Scientific Looking

Practices of Looking, Chapter 9

Visual discourse in science

idea of science as a separate realm, unaffected by ideologies or politics
scientific authority, "pure" science, scientific method
"expert images" produced by science

"Scientific looking does not occur in isolation from other cultural contexts"
(347)
"science is a set of cultures, and its practices are culturally specific." (350)

"Using Michel Foucult's term, we can analyze how the discourses of science,
like all discourses, change over time, allowing for new subject positions to
emerge and new ways of speaking about science to come into being." (347)

Theatres of science

universal human proportions
"The artist saw the human body as a microcosm of the universe." (351)

rise of science of anatomy and anatomy theatres
theatrical nature of anatomy theatres: "Van Dijck notes that it was the anatomist, rather than the cadaver, who was the actor and focal point of the anatomical theater." (353)

the gaze of the onlooker in the theatre

spectacles of death: Paris morgues displaying corpses as a kind of free theatre
fascination with bodies and death, crime scene investigation, etc

Role of artistry in scientific discourse

the hand of the artist at play in supposed strictly scientific images
clinical distance vs. artistic distance

Gunther von Hagens assuming roles of both the scientist and the artist in the Body World exhibits, questions of transgression and ethics that it has raised

"As van Dijck notes in *The Transparent Body*, the [Body World] project transgresses the boundaries between body and model, organic and synthetic, object and representation, fake and real, authentic and copy, and human and posthuman. [...] The desire to see art and science, or popular culture and science, as separate has a long history in Western philosophy, yet scientific images almost always beg the question of whether these domains can ever really be kept absolutely separate." (355)
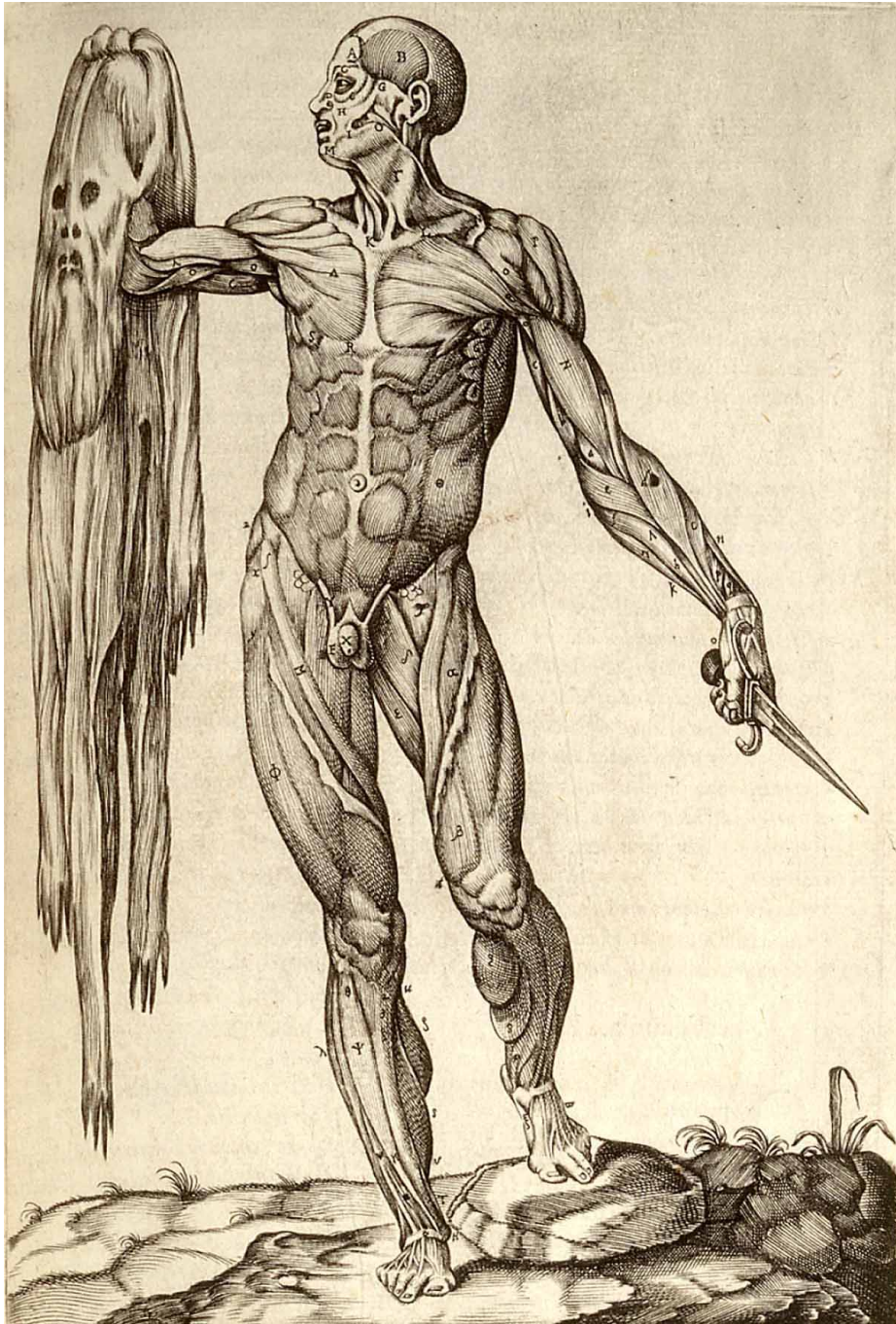
Images as evidence

positivism: "a philosophical belief that true and valid knowledge about the world is knowledge derived from objective scientific method. [...] a broader ideology in which thinkers questioned the validity of subjective reasoning and the soundness of philosophical and spiritual metaphysiscs as meas of understanding and explaining the world." (355)

photographic camera as a positivist tool "less burdened with the intentions of its maker than hand-rendered representations and is believed to offer the potential for revealing facts and truths." (356) 'photographic truth'
"In modernity, the idea of seeing farther and better, beyond the capacity of the unaided human eye, had tremendous currency; in modern thought, to see is to know." (356)

scientific images that are "both magical and truthful at once" (356)
tradition of the sublime and terror, awe and fear that scientific images can induce, the 'wonder' of science

Images as more than just evidence

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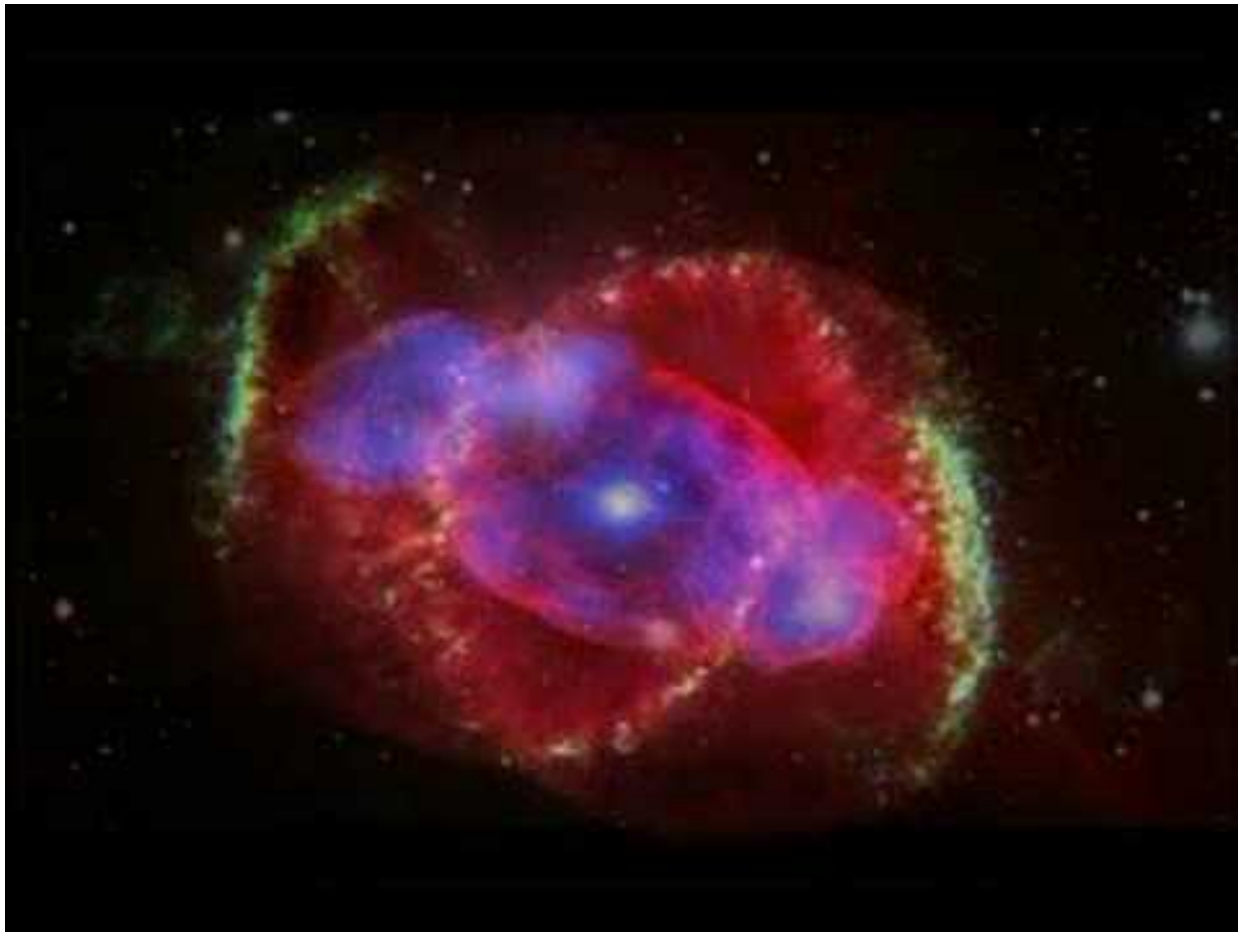
Visual classification in science

scientific taxonomies, nomenclature as a cataloguing system
disciplined description for cannonization and normalization

ideal morphologies: "Swedish botanist Carl Linnaeus grouped animals in a manner that did away with the subjectivity and arbitrariness of descriptive names alone. [...] The Linnaean system grouped species according to an ideal morphology (shape)." (357)

biopower: "this desire to keep track of these burgeoning institutionalized populations stemmed in part from an emerging understanding among managers of these institutions that classificatory systems could be used as a means of social organization and control." (357) ex. The Ugly Laws

classification tools: identification records, biometric scanning, DNA identification profiles, field guides, etc.
classification sciences: craniology, phrenology, physiognomy, eugenics
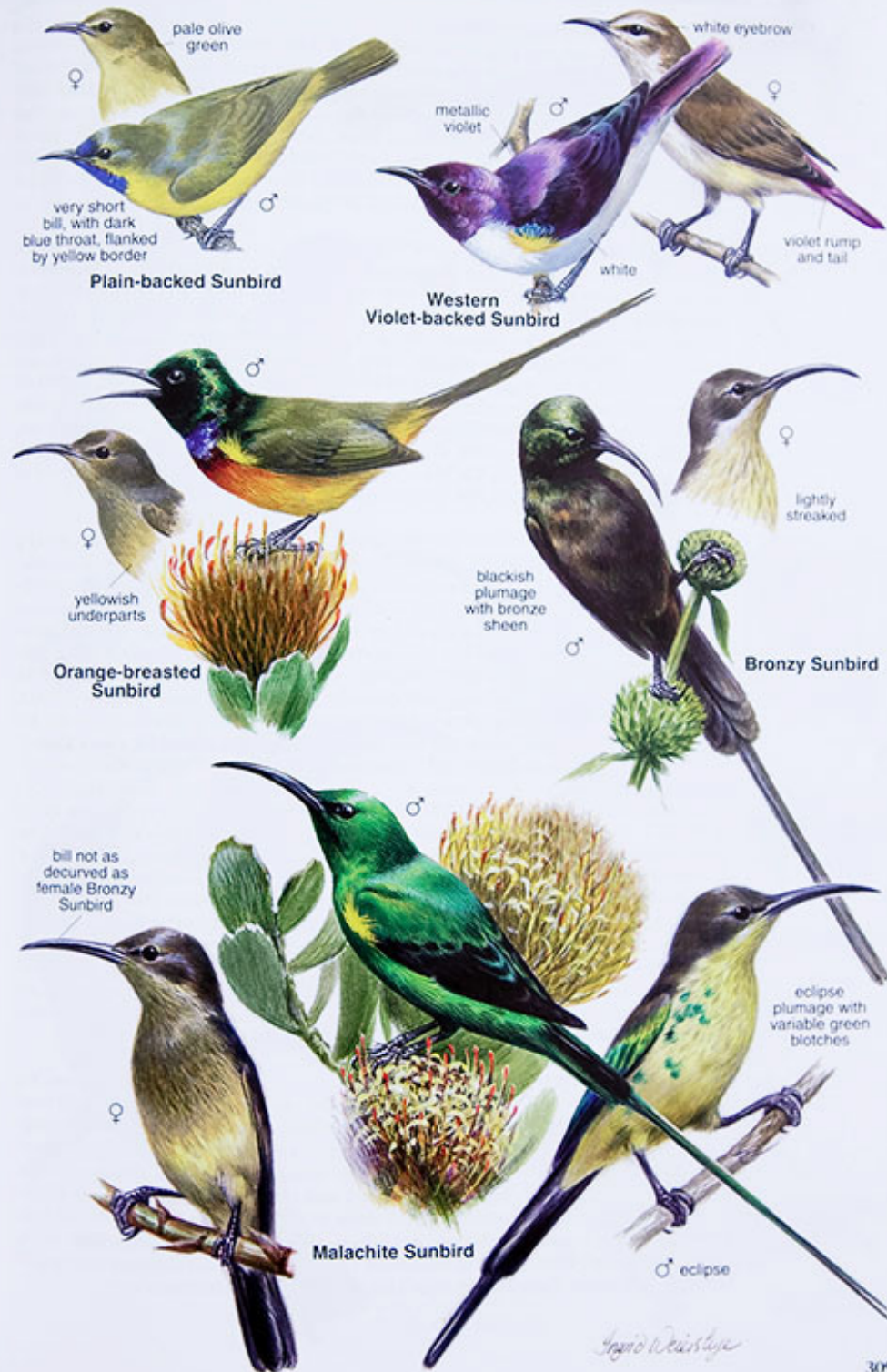documenting and classifying with cameras, establishing 'types'

Arts of classifciation

Field guides for bird-watching

What artistic choices were made in visualizing these 'standard' types?

What techniques are used to classify the visual objects?

How do such guides 'guide' looking?

Morphological classifications

measurement and visual analysis
the discourse of precision - both in science and art, from Alberti's linear perspective grids to ever more 'precise' scientific and artistic imaging tools

against deviance: "positivist attempts to define and regulate social deviance" (Allan Sekula, in *POL* 361)

morphological classifications: composite photographs, archetypes, visual archives of type, mug shots

"the sense that the photograph creates an empirical trace of abnormalities and disorders. The cameras was, in these settings, a scientific tool for consituting groups of people as other menaing different from the socially accepted norm)." (363)

Alphonse Bertillon

rogue's galleries

the "deviants" starring
role in discourses of
classification
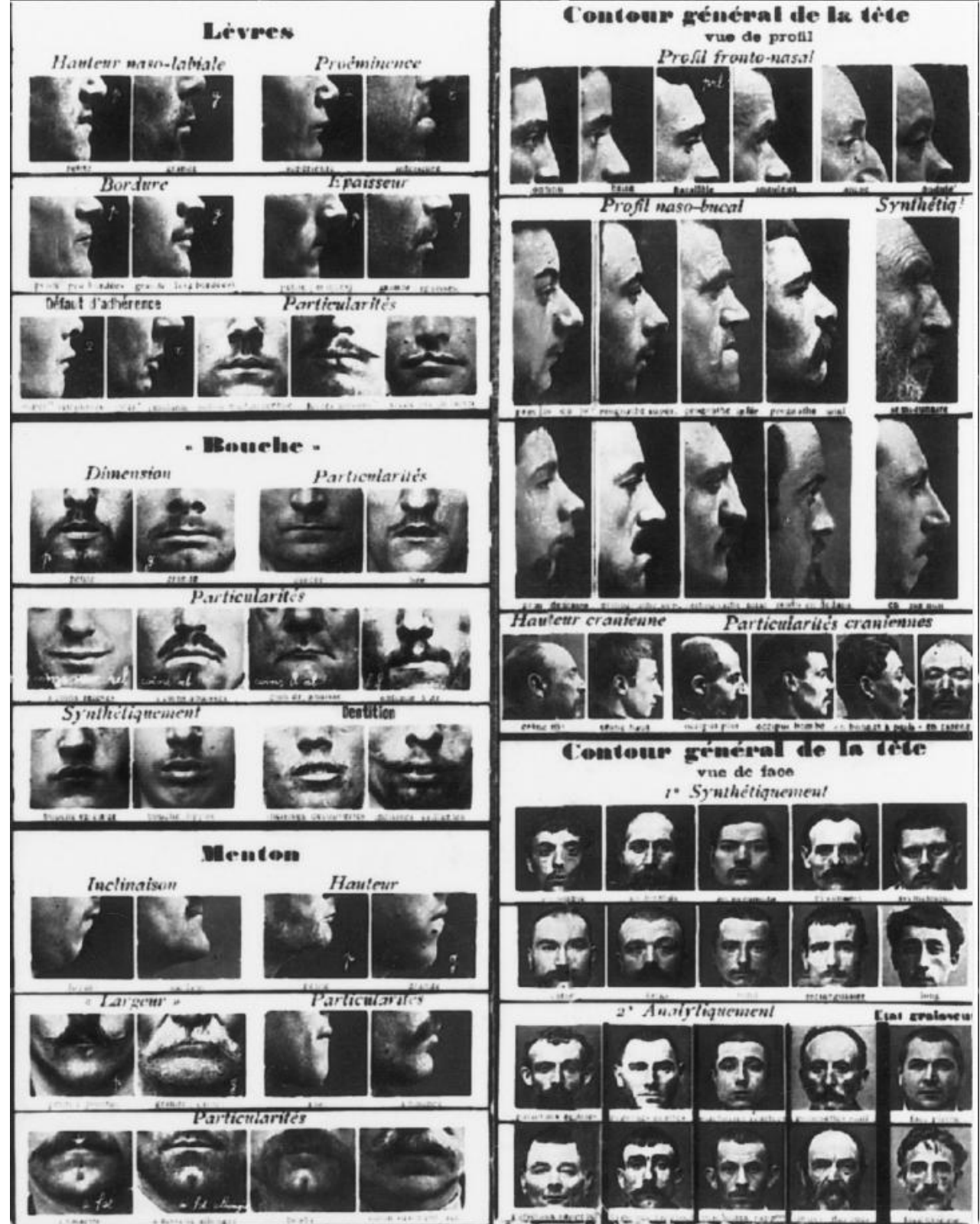
'Seeing the unseen'

mysteries of the body, seeing truths beyond the eye

visualizing the invisible: X ray, ultrasound, CT/CAT/PET scanning, MRI, etc.
ultrasound as a non-visual technology that is visualized
changes of scale: telescopic, microscopic
biomedical personhood: imagining the body's interior

establishing unseen 'clinical truth' over apparent visual truth

optical 'invasions' of the private space of the body
an appetite for looking

fetal personhood

the aura of the fetal portrait: "the fetal sonogram is not simply a scientific or medical image. It is also an image with deep cultural, emotional, and even, for some, religous meaning." (365)

"boundaries between the medical and the personal image are blurred." (366-7)
'fetal personhood' - the child to be
Lennart Nilsson's various technical strategies in his representation of the fetus

improvement narrative/discourse of science: "These images, along with Nilsson's book, present scientific imaging as evidence of the control over and improvement of human life. The central narrative of these images is that medical photography and other forms of interior biomedical imaging are evidence of nothing short of a miracle in modern culture. The 'miracle' refers both to control over human reproduction and development but also, by implication, to scientific imaging - the act that the photographic camera can actually capture evidence of this mastery over life." (368)

IS SOMETHING INSIDE TELLING YOU TO BUY A VOLVO?

"It appeals to an imagined maternal desire to protect the fetus, while also playing on cultural anxietites about women's bodies not being safe enough spaces for the fetus without the help of a technological safeguard." (366)

Framing the image discourse

criticism of such photos that they "erase the mother"

the transparent body: "Jose van Dijck proposes that these imaging practices, from anatomy to X ray to endoscopy to digital scans, construct a transparent body, a body that the image appears to render more visible yet which in the process only becomes more complex." (351)
manipulation and seduction of scientific imaging
Silent Scream and slow motion
Al Gore's powerpoint environmentalism

atomization: "In philosophy, the practice of breaking things down into their parts and treating the parts as real objects." (Wikipedia)

Scientific and technological gazes in advertising

anatomy of a car

science of running

Tensions of scientific visions and truths

analytical/clinical vision: "Underlying images of the body's interior is a tension between the idea that truth is self-evident in the surface appearance of things and the contrasting idea that truth lies hidden in internal structures or systems of the body that scientific represenataional techiniques can uncover. [...] vision is understood as a primary avenue to knowledge, and sight takes precedence over the other senses as a primary tool in the analysis and ordering of living things. Hence an ultrasound image taken by a doctor will be perceived as more reliable than a woman's description of her bodily sensations of pregnancy - or what has been termed 'felt evidence.'" (369-70)

Foucault, Birth of the Clinic: institutional gaze, medical gaze, bodily 'truth'

discomfort and ambivalence in response to some of the visual intrusion/domination
images setting up too easy contrasts

Imaging genetics

"The body is seen as coded by science, as elemental, and as something that can be easily segmented and atomized." (374)
Human Genome Project, genetic 'maps'

the heroic discourse (once again): "Jose van Dijck notes that the metaphor of the "mapping" of the genome carried with it the implication of a frontier terrain, with scientists cast as explorers like Lewis and Clark. Popular discussion of the HGP employs not only the lanugage of blueprints, instructions, and codes but also the metaphors of "treasure hunts," "pioneer adventures," and images that invoke colonial expeditions, with analogies made between Columbus and the HGP scientists." (374-5)

mutability: "the concept of the body that we gain through the genetic model is one of mutability [...] This research is not only about potentially changing disease-causing genes but also about changing appearance and cognitive abilities - the genes for skin color have been identified, for instance." (376)

Digital bodies

digitization: "concepts of the body as genetic code are related to concepts of the body as within the framework of the digital, as something that can be modified, reworked, and transformed at the cellular level. These systems are both literal, describing ways of knowing the body, and metaphorical, helping to shape new ways of imaging the self as a lived, material entity." (349)

popular media appropriations of science

visual technique of morphing
Time magazine "The New Face of America: How Immigrants Are Shaping the World's First Multicultural Society." "Time's composite suggests an amalgamation of races that appears to embrace a more multicultural future society, but one that is idealized in a genericized version of youthful female beauty." (377) Time staff falling in love with the image...

Posthuman bodies

age progression techniques being used to catch criminals and find missing persons

the posthuman body: "posthuman identity that represents the breaking down of tradiational boundaries between body and tecnology and organism and machine." (380)
- see Donna Haraway, 'A Cyborg Manifesto: Science, Technology, and Socialist-Feminism in the Late Twentieth Century'

complex relationships with technology today
Marshall McLuhan's 'extensions of man'
our "fearing and revering" of technology (380)

Visualizing pharmaceuticals

the "medicated citizen"
advertising as creating perceived "diseases" for which they provide the "cure"
maintaining a sense of normalcy
biopower

artist activists, e.g. AIDS activists
"science is not created in a vacuum or in a world that is separate from social
and cultural meaning." (384)

Swine flu - Influenza A H1N1

Further readings/viewings

The Wellcome Collection
http://www.wellcomecollection.org/

Hubble telescope images
http://www.spacetelescope.org/images/archive/top100/

Lennart Nilsson
http://www.lennartnilsson.com/home.html

Donna Haraway, 'A Cyborg Manifesto: Science, Technology, and Socialist-Feminism in the Late Twentieth Century'
http://www.stanford.edu/dept/HPS/Haraway/CyborgManifesto.html

WNYC Radiolab on genetics, race and identity
http://www.wnyc.org/shows/radiolab/episodes/2008/11/28

Norah Campbell, 'The Technological Gaze in Advertising'
http://arrow.dit.ie/cgi/viewcontent.cgi?article=1018&context=buschmarart

Michael Lynch and John Law, 'Pictures, Texts, and Objects - The Literary Language Game of Bird-watching'