Descartes—1

**DESCARTES (1596-1650)**

René Descartes

if Bacon inspired the distinctive character and direction of the new science
Descartes established its philosophical foundation
in so doing articulated the defining statement of the modern world view

an age of a crumbling world view
collapse of fundamental institutions and cultural traditions
skeptical relativism concerning possibility of certain knowledge spreading among
European mind
external authorities could no longer be trusted
yet no new absolute foundation to replace the old crumbling order
growing epistemological uncertainty compounded by Humanists’ recovery of ancient
philosophies
recovery of Sextus Empiricus’ Skepticism

French essayist Montaigne (1533-1592) especially sensitive to this skepticism
gave modern voice to ancient epistemological doubts
if senses could be deceptive
if reason was fallible
then nothing was certain

skeptical crisis in French philosophy
affected the young Descartes acutely
Jesuit education, devout Catholic and yet mathematician and scientist
set out 1) to discover an irrefutable basis for certain knowledge—quest for certainty
and 2) to bridge gap between the growing new science and religion

Discovering foundation for science
must begin by doubting everything
sweep away all past presuppositions
establish truths that could clearly be established with absolute certainty

unlike Bacon, Descartes was accomplished mathematician
rigorous methodology of geometric proofs seemed to promise certainty
mathematics begins with simple self-evident first principles
foundational axioms that alone could be certain
more complex truths could follow through deduction

by accepting as true only those ideas that presented themselves to reason
as clear, distinct, free from internal contradiction
Descartes established method for attainment of absolute certainty
required critical disciplined rationality
with this method Descartes would found new science that would usher in new era of practical knowledge
skepticism and mathematics thus combined to produce Cartesian revolution in philosophy
would establish individual self-awareness as bedrock of all knowledge
by doubting everything Descartes found the only thing that could not be doubted was
the fact of his own doubting
foundation and starting point of knowledge:
*Cogito, ergo sum* “I think, therefore, I am”

the *cogito* was thus the first principle and foundation of knowledge
provides basis for all subsequent deductions
a model for all other self-evident truths

from this starting point Descartes deduced the necessary existence of a perfect infinite God
the thought of God was of such magnitude and perfection that it could not have its origin in the finite, contingent thinker
the presupposition of such a God necessary for the reliability of the natural light of human reason
for if God is perfect, he would not deceive man about self-evident truths

Descartes’ Dualism: Mind and Body
the *cogito* also revealed essential hierarchy and division in the world
*res cogitans*—thinking substance, subjective experience, spirit, consciousness
understood to be fundamentally different and separate from *res extensa*—extended substance
the objective world, matter, the physical body, natural world
everything man perceives outside his mind
only in man did the two come together as mind and body
both mind and matter found common source in God

soul understood as mind
the senses are prone to flux and error
the imagination prey to fantastic distortion
the emotions irrelevant for certain knowledge

on the other side of the dualism:
all objects lack subjective awareness, purpose, spirit (animals as well as rocks and plants)
purely material objects—nature as machine
entirely devoid of human characteristics
God created universe as complex machine
defined mechanical laws capable of being understood by human mind

universe not a live organism as Aristotle and Scholastics supposed
endowed with forms and motivated by teleological purpose
universe composed of nonvital atomistic matter
capable of analysis: reductive analysis into simplest parts
laws of Mechanics identical with laws of Nature
because physical world was entirely objective
and understood fundamentally as extension
could thus be measured
thus man’s most powerful tool for understanding universe was mathematics
available to natural light of human reason

Descartes used Galileo’s distinction between primary, measurable properties of objects
and secondary, more subjective properties
scientist should not focus on those qualities merely apparent to sense perception
should attend only to those objective qualities that can be perceived clearly and distinctly
analyzed quantitatively—extension, shape, number, duration, specific gravity, relative
position
only on this basis, through experiment and hypothesis could science proceed
physical universe could be fully analyzed and manipulated through mechanics
here was a basis for practical philosophy
not the speculative philosophy of the Scholastics

human reason thus established first its own existence
then God’s existence
then the God-guaranteed reality of objective world and its rational order
Descartes enthroned human reason as supreme authority in matters of knowledge
capable of certain metaphysical truths
certain scientific understanding of natural world
Infallibility now transferred from authority of Scripture or Church authority
now transferred to human reason itself

Descartes unintentionally began a theological Copernican revolution
now God’s existence established by human reason not vice versa
in the ultimate religious question the natural light of reason, not divine revelation had
final say
now revealed truth had to be affirmed by human reason
Luther’s foundational certainty was in God’s grace as revealed in Bible
Descartes’ foundational certainty lay with human reason

with mind/body dualism Descartes also helped emancipate the material world from
religious dogma
freeing science to develop its analysis
the human mind and the natural world now stood autonomously as never before
separate from God and from each other
enabled Descartes to solve problem of relation between science and religion
each could have its own realm of authority
religion over mind or soul
science over nature, matter

Bacon & Descartes
both were prophets of scientific civilization
rebels against an ignorant past
zealous students of nature
twin epistemological bases of modern mind: Bacon’s empiricism & Descartes’
rationalism
upon this foundation philosophy proceeded and science flourished and triumphed
Newton systematically employed a practical synthesis of Bacon’s inductive empiricism
and Descartes’ deductive mathematical rationalism
bringing to fruition the scientific method pioneered by Galileo

After Newton science reigned supreme as authoritative definer of the universe
philosophy thus defined itself in relation to science
science now ruled the Western world view
Newton’s achievement established the modern understanding of the physical universe:
as mechanistic, mathematically ordered, concretely material, devoid of human or
spiritual properties, not especially Christian in structure

and the modern understanding of man:
a noble being not by virtue of being central focus of divine plan as revealed in Scripture
by because his own reason was capable of understanding nature’s laws
thus achieving dominion over nature

as never before a way of thinking produced spectacular tangible results
progress appeared inevitable
a happy destiny for humankind opened and seemed assured
with the mind cleared of traditional prejudices and superstitions
man could grasp self-evident truth
dream of human freedom could now be realized
an enlightened age now dawned