Introduction

Skilled Visions: Between Apprenticeship and Standards

Cristina Grasseni

The object we see …
is dependent upon who we are
and what we recognize from past experience.
(R. Arnheim, *Visual Thinking*)

Towards a Rehabilitation of Vision

Anthropologists are ready to address a yet untapped problem that is ripe for discussion: the issue of the rehabilitation of vision. The aim of this book is to propose a new concept of vision that allows us to recontextualise the critique of visualism in the wider contemporary debate on practice and the construction of knowledge. *Skilled Visions* explores the training of vision in professional, scientific and everyday settings, providing a comprehensive spectrum of case studies in relevant contexts. Local and indigenous knowledge is profiled not as a given, but in its making and in its complex relation with the hegemony of the sociotechnical network. By maintaining an ethnographic approach, the aim is to provide practical case studies that are at once accessible, critical and informative. As a whole, this work builds upon the recent literature on the anthropology of the senses: it does not consider vision as an isolated given but within its interplay with the other senses, and with the role of mutual gestuality. Moreover, it explores vision as a ductile,

situated, contested and politically fraught means of situating oneself in a community of practice. By drawing together both ethnographic and sociohistorical case studies from different disciplines (especially anthropology, but also the history and sociology of science), it aims at adding further dimensions to the anthropological debate on vision.

A vast literature has concentrated on vision, and the ways in which it is being tackled by anthropologists is telling of the very same tension at the heart of the discipline, between distance and proximity.[1] On the one hand, visual media have a high profile in those processes that enforce the technological mediation of knowledge. On the other hand, vision is being recontextualised within a newly rediscovered phenomenology of the senses. Either option points towards a convergent direction. In fact, a critical focus on imaging technologies as mediators of meaning, power and knowledge often leads to an often implicit dislike of vision *tout court*, meant as synonym for the overview, the gaze, or the panoptic. The phenomenology of the senses (see Casey 1996; Jackson 1983, 1996) is often associated with a similar distancing from vision, since most arguments for a rediscovery of the body and the senses hinge on a critique of the 'visualism' of our globalised, image-driven, technified society.

Famously, Johannes Fabian's critique denounced the distancing and anachronistic bias that would be inherent in the culture of vision. Being characteristic of both Western science and the European encounters with the 'other', a certain European vision undoubtedly served as a powerful rhetoric of appropriation (see for instance Bleichmar's chapter in this book). The 'double visual fixation' of anthropological objects, 'as perceptual image and as illustration of a kind of knowledge', would also have served mainly as a distancing device that denies coevalness from the start (1983: 121). However, the recent literature in the anthropology of the senses has established that vision is cultural, and that different cultures hold radically different metaphors and hierarchy for the senses than the Western, visualist tradition (e.g. Howes 1991, 2004). Constance Classen has investigated historically and ethnographically the different symbolic investment and cultural codes of perception that societies ascribe to different senses (1993, 2005). Nadia Seremetakis (1994) has pointed out the direct link between memory, material culture and the senses. Steven Feld and Keith Basso (1996), and Paul Stoller (1989, 1997), amongst others, have focused on the sensual phenomenology of everyday practice, and the way this is linked to the construction of knowledge and the positioning of persons in their worlds.

The very realisation of the complexity and variety of sensory cultures, nevertheless, has often led to a sweeping condemnation of vision, taken *as a whole* as dominant *gaze*. The historical roots of such iconoclastic stances in literature and even photography and film are magisterially exposed by Martin Jay in his *Downcast eyes* (1993). The 'anti-ocularcentric' neologism summarises the history of ideas from Plato to Levinas, revealing a surprisingly consistent and insistent anti-visualist streak in Western

intellectual history. The book is not an anti-ocularcentric manifesto, though, and the proposed alternative to ocularcentric regimes does not go beyond the proposed proliferation of diverse 'scopic regimes'. This would mean, for instance, recuperating the sense of care suggested by the etymology of 'visual' verbs both in European and non-European languages, rather than that of controlling surveillance (Jay 2002: 89).[2] Jay's analysis admittedly pertains to the *discourse* on visuality, not to the *practices* of vision. It is, instead, when we look at practice that the denunciation of gaze as per se dominating, and of vision as per se abstracting and formalising, finds an experiential check. So, while Howes (1991) and Classen (1993) rightly resist the dominant metaphors (whether visual or discursive) that treat societies as texts, the sweeping statement that anthropologists should 'resist the hegemony of the visual faculty (and the imperialist order it supports)' (Howes 1991: 19) raises some reservations. In fact, Jay testifies that in the history of art, '*optical virtuosi* with the gifts and the training to explore and extend the limits of visual experience, transcend the conventions of their visual environment and open up new worlds for our eyes' (2002: 88). This definition of *virtuoso* can be extended to those practitioners who daily go about defining and creatively extending the 'visual environments' of their practice. Cattle breeders, archaeologists, laser surgeons, even police consultants (Goodwin 1994) do each have a different world in front of their eyes, because they were each trained to see it differently, some being more gifted *virtuosi* than others.

Even though Fabian maintains a clear distinction between visualism as a cognitive style, and visual experience (if for nothing else, to warn that the former is likely to prejudice the study of the latter), his critique seems to have engendered a generalised anthropological embarrassment with the sense of vision and with visual artefacts, including a peculiar tendency to self-flagellation within visual anthropology. Such uneasiness with vision also derives from the critical analysis of the powerful discourse and the panoptic settings behind the history of imaging technologies (from the press to the media to medical settings). The success of the map and of the overview, or, as Bruno Latour would put it, of the technologies of 'inscription' and 'mediation', can hardly be explained away as mere ideology, nor can they be substituted by just 'looking at' something. (For example, the chapter by Turnbull in this book adds historical insight to the role of the map as a flexible device, both cognitive and practical). But while what Fabian objects to is in fact panopticism, as a result of a naïve reading of his critique anthropology as a discipline has often positioned itself as inherently at odds with vision, taken as a whole to stand for the chauvinistic, Western, colonial, and technified 'gaze'. This assumption has led to a lack of actual research on the processes of visual 'enskilment', that is, on the apprenticeship of *particular* skilled visions that are *specific* to *situated* practices, and on how much these can tell us about hegemony and resistance. All this *despite* the increasing interest, among the current generation of ethnographers, for the scope and reach of visual research methods (Pink et al., 2004) and for the intertwining histories of

photography, film and anthropology (Grimshaw 2001; Edwards 2001) – an interest that can only benefit from the historical awareness of the many links between science and the visual arts (Galison, Jones, 1998), and from collaborative research and production across the arts and sciences (Schneider and Wright, forthcoming).

Attempts to assess vision anthropologically have so far lacked an analytical ethnographic and historical approach, preferring to stress the perceptive sensibility, personal empathy and holism that should arise from 'being there', from 'free association' or from 'sharing' a landscape with one's ethnographic subjects (Okely 1998, 2001).[3] The stress in this book is instead on the disciplined and disciplining aspects of memory and sensibility that are not spontaneous, personal and subjective but rather *embedded* in mediating devices, contexts and routines. In other words, we look here at the role of informal, mostly tacit knowledge in expert conduct, apprenticeship and professional identity, taking into consideration the role played by peer-to-peer negotiation, hierarchical relations and the management of contexts, narratives and artefacts in the social construction of skilled visions.

The accusation that visual artefacts have aided digitisation, quantification and diagrammatic representation is hard to reject. But standardisation does not apply uniquely to vision.[4] On the contrary, an investigation of visual practices in their skilled and contextual dimension may add important insights into whichever margins may be left for local negotiations by the hegemony of standards, *and* by the hierarchical order imposed in apprenticeship. This has little to do with *visualism* meant as 'a cultural, ideological bias toward vision as the noblest sense' (Fabian 1983: 106), or with the conviction, which I would keep distinct from the former, that 'to "visualise" a culture or society almost becomes synonymous for understanding it' (Fabian 1983: 106). In fact, the point of introducing the concept of skilled visions (in the plural) is precisely that of underlining how vision is not necessarily identifiable with 'detached observation', and should not be opposed by definition to 'the immediacy of fleeting sounds, ineffable odours, confused emotions, and the flow of Time passing' (108). On the contrary, *skilled visions* are embedded in multi-sensory practices, where look is coordinated with skilled movement, with rapidly changing points of view, or with other senses, such as touch. They also have a political dimension that depends on the artefacts, hierarchies and modes of exposure to local knowledges that we see described in detail in the following chapters. In other words, a simplistic reading of Fabian's critique of visualism may well still reinforce a classification of the senses whereby vision towers over the others, either as the noblest sense or as the most damning.

In a way this debate rehearses, on the one hand, the now largely 'imploded' debate on literacy (see Goody 1977; Ong 1982) and, on the other hand, on the phenomenology of space in human geography (Yi-Fu Tuan 1977; Seamon and Mugerauer 1985). Recently, an anthropological revisitation of such topics in the light of ecological psychology has led to the sketching of a new trend

in ecological anthropology (see Ingold 2000). Ethno-methodological studies of science, then, have focused on detailed analyses of the various styles of vision that are effectively employed in situated practices, on their socialisation through apprenticeship and on their hegemonic potential (see for instance Goodwin and Ueno 2000; Lynch and Woolgar 1990). In visual anthropology, Anna Grimshaw (2001) has traced the many parallels and conjunctures between the history of anthropology and that of cinema, highlighting the presence of different, competing and contradictory ways of seeing, while an outspoken rehabilitation of vision as a sense of discernment in the history of art and science was outlined in Barbara Stafford's work (1996). In this book, instead of concentrating on the analysis of ready-made visual productions (whether scientific representations, artworks or documentary films) we strive to develop an anthropology *of vision* by investigating the actual processes of visual training that engender certain kinds of sociality, ideology and standards of practice. The argument proposed here is constructivist in kind: that skilled visions orient perception and structure understanding, in other words that they not only convey ideas, meaning and beliefs, but configure them. In art history and visual studies it has been argued that 'the digital imaging revolution' – for reasons that concern the technological form of mediation, transmission and representation of knowledge – 'is crucially reconfiguring how we explore and comprehend *ideas*, from urban planning to photography' (Stafford 1996: 3). Here we extend our attention for artefacts, contexts and apprenticeship to *any* instance of practices of looking.

The challenge behind this book is thus to recontextualise and possibly rephrase the debate on ocularcentrism by pursuing a new concept of *visions*, meant in the plural as local and shared practices, naturally connected to the other senses. This means taking into account the critique of panoptic vision, by opposing skilled visions, in the plural, to it. In other words, vision takes on a new meaning in a post-Fabian critical era, without avoiding the topic of vision *tout court* – as many anthropologists have done as a result of a shallow reading of such critique. To do so means situating 'skilled vision' in relation to the anthropology of practice (Chaiklin and Lave 1993; Schatzki et al. 2001) and the anthropology of the senses.

The conviction that artefacts are powerful mediators, and generators of sense, is widespread in some quarters of cultural psychology and cognitive – ecological research. Indeed, as recent literature on distributed cognition demonstrates, technological or 'cognitive' artefacts may be instrumental in mediating skill (Cole and Holland 1995; Engeström and Middleton 1996; Hutchins 1995). Recently, a vast literature has focused on a style of ethnographic research that studies the ways in which the social and material environment is organised, and how this has implications for the ways in which we understand and act in the world. However 'cognitively' oriented, these works are distinct from both the representationalist and the connectionist positions of the cognitive sciences.[5] Their main tenet is the idea that cognition is the result of the interaction of actors and objects, which

arrange specific practices in local contexts. So human congnition, unlike that of computers, is not a question of implementing algorithms but is *embodied*, relational and interactive, hence social (Varela et al. 1991; Whitehouse 2001). From the stepping stones represented by the works of Michael Cole, Edwin Hutchins, Jean Lave and Lucy Suchman, anthropological research on cognition has developed as a study of *situated action*. Though coming from different backgrounds (in anthropology, linguistics and psychology) these works share a set of main tenets regarding social action. Firstly, they consider *mediated action* as crucial to practice (as in the different traditions of Dewey's pragmatism, G.H. Mead's interactionism, Bateson's ecology of mind, and above all the cultural-historical Russian school of Lev Vygotsky, Alexei Leont'ev and Alexander Luria[6]). Secondly, they focus on environmental systems, including both material and relational structures, underlying the recursive, co-constitutive and co-evolving dynamics that organise them. As a species capable of mediated action, humankind banks on the socially guided appropriation of environmental resources that are oriented to practice by the previous generations. Environmental systems are hence external sources of memory and knowledge which sediment through generations and which are accessed through socialisation (Cole 1997). Thirdly, humans find themselves continuously involved in *performances* and *routines* that allow them to share common fields of action. Culture therefore takes the shape of a set of resources that can be employed creatively in different ways by the social actors: cultural action is the *situated improvisation* that exploits such resources in different circumstances, rather than an interpretative frame or a fixed repertoire. In turn, contexts are mutually constituted by people's actions rather than fixed scenarios for them.

Capitalising on this literature, but privileging its ethnographic rather than its psychological potential, means applying it to a methodological enquiry about the ethnographic relevance of what we could term 'practices of locality'.[7] The interdisciplinary work that has been developed in this book adds to this literature, and distinguishes itself from it, for a closer ethnographic look at *context* in its wider sense. This means looking into issues such as: where artefacts come from (see chapters by Grasseni, Bleichmar, Turnbull); how they are inserted into roles, narratives and prefigured hierarchies of power, contributing to their preservation (Saunders, Roepstorff, Cohn), and what margins – if any – are left to innovation, creativity and disruption (Ronzon, Gunn, Willerslev). The invitation made to the authors was to explore the ways in which vision can be shared across a community as *an enskilled sense*, to highlight the processes of apprenticeship that refine vision as a skilled *capacity*, and to focus on the institutional audiences and the contexts of labour that have historically engaged vision as a specific *form of practice*.

In order to introduce and in some ways limit the possible interpretations of the notion of 'skilled visions', it may be useful to stress what is *not* the object of this agenda. 'Skilled vision' is not a metaphor for *knowledge tout*

court, nor a synonym for *observation*, nor an invitation to exercise critical analysis of particular visual *representations*. The aim is to show how there is no neutral and detached gaze, but rather that there are different practices of *looking*, and that learning some 'good looking' (Stafford 1996) is inevitably part (and a necessary precondition) of insight into such practices. Far from being exercises in neutral observation, then, skilled visions can be analysed in terms of practical routines, social and ideological *belonging* as well as of aesthetic *longing*. Moreover, skilled visions are not necessarily related to image-making processes, so that studying skilled visions does not necessarily mean conducting a critical reading of visual artefacts. To sum up, skilled visions are the result of concrete processes of education of attention, within situated practices and ecologies of culture that are at the same time 'vulnerable, unruly, and evanescent as well as contested, collective, and distributed', as Simon Schaffer so aptly pinpointed.[8] I wish to dwell for a few paragraphs on each of these characteristics.

Collective and distributed.   The role of communities of practice (Lave and Wenger 1991; Wenger 1998), and of their shared ways of seeing, can be shown to be far from residual in producing collective and active belonging to aesthetic ideals, moral order and standards of accomplishment. Skilled visions often rely on collaborative expertise and on a distribution of cognitive artefacts that are made available and relevant in the landscape of one's practice – or *taskscape* (Ingold 1993). They often entail a capacity to discriminate: one may well isolate one trait from the flux of one's sensorial experience, if this is more relevant or fundamental to one's taskscape. Skilled visions cannot be associated solely with the use of specific visual media, or with image-making processes (video, film, digital photography, paper, wood, or imaging software). Nor, once acquired, are they bound to the use of a certain visual environment or medium.[9]

Vulnerable and unruly.   Whilst forms of image-making may be the principal engagement of such skilled practices, one should also underline the vaster scopes of visual practices. Some are aimed at making one *see as*, that is to acquire certain patterns of expert scrutiny, which one applies to diverse configurations of objects. Applying such patterns is also a question of making one's expertise *visible to others*. Thirdly, skilled visions may also involve the ability to *see through* grids, ideal types and standard artefacts as much as that of 'seeing as'. In other words, different schoolings may allow differently trained people to derive different, or conflicting information, from the same visual artefact. Conversely, the ability to trace, view and make use of different artefacts coherently marks the social and cognitive – often ideologically biased – cohesion of a community of practice.

Contested and evanescent.   Skilled visions are in fact ambivalent and omnipresent. The local construction of skilled knowledge, through the training of expert eyes, hands, discourses and sensibilities, actually contributes to the establishment and maintenance of hegemonic, often global, standards of practice through which we perceive, order and manage the

world. The highly selective, prescriptive and binding routines of professional locales becomes transparent, like a pair of glasses to look through, to its practitioners through training, and precisely for this reason it can be ideological and hegemonic. Hence the situated practices of laboratories, hospitals and offices constitute key steps towards the assimilation, and sometimes the negotiation, of global hierarchies of value (Herzfeld 2004). Is there any space left for resistance and creativity? This is one of the questions this book wishes to ask. In architectural practices, medical laboratories, marginal rural areas and urban wastelands, peasants, medical apprentices, artists and performers strive to manage the required compromise between distance and proximity, between locality and globality, between individual skill and political sociality. Often these very strategies reinstate the marginality and subalternity of their protagonists.

Situating Skilled Visions: Between Apprenticeship and Standards

I stated above that in order to move beyond the critique of ocularcentrism we need to re-contextualise the idea of vision itself within the dialectics between locality and the network, as part of a social construction of meaning. Within this dialectic, as Herzfeld notices in his Epilogue to this book, skilled vision is placed in a pivotal position: between apprenticeship and standards. As I pointed out in the previous section, ethnographies of scientific, professional and organisational contexts have argued that human activity is mediated by artefacts (Norman 1988; Suchman 1987) which often have a standardising function. In particular, the visual and situated component of human interaction and communication has been demonstrated (Goodwin 1994, 1998). On the other hand, from phenomenological and ecological quarters it has been stressed how educating attention involves multi-sensory experience and personal apprenticeship (Ingold 2000). Is this a contradiction? Is it a contradiction that both apprenticeship *and* standard artefacts mediate the situated, tacit, skilful knowledge of individuals in communities of practice (Lave and Wenger 1991)? The thesis of this book is that situated practices do not per se contradict the 'metropolitan' and 'metrological' nature of technological mediation that is achieved through the dissemination of mobile inscriptions (Latour 1991). On the contrary, they make it work and often guarantee its ideological success by disseminating it in local contexts.

The following chapters show how vision is a powerful carrier of knowledge, sociality and identity: a successful go-between from the grounded, situated body to the global hierarchies of sociotechnical networks. Vision is analysed here not as a metaphor for something else, but as an actual process that characterises everyday life in different communities of practice. Instead of simply accepting that vision is 'cultural', hence rehearsing the argument of cultural relativism but leaving the actual problem of mapping

'culture' untapped, these case studies address the difference it makes to personal identities, social relations and professional ideologies to be trained in one way of seeing rather than another. The ambition of this research agenda is to address squarely, both in theoretical terms and through reference to a wide spectrum of ethnographic and historical settings, the issue of how we *see*. This is a missing link in contemporary theory on global–local dynamics: we cannot understand how people function unless we take into consideration how they have learnt to see the world in many different, relevant and conflicting ways.

The case studies presented here stress the role of *context* (both material and social), of social *relationships* (both mimetic and conflictual) and of the processes of *apprenticeship* in putting a certain vision firmly in place within a community of practice. Apprenticeship and schooling are part of a sociotechnical network, where audience, authority and artefacts play an important part. The aim, though, is not only *to acknowledge the existence* of social contexts for specific practices of seeing (professional, artistic, scientific), but *to dwell on the actual processes* through which people are trained into communities of practice by learning to relate to certain tools, narratives and categories. The agenda is hence to analyse concrete *processes* of enskilment, the role of *artefacts* in an ecology of attention, and *social historical and institutional paths* of engagement in practices. By focusing on apprenticeship, such analyses uncover the process of 'erasure of the muddling' (Herzfeld, p. 213) that is characteristic of institutional practices, while contributing ethnographic insight into modern places and high-tech environments. The scientists, medics and professionals portrayed here are shown to be 'feeling their way' around, while they are being taught exactly where and how to look for 'data'. In the ecology of everyday practice, both in professional and in marginal contexts, this highlights the ways in which ideology, beliefs, ethics and aesthetics become incorporated, hence transparent and pervasive at once.

Considering vision as a form of practice is hence a deliberate theoretical move, which allows us to supersede the current debate on visualism in favour of a more encompassing analysis, regarding the roles of *local contexts* and *community* in constituting knowledge. Here too there are contrasting interpretations. Locality and contingency in the constitution of knowledge can be simply understood as material and idiosyncratic resistances to the processes of inscription and encoding. Thanks to the powerful tools of visualisation and inscription, such resistances can be overcome so that translation, technological mediation and eventually the transportability and visibility of knowledge can be achieved. But the anthropological perception of locality as a nexus of shared relations and of practice-generating knowledge is oppositional to this perception of vision as universal translator and mediator. Consequently, recent ethnographic approaches stressing the local and relational character of knowledge-making have often been associated with anti-visualist stances. How can a revisitation of skill help to overcome such opposition? As was indicated by the theme chosen for the 2004 EASA

biennial meeting, 'rethinking distance and proximity' is a fresh challenge for anthropology, as well as for the humanities and social sciences. The need to study skill comes from the fact that, while technological mediation ensures the global dissemination of standards, professional apprenticeship still constructs knowledge *locally* by training expert practitioners. Hence, rethinking the role of proximity *vis-à-vis* the standardisation of knowledge means reconsidering the many forms and roles of tacit knowledge (Polany 1958), *and* situating them in contemporary global networks of commodities and hierarchies of roles.

'Skill' is a core concept through which technology, history, social relations and political economy converge, complexifying the perception of globalisation as a predetermined discourse that implies the demise of so-called traditional skills by the hand of modern technology. In fact, there is no fixed algebra of skill and machine by which an increase of technology means a decrease in skill (see for instance Collins 1997 on medical skill in high-tech surgery). Once acquired, skill is an essential aspect, an element of practice, a taste and a meaning-making attitude that is developed and applied throughout everyday life, thus amounting to a sense of identification or emplacement (Mollona 2002). Conversely, it is the very substance of ideology in that it perpetuates self-justifying criteria of propriety and correctness that are internal to communities of practice and their hierarchies. Skill may be a way of embedding practical relations between human beings and their everyday environment (see Gray 1999). As I have argued elsewhere (Grasseni 2004 a and b), the 'correct' appreciation of beauty and grace, the sense of accomplishment and the corresponding social appreciation of skill go hand in hand: such moral order will underlie not only professional performances, but also gossip, competition, reputation, dominance etc.

One of the aims of the book is to explore vision in terms of 'enskilment', meant in this broader sense (for a narrower definition cf. Ingold 1993: 221), within an ecology of practice. One grants that the enskilment of vision goes along with the enskilment of the other senses, and in particular of bodily movement and dexterity, as part of a progressive process of joining a particular 'community of practice' – a process that Jean Lave calls 'legitimate peripheral participation'. Lave and Wenger (1991) coined this phrase to indicate the critical moment of socialisation of new actors, through apprenticeship, in specific 'communities of practice', and a fundamental mechanism of situated learning. These authors underline the unity of cognitive and operative aspects on the one side and, on the other, the socialising and relational dynamics of to-be experts. From an anthropological point of view, the concept of 'community of practice' offers a pragmatic scope for observing cognition and skill at work and in their making; it provides a social context within which locating apprenticeship as a process of 'education of attention' (Ingold 2000) that shapes specific skills of relation, cognition and perception. Firstly mimetic processes are often the socioemotional motor for the process of apprenticeship. They are, more often than not, highly

conflictual (see Dumouchel and Dupuy 1982). Secondly, enskilling does not necessarily mean learning without rules, just as training vision does not exclude verbalisation. Thirdly, the capacities developed in these systems are exportable to other contexts and systems of activity. Communities of practice in fact provide a social and cognitive horizon that justifies and reproduces specific contexts of perception action, and within which resonance or attunement, rather than actual communication, support understanding (Wikan 1993).

To sum up, skilled practices literally shape the way we look at the world. Participating in a richly textured environment, full of objects, images and body patterns, structures and guides our perception tacitly and implicitly. In the naturally and culturally constructed environments we thus inhabit, identity and cultures are rooted and reproduce themselves. 'Sharing a worldview' may thus mean learning to inhabit ecologies of vision, taken as 'the public organisation of visual practice within the worklife of a profession' (Goodwin 2000: 164). The notions of *taskscape* (Ingold) and *worldview* thus converge on the issue of practical understanding, achieved locally through material and social learning experiences. A sense of propriety, of aesthetic accomplishment and of moral order is developed and transmitted in communities of practice. I refer here to the identity-making processes through which, by encountering, perceiving and investing the objects and spaces of everyday activity with meaning, people form attachments and a sense of themselves. Skilled visions, once acquired, are not so much codes, or tools for actively manipulating messages, as much as backgrounds and scenarios that make those messages meaningful. The fact that practice can engender *understanding* as a sediment of experience and skill raises issues of commensurability (Hollis and Lukes 1982) that I shall not deal with in depth here (see Grasseni, forthcoming). It suffices to say, for the purposes of this book, that acquiring specific skills may help the ethnographer to access worldviews and to document how ways of knowing are embedded in social practice. Ecologies of practice orient not only strategies for developing ethnographic participation and field relations, but also a theoretical search for the ways and tools through which everyday activities are organised (spatially, socially, cognitively).

The Structure of the Book

As should be clear by now, the thesis of this book is that to exercise skilled vision means to belong socially in communities and networks that share aesthetic sensibilities, principles of good practice, rituals of participation, processes of apprenticeship, ideological stances and political interests. Each chapter focuses on the making of different skilled visions, meant as situated and embodied practices that can provide anthropological insight into identity, conflict and ideology. The book opens by giving a varied insight into what 'ecology of practice' may mean in relation to skilled visions, by stressing the

relevance of local aesthetics both in traditional, rural spaces and in urban, less conventional settings (Part I). Part II positions the role of gestuality and of embodied practice in relation to the concept of *design*, seen at work in art, architecture and neuro-imaging. Part III revisits, in the light of the notions of skilled visions, the social, political and technical relevance of visual training in scientific and medical practice. The chapters articulate an interdisciplinary approach, underlining different historical, sociological and ethnographic dimensions of skilled visions. The fields of skilled practice investigated span architecture, art, ethnographic research, urban planning, neuroscience, medical training, transvestitism, hunting and breeding, including examples of visual training in both high- and low-tech environments, and relevant historical and epistemological perspectives. Each section proposes *complementary and comparative views* from interdisciplinary research (mostly anthropological, but also sociohistorical and science-historical) on different areas of practice. *Showing by contrast* is both a strategy for apprenticeship and the style of these case studies. For example, brain imaging is compared to navigating skills; wood-sculpting to C.A.D. (computer-aided design) drawing; the Linnaean botanical drawings used in colonial botany are compared against pictorial production in the colonies; the skills of medieval masonry with the ones of managing the London underground traffic. The apprenticeship of beauty is analysed in such apparently disparate contexts as animal husbandry and transvestite performance. This collection of historical and ethnographic cases shows the different ways in which training vision means shaping professional identities, negotiating personal ability and conveying hegemonic values. From this focused viewpoint, one appreciates the social dynamics at work in professional apprenticeship and training, covering a wide historical, science-historical and ethnographic scope, showing how a global network of standards influences local definitions of knowledge, beauty and good practice. Particular attention is given to the sensory, discursive and cognitive strategies of marginality and resistance both in professional and everyday practice.

The first section of the book explores different skilled visions in the ecologies of everyday practice at the margins of the global hierarchy of value. Rane Willerslev argues head-on for a pro-visual stance: 'surely there must be more to vision than the indefinite number of practical contexts in which it is employed?' He draws on phenomenologist Merleau-Ponty to argue in favour of the distancing element that vision, unlike the other senses, introduces into our sensuous relation to the world: 'in vision, distance and proximity are not mutually exclusive, but rather imply one another' (p. 25). The case of the perspectivism of Yukaghir hunters is brought to illustrate the case. Hunters and elks have to undergo a process of mimetic transformation that results in increased affinity between them, a process that entails all the senses and is aimed at seducing the prey into self-surrender. But hunters must be careful not to get too close to the prey lest they 'go native' and fail the hunt. Moreover, Willerslev argues that the distance afforded by sight 'allows the

subject not only to be aware of the visible world but also to be in a fundamental way aware of his own visibility, his own activity of seeing' (p. 30). It is this self-awareness that negotiates the liminality between distance and proximity – a compromise which ultimately safeguards the self from mimetic dissolution. The argument is in keeping with the project of the rehabilitation of vision, meant as a skilled sense that both allows and requires discernment, disciplining and awareness. It applies not only to the Yukaghir hunter but to the anthropologist herself: rather than giving in to the seduction of sensuous immersion, she should practise the liminality of differentiation.

In the second chapter, I combine historical and ethnographic perspectives in order to follow up the traces of apparently *transparent* artefacts such as plastic toy cows, sketching out the historical development of a 'breeding aesthetics' that is currently associated with intensive dairy farming. The apprenticeship into the skilled vision of breed selection eventually attunes one to an intimate appreciation of what are deemed ideologically as 'good looking' animals – even though these criteria eventually depend on the complex history of animal husbandry and breed selection, and on the economic imperatives of competitive intensive production. Amongst breeders' children, toys play a functional role in the social mimicry of adult expertise. The creative, performative and narrative use of such toys parallels the cognitive and social role played by scale models of 'ideal cows' in the settings of their parents' professional life. Scale models serve, in fact, as trophies and prizes of cattle fairs and are exhibited in both domestic and professional contexts, thus serving both an educational purpose and one of social acknowledgement.

Francesco Ronzon elaborates on irony, cognition and visual skill from the margins of acceptable theatrical performance, following a group of drag queens acting on stage in the gay clubs of Verona (Italy). Ronzon explores Madame Sisi's aesthetic sensibility and breaks down 'camp as a way of seeing' into the artefacts, icons and verbal exchanges that ecologically support, cognitively mediate and socially acknowledge drag-queen interpretations and performances of 'propriety' and of 'beauty'. Here, 'skilled vision' is the result of verbal, optical and aesthetic training carried out as resistance in the face of historical discrimination and marginalisation. The author has to 'pick up' the relevant cues and debates in an environment where commonsensical definitions of beauty and grace break down, and an alternative tradition of 'ecology of mind' is upheld.

The second section of the book maintains a combination of both historical and ethnographic focus, positioning different gestures of design in the practices of art, architecture and brain imaging. Simon Cohn compares two very different settings in which medical skill is, in the perception of its practitioners, akin to drawing: scalpel surgery and neural imaging. Both show in non-obvious ways how medicine can be perceived as both an art and a science. His analysis challenges 'a romantic notion of skill as simply being some indefinite, intuitive acquisition gained in some inexplicable way from

embodied, repeated action or "raw talent", in opposition to intentional, directed, judicious learning' (p. 92). The case links up with Saunders's (ch. 9) in its focus on technological innovation, which threatens the traditional basis of practice through automatisation, digitalisation and simulation, i.e. through the introduction of powerful imaging mediators between the eye and the hand of the surgeon and its object – the body. Both in traditional and in neuro-imaging settings, though, seeing depends on the doctor's capacity to allow the body to reveal itself – a capacity that may require 'playing around' in a way that experts are more comfortable with than novices. Hence 'seeing is not a single moment of apprehension, but involves an on-going combination of recognising, acknowledging and acting upon' (p. 94). Cohn dwells on the hidden narrative, dialogical and conversational dynamics through which an 'expert community' 'orients itself towards certain images as being legitimate and meaningful'. The 'interpretive basis of medicine' is hence firmly at the core of expertise even when 'seeing' cannot be confused with naïve realism but is self-consciously the result of technological simulation.

Wendy Gunn highlights different knowledge places in relation to her own pattern of learning, considering the different meaning of *drawing* in architectural and art practices. Her personal engagement in comparative participant observation stems from the conviction that 'some forms of knowledge afforded within creative practice resist commodification and institutionalisation' (p. 109). The kind of 'skilled vision' she tries to mimic, following the Welsh artist David Nash, the Norwegian architect Knut-Eirik Dahl and students of Dundee Academy of Fine Art, is opposed to viewing from a distance. The ways in which she chooses to *observe* captures both the fluidity of sculpting gestures and the reflexivity of mimicry, the poetics of creativity and the narrativity of resistance. All this is part of a more encompassing project that aims at problematising the idea of *learning* – specifically of forms of knowledge that cannot be written down – a project that has *skill* at its core, meant as 'the very ground of knowledge, not merely its application'.

David Turnbull's chapter expands on the idea of 'performing design', taking the London Underground and Chartres Cathedral as two examples of it. Turnbull contrasts 'representationalism' and 'performativity', through a sociohistorical analysis of how the London Underground map was designed, accepted as 'traditional', and of how it informs our perception of urban space to this very day. Performativity locates 'seeing not just in forms and technologies of visualisation and representation, but in embodied performances and practices, situated, and distributed in time and place' (p. 126). In the case of Chartres Cathedral, then, what has been hailed as the epitome of a harmonious unity, or the result of architectural coherence, is revealed as 'an ad hoc mess' (p. 134). The idea of an overall design is superseded, in the analysis of historian of architecture John James, by the succession of different masons and by the role of templates. These were a key tool for communication and knowledge transmission within the 'scopic

regime of the medieval world', which privileged 'skilled visual practice based in location' (p. 137).

The third section of the book is devoted to the social schooling of the eye in scientific and medical settings. Barry Saunders introduces us to the hierarchical and theatrical rites of learning radiology, focusing on reading CT scans as an example of the process of interpreting medical images. He renders a varied and diverse spectrum of the many aspects of apprenticeship – from autodidactic memorisation to exemplary demonstrations to novice performance, grounding it ethnographically in the pedagogical settings, performative roles and heuristic devices of a narrative of 'intrigue'. Here as elsewhere, visual apprenticeship goes hand in hand with other forms of dexterity, while the ambiguity of seeing leaves ample space for developing what is perceived as an 'interpretive craft' that demands and engenders aesthetic engagement, acumen and emulation – nothing to share with a mechanical 'pattern recognition'. Saunders's analysis of the disappearance of the mechanical viewbox adds an important dimension of transition and historical contingency that belongs to all processes of apprenticeship and enskilment, highlighting the tight links between communal learning, social rituality and the physical organisation of learning environments.

Daniela Bleichmar's science-historical chapter deepens the historical dimension of skilled vision with an analysis of the visual culture of botanical illustrations in the colonial science of the eighteenth century. She shows how naturalists were trained to be expert observers, and how these skills were deployed and challenged in the field. Their ideals of observation and manipulation still raise problems for the current anthropological debate on visualism. In particular, Bleichmar discusses how 'the notion of sight went beyond the physiological act of seeing to involve rather *insight*' (p. 168) – a distinction that the paradox of the *blind naturalist* brings to the fore. Complex training and expert manipulation of reference texts demonstrates once again how 'seeing was neither simple nor immediate, but a sophisticated technique that identified practitioners as belonging or not to a community of observers' (p. 175), not only according to a set of standards and practices but also to a series of attributes that became characteristic of the very persona of the naturalist.

Andreas Roepstorff raises the issue of how understanding images plays a role in the construction of skilled vision within a scientific community. Neuro-imaging is analysed as a social process involving an 'imagined community of peers', while the education of attention is once again confirmed as 'a key process in establishing the borders of the scientific community' (p. 191). Through comparison with navigational skills and through discourse analysis, Roepstorff shows how the construction and interpretation of brain images 'becomes embedded in a narrative' which is akin to 'a navigation in brainscape' (p. 198). In other words, 'images are arguments' within which, as in navigation, 'certain features stand out as facts (p. 201) during social interaction. Facts are, in Ludwig Fleck's terms, 'signs of

resistance to a thought collective' (p. 202) that become 'solidified through other narratives' (p. 204).

To conclude and summarise, the aim of this collection is to develop a framework and to investigate methodologies apt to contribute to interdisciplinary discussion, focusing on the collective and distributed nature of vision and skill, on the transactions that bring about 'skilled vision', and on the mutual dynamics of (visual) recognition and (social) reciprocity. While not disputing the penetrative and dominant character that certain skilled visions may exercise in various examples of skilled practice, the invitation is to take into account the 'vulnerability, unruliness, evanescence' of its objects and the 'contested, collective and distributed' character of its practice. *Vision*, both as a theoretically dense metaphor (as worldview), and as part of a phenomenology of the senses (as vision*s*), is relevant to anthropological practice, and is not necessarily *visualist*. The ambition of this project is to establish ethnography as a methodological asset for practice theory; to start exploring the processes of apprenticeship that create identities in professional, educational and performative contexts; to suggest which forms of participant observation are needed to highlight them.

Acknowledgements

Notes

1 See the key theme chosen for the EASA Biennial Meeting at Vienna in 2004: *Face to Face. Connecting Distance and Proximity*.
2 While Jay underlines the sense of care contained in the French *le regarde*, van Enk and de Vries make a similar observation of the Korowai language (1997: 42, quoted in Matera 2002: 11).
3 See also Okely's paper, 'Fieldwork as Free Association and Free Passage', at the 2004 EASA Biennial Meeting.
4 The standardisation of taste is one emerging issue in the global commodity market. Expert tasters can be trained to pin down cheese or coffee taste to a numeric value in a range of variables, and then to transcribe them into forms and diagrams (Grasseni, in preparation).
5 While the former identify cognition with the manipulation of symbols in a regulated algorithm that generates representations of the world, the latter refers to the model of parallel distributed processing of the neural networks.
6 This psychological school ascribed a central role to the historical and social processes of development, and to the *cultural artefacts* (symbols, objects and representation) that mediate human behaviour in various systems of activity.
7 As in the 'Practices of Locality' seminar held in 2000 at the University of Milan-Bicocca where, I first raised the issue of 'skilled vision' in my work on cattle breeders and the apprenticeship of ideals of good form, or animal beauty (Grasseni 2004a).
8 Simon Schaffer, *Skilled Visions Symposium*, round table discussion, Cambridge, 14th May, 2004.
9 For instance, the skilled vision of a breed expert – acquired through personal frequentation of cattle fairs and sheds – remains highly attuned even when applied to a VHS recording of a cattle fair that she may watch on television. Likewise, the same skilled vision is developed by her children through playing and manipulating model toys (see Chapter 2).

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