UCLouvain

FIAL
Un éventail de formations, une multitude d'horizons

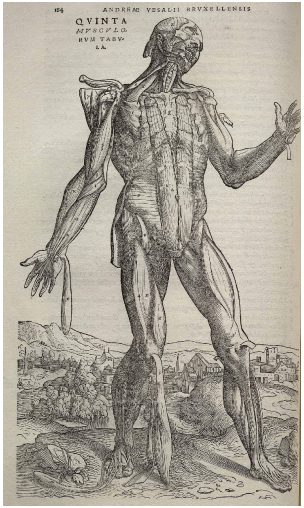
Objectivity

LFILO2602 – Philosophy of Science
Session 10

Objectivity

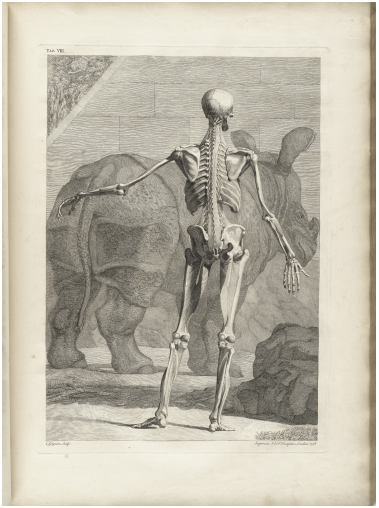
> We slide effortlessly from statements about the ‘objective truth’ of a scientific claim, to those about the ‘objective procedures’ that guarantee a finding, to those about the ‘objective manner’ that qualifies a researcher. Current usage allows us to apply the word as an approximate synonym for the empirical; for the scientific…; for impartiality-unto-self-effacement…; for the rational…; and for the ‘really real’…. (Daston 1992, pp. 597–8)

Vesalius (1543)



Bidloo's Realism (1685)

Albinus's Atlas (1747)



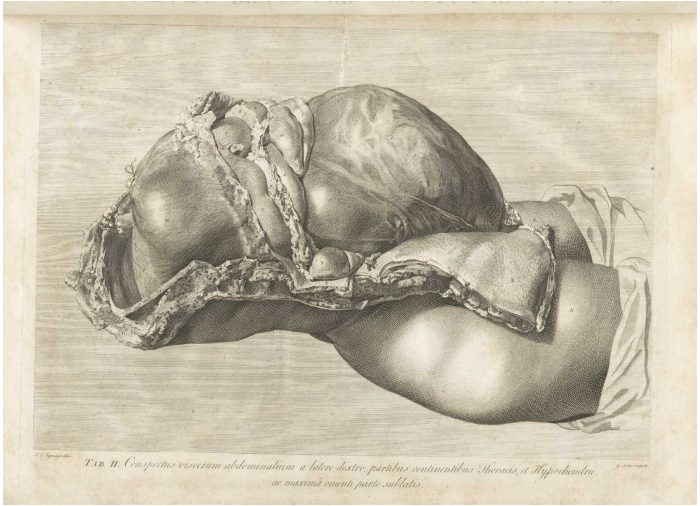
Correcting Nature

> Yet however it was not altogether so perfect, but something occurred in it less compleat than one could wish. As therefore painters, when they draw a handsome face, if there happens to be any blemish in it mend it in the picture, thereby to render the likeness the more beautiful; so these things which were less perfect, were mended in the figure, and were done in such a manner as to exhibit more perfect patterns; care being taken at the same time that they should be altogether just. (Albinus)

Disinterestedness

> Scientists were revered as paragons of the virtue of disinterestedness, both in the immediate sense of forsaking the motives of selfish gain, and in the more remote sense of remaining serene in the face of public apathy or contempt. [...] Mathematicians and, to a lesser extent, natural philosophers were allegedly disinterested because indifferent to public opinion, and they were indifferent because the certainty or near-certainty of their 'demonstrations' freed them from evaluations based only on 'a certain nicety of taste.' (Daston 1992, 605–6)

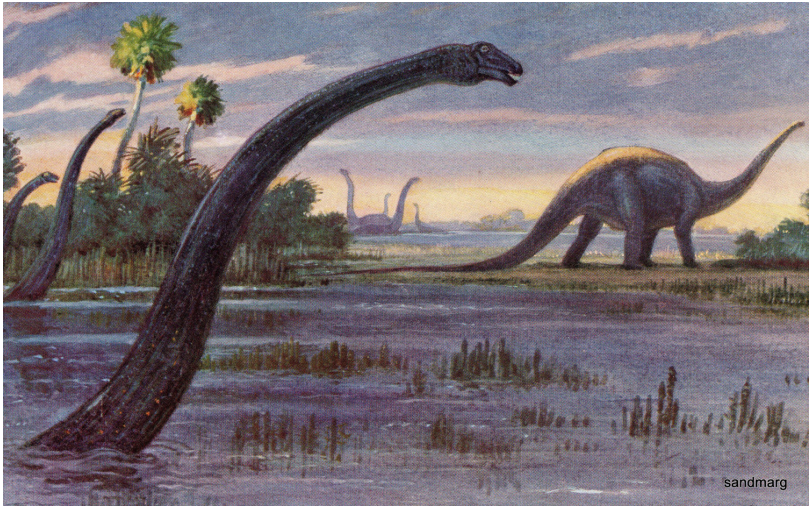
Hunter's Anatomy (1774)



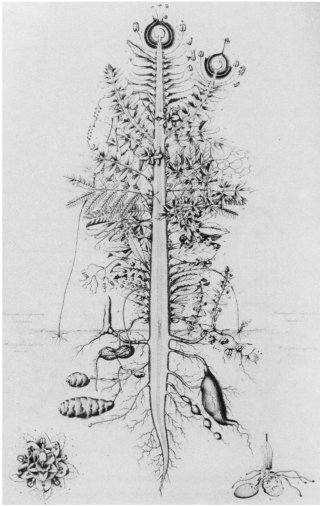
Hunter's Anatomy (1774)

It would be a mistake to take Hunter at his word – that his figures did indeed represent the object "exactly as it was seen." As Ludmilla Jordanova has shown, Hunter's deeply unsettling figures, with their amputated limbs and preternaturally crisp outlines, participate in the artistic conventions of naturalism of the day and also in a none-too-subtle violence wrought upon the female cadaver. (Daston and Galison, p. 93)

Knight’s Dinosaurs (1890s)



Goethe's *Urpflanze* (1790)



Goethe

> Hence, an animal archetype will be suggested here, a general picture containing the forms of all animals as potential, one which will guide us to an orderly description of each animal.... The mere idea of an archetype in general implies that no particular animal can be used as our point of comparison; the particular can never serve as a pattern for the whole. (Goethe, in D&G, p. 87)

Idiosyncratic Objects

> Because we moderns habitually oppose our brand of objectivity to the subjectivity of individuals, we fret most about idiosyncratic subjects: their ‘personal equations,’ their theoretical biases, their odd quirks. But idiosyncratic objects pose at least as great a threat to communal, cumulative science, for nature seldom repeats itself, variability and individuality being the rule rather than the exception. (D&G, p. 85)

Hooker’s Rhododendrons (1849)

Objectivity and Morals

> For these authors, there is a certain nobility in the abandonment of the personal, a sacrifice of the self for the collective – if not for the collective good, at least for the collective comprehension. [...] The detachment required of scientists by aperspectival objectivity was considerably more strenuous [than prior formulations]: scientists must not only wait to be recognized; they must now give up recognition altogether. (Daston 1992, 613)

Objectivity and Morals

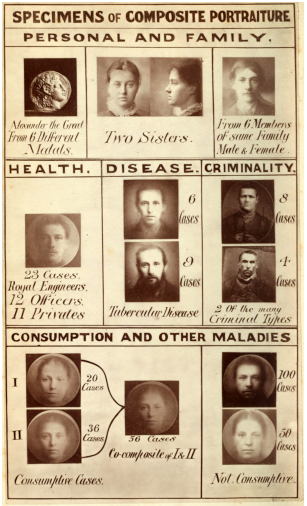
> Self-discipline came hard, and the struggle against the inner enemies took on, explicitly, an aura of stoic nobility. Ernest Renan, the French apostle of science, chose the language of Christian asceticism and sacrifice to describe the creed of the modern scientist. (D&G, pp. 120–121)

Mechanical Objectivity

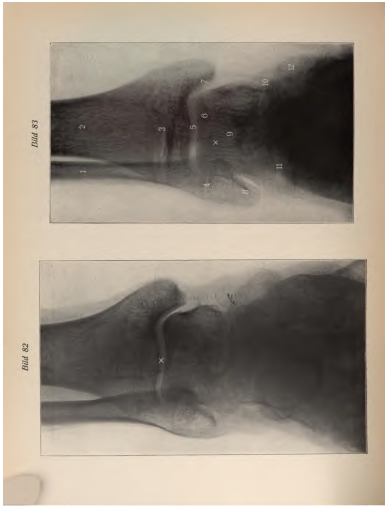
We have to get rid of:

- Scientific and aesthetic judgment (selecting the phenomena to be presented)
- Dogmatic system building (theories and hypotheses can only serve to distort the real data)
- Anthropomorphism
- Ambiguity
- Bad faith

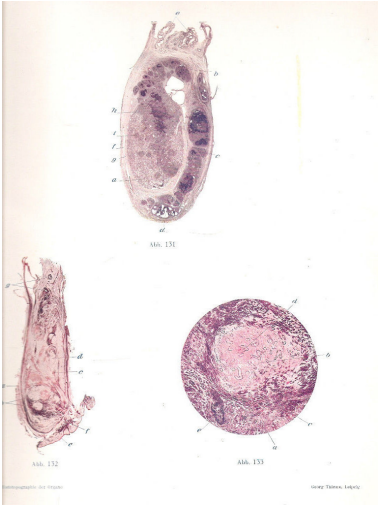
Galton's Composite Portraits (1883)



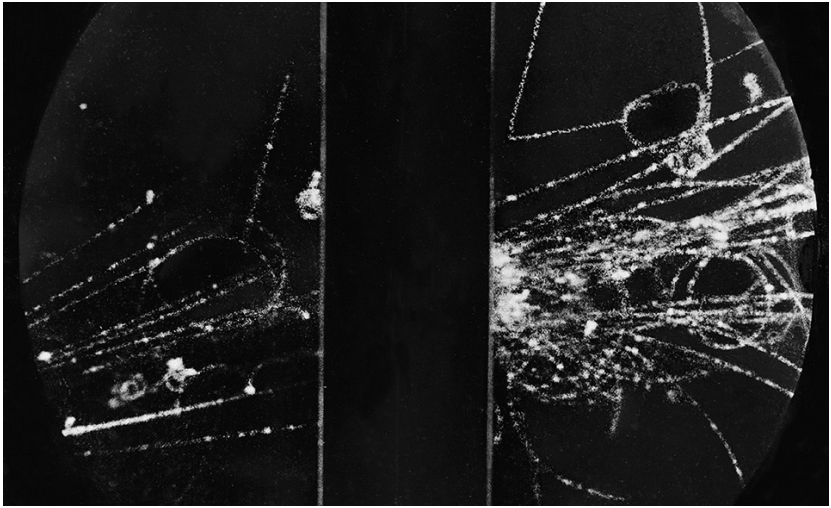
Early X-Rays (1905)



Photographs in Medicine (1927)



Cloud Chamber Photographs (1946)



Feminist Accounts of Objectivity

But now we have a problem:

1. This (apparently common) conception of objectivity implies that certain kinds of subjectivity are actively dangerous.
2. One of the main lessons of feminist and pragmatist approaches to science is that these same kinds of subjectivity are, at least in some circumstances, inescapable.

What to do?

Feminist Accounts of Objectivity

Longino: Science can remain objective **if** it

1. offers public venues for the criticism of knowledge claims;
2. responds to criticisms by changing its theories according to
3. publicly recognized standards of evaluation; and
4. follows a norm of equality of intellectual authority among its members