279–319.
- Jordan, K. and Lynch, M. (1992) 'The sociology of a genetic engineering technique: ritual and rationality in the performance of the "plasmic prep"', in A.E. Clarke and J.H. Fujimura (eds) *The Right Tools for the Job: At Work in Twentieth-Century Life Sciences*, Princeton: Princeton University Press, 77–114.
- Karpik, L. (2010) *Valuing the Unique: The Economics of Singularities*, Princeton: Princeton University Press.
- Kittler, F. (1990) *Discourse Networks 1800/1900*, trans. M. Metteer and C. Cullens, Stanford: Stanford University Press.
- Kruse, C. (2006) *The Making of Valid Data: People and Machines in Genetic Research Practice*, PhD Thesis, Linköping University.
- Lakoff, A. (2006) *Pharmaceutical Reason: Knowledge and Value in Global Psychiatry*, Cambridge: Cambridge University Press.
- Lanham, R. (2006) *The Economics of Attention: Style and Substance in the Age of Information*, Chicago and London: University of Chicago Press.
- Lave, J. and Wenger, E. (1991) *Situated Learning: Legitimate Peripheral Participation*, Cambridge: Cambridge University Press.

- Myers, N. (2008) 'Molecular embodiments and the body-work of modeling in protein crystallography', *Social Studies of Science* 38: 163–199.
- Piñeiro, E. (2007) 'Aesthetics at the heart of logic: on the role of beauty in computing innovation', P. Guillet de Monthoux, C. Gustafsson and S.-E. Sjöstrand (eds) *Aesthetic Leadership: Managing Fields of Flow in Art and Business*, Basingstoke: Palgrave Macmillan, 105–127.
- Rheinberger, H.-J. (2010) *The Epistemology of the Concrete: Twentieth-century Histories of Life*, Durham and London: Duke University Press.
- Stafford, B.M. (2009) 'Thoughts not our own: whatever happened to selective attention?', *Theory, Culture & Society* 26(2–3): 275–293.
- Stark, D. (2009) *The Sense of Dissonance: Accounts of Worth in Economic Life*, Princeton: Princeton University Press.
- Strand, M. (2011) 'Where do classifications come from? The DSM-III, the transformation of American psychiatry, and the problem of origin in the sociology of knowledge', *Theory and Society* 40: 273–313.
- Strati, A. (2007) 'Sensible knowledge and practice-based learning', *Management Learning* 38(1): 61–77.
- Styhre, A. (2010) *Visual Culture in Organizations: Theory and Cases*, London and New York: Routledge.
- (2011) 'Institutionalizing technoscience: post-genomic technologies and the case of systems biology', *Scandinavian Journal of Management* 27(4): 375–388.
- Taylor, S. (2002) 'Overcoming aesthetic muteness: researching organizational members' aesthetic experience', *Human Relations* 55(7): 821–840.
- Taylor, S. and Hansen, H. (2005) 'Finding form: looking at the field of organizational aesthetics', *Journal of Management Studies* 42(6): 1211–1231.
- Timmermans, S. (2008) 'Professions and their work: do market shelters protect professional interests?' *Work and Occupations* 35(2): 164–188.
- Velthuis, O. (2003) 'Symbolic meanings of prices: constructing the value of contemporary art in Amsterdam and New York', *Theory and Society* 32: 181–215.
- Virilio, P. (1989) *War and Cinema: The Logistics of Perception*, trans. Patrick Camiller, London and New York: Verso.
- Wittgenstein, L. (1953) *Philosophical Investigations*, Oxford: Blackwell.