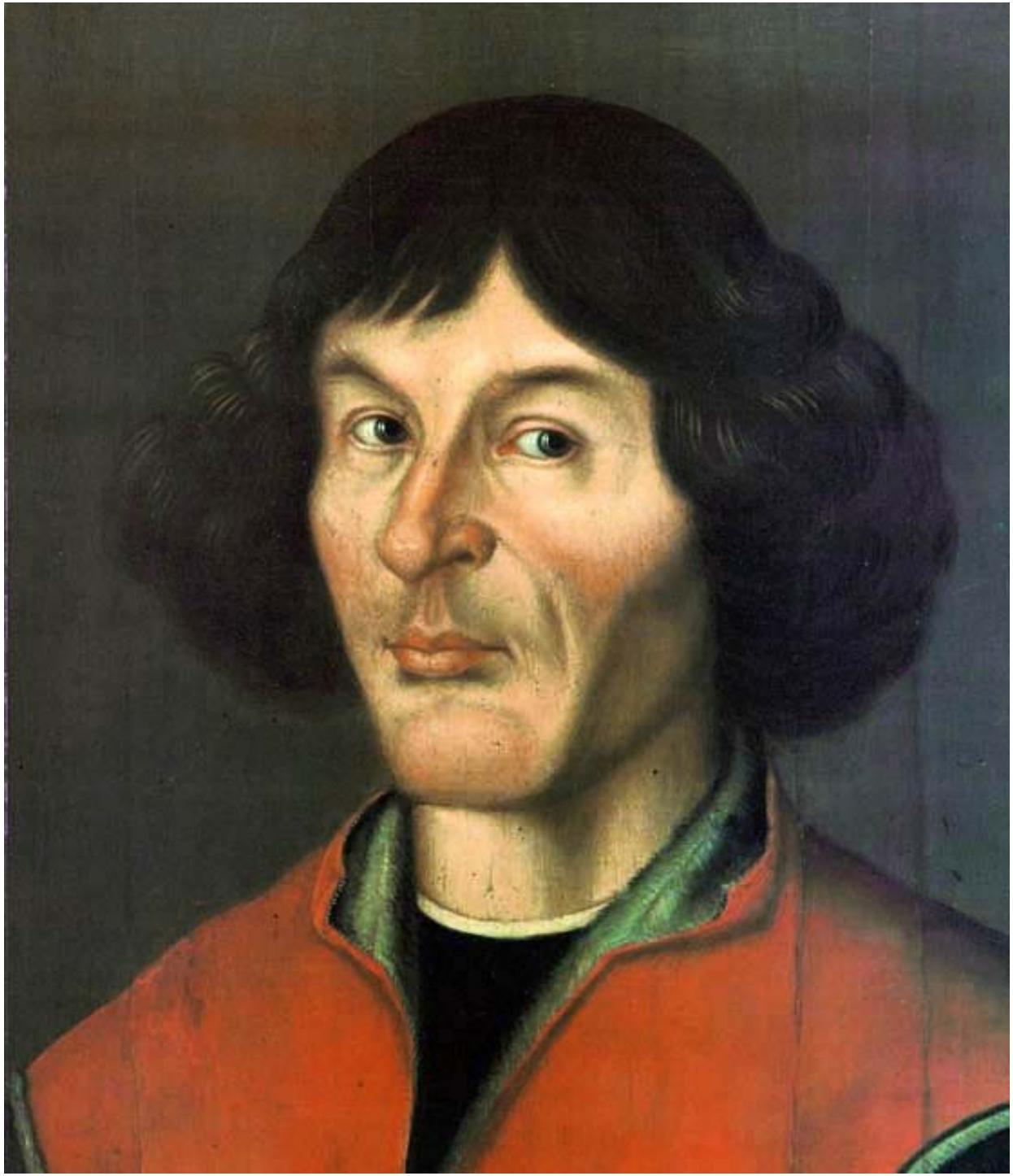
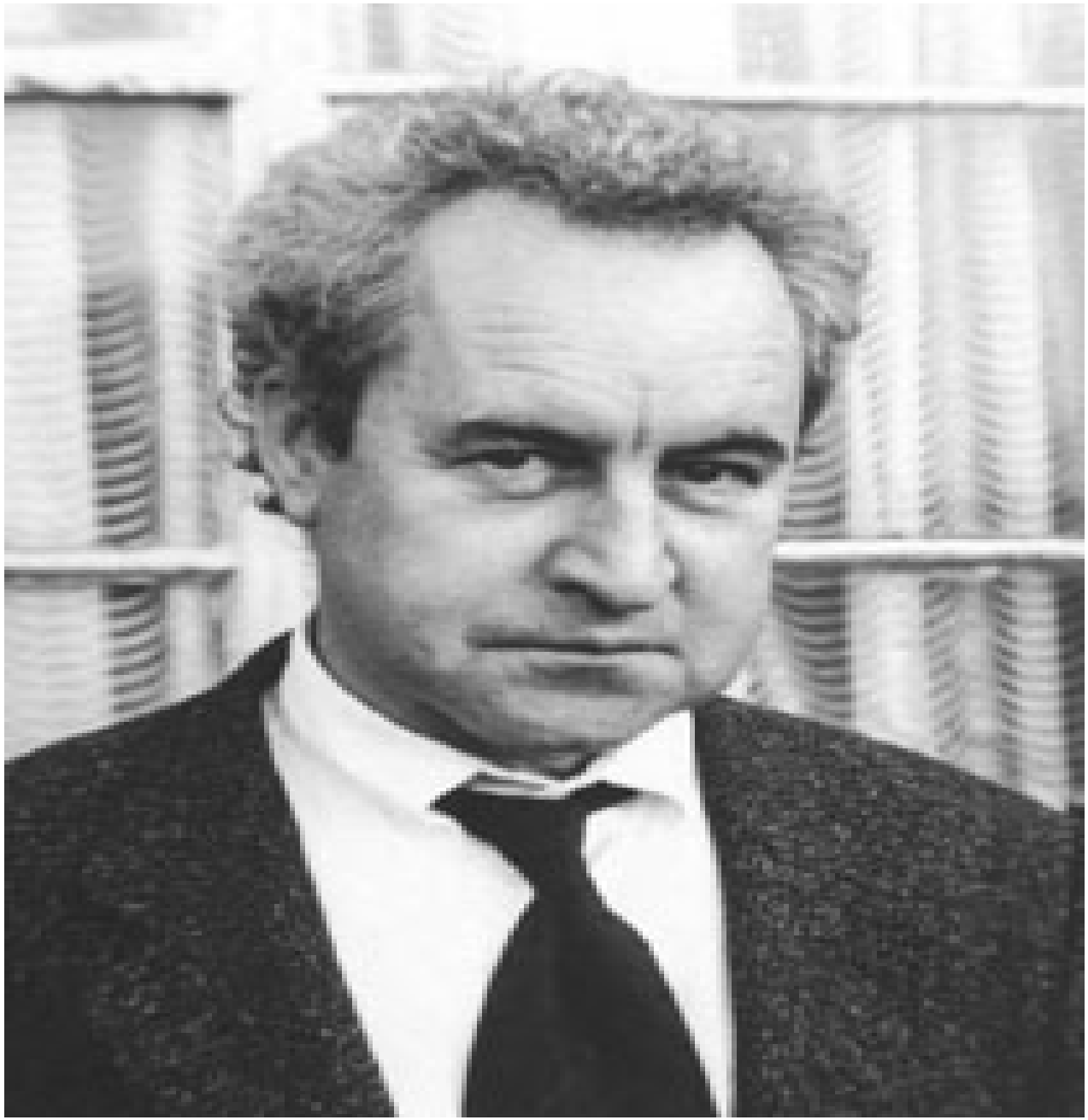




Basic Banville Facts

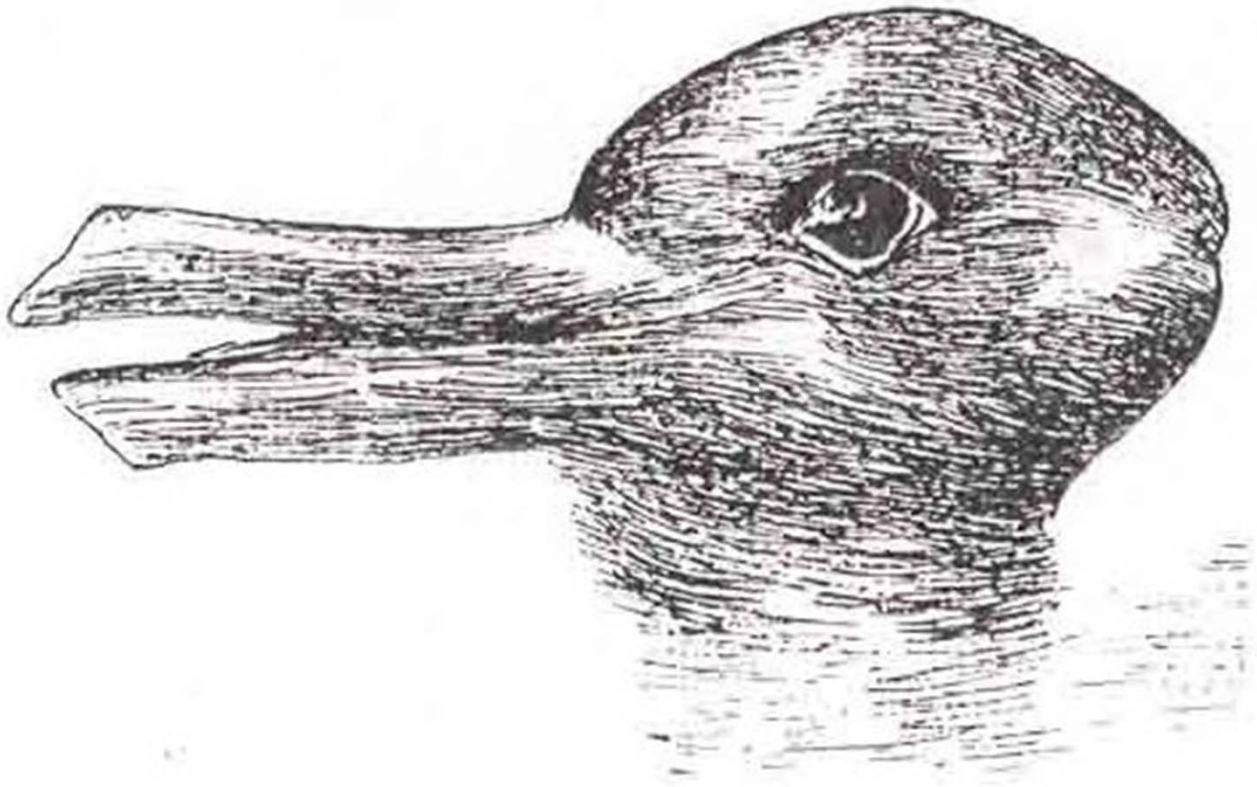
- Born 1945, Wexford, Ireland
- Attended Roman Catholic primary and secondary school; his school had a seminary
- Did not attend university; lived in US 2 years
- Sub Editor for Irish newspapers—Irish Times
- Prolific Book reviewer
- Author of 16 novels as Banville; some 6 novels as Benjamin Black (crime novels)

St.Peter’s College, Wexford

Basic Banville Facts (2)

- Doctor Copernicus (1976) is the first book of Banville's "Revolutions Trilogy" which includes Kepler (1981) and The Newton Letter (1982)
- Some talk of a tetralogy, since his subsequent book—Mefisto (1986) on a fictional mathematical genius does suggest it.
- Winner of major awards—The Booker Prize for a novel entitled The Sea (2005) and in 2011 he was awarded The Franz Kafka Prize.

DUCK OR RABBIT?



Young or Old?

PTOLEMY (approx. 85-168 AD)

Possibly an ethnically Greek astronomer who lived in Alexandria, Egypt during Roman rule.

His writings declared: The Heavens were spherical and rotated; Earth is spherical; Earth is in the centre of the Heavens; Fixed stars outside of Heaven; Earth is stationary

His ideas officially accepted for 1400 years

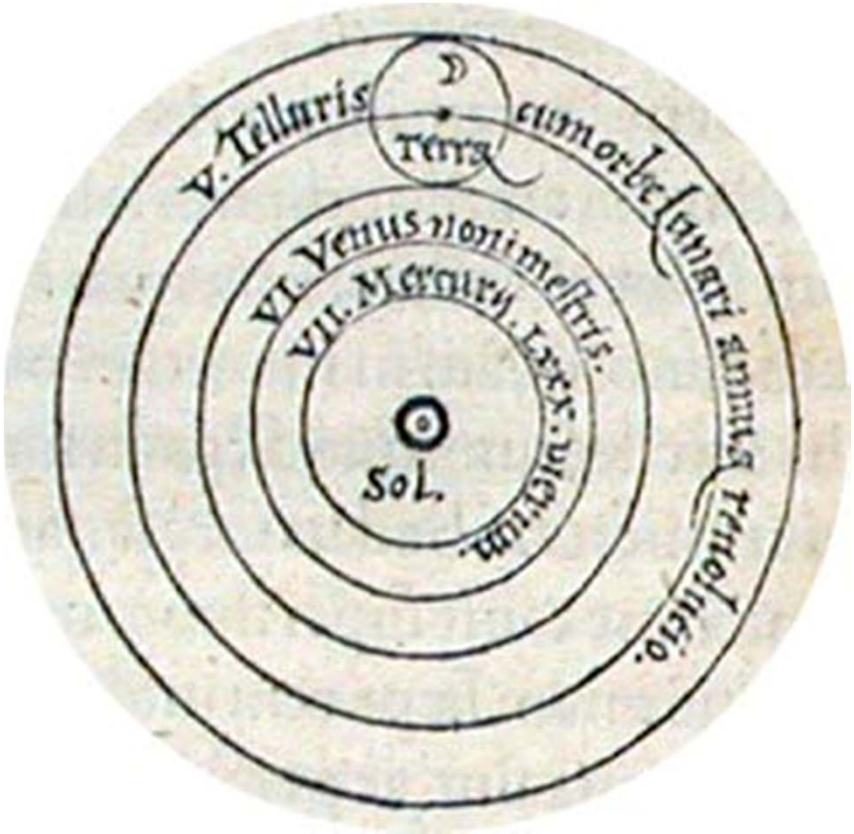
His major work known as “Almagest”

PTOLEMY’s GEOCENTRISM

Nicolaus Copernicus 1473-1543

- Educated in the Trivium and Quadrivium, universities in Poland and Italy, doctorate in Canon Law, also studied Medicine
- His observations and calculations led to the following: Earth is indeed spherical but it is NOT in the centre of the Heavens, and it does rotate. The Sun or, more accurately, some distance from the sun is the centre.
- Hence The Copernican Heliocentric system

HELIOCENTRISM



DE REVOLUTIONIBUS

DAY-REVOLUTY-OWNY-BUS

On the Revolutions of the Heavenly Spheres

What's the book's Contents?

- Chaps 1 & 2: The Order of the heavenly bodies
- Chap 3: Equinoxes and Solar Theory
- Chap 4: The Moon's Motions
- Chap 5: Planetary Longitude
- Chap 6: Planetary Latitude

Copernicus' reluctance to publish

- Fear of Explodenum—to be hissed or booed off the stage—to be taken not at all serious.
- Fear of the reverse: to be taken very seriously and be branded a heretic
- After his death, in 1616, the book goes on the Papal Index of Forbidden books; stays there for at least 150 years—though "corrected" versions were distributed.

Copernicus wouldn’t get tenure

- 1509: publishes a Latin translation of Greek letters by Theophylactus Simocatta
- 1510: distributes pamphlet “Commentariolus”
- 1517: unpublished essay on currency reform
- 1524: unpublished “Letter Against Werner”
- 1540 Rheticus’ “First Account”[Narratio Prima]
- 1543: De Revolutionibus published

Why is Heliocentrism so scary?

The Roman Catholic Church orthodoxy is challenged

The Earth is not special

The Mathematical centre of the universe is in space: A VOID

- Surely God would not place Earth away from the Centre?
- If the centre is a VOID, does God exist?
- If we're wrong about Geocentrism after 1400 years—what do we know? Or Trust?

“An Anatomy of the World” John Donne, poet, circa 1611

“And new philosophy calls all in doubt,

The Element of fire is quite put out

The Sun is lost, and th’Earth, and no man’s wit

Can well direct him where to look for it……Tis all in pieces, all coherence gone”

What is the role of astronomers?

- To *save* the Phenomena

Calculations and observations should reinforce orthodox thinking.

To provide a “Supreme Fiction” in the face of contrary or inadequate evidence

[note the Wallace Stevens poem “Notes towards a Supreme Fiction,” Banville’s epigraph, suggesting the value of artistry over religious orthodoxy.

Wallace Stevens' poem

- It must be abstract [Theory]
- It must change [paradigm shift]
- It must give pleasure [Beautiful/elegant]

Doctor Copernicus, 29.

- "*Professor Brudzewski knew that Ptolemy was gravely wrong*. He could not, of course, admit it, even to himself [an unknown known?]….This failure of nerve explained to Nicolas how it was that a mathematician of the first rank could stoop into deceit in order, in Aristotle's words, *to save the phenomena*, that is to devise a theory grounded in the old reactionary dogmas….. [see also page 35]

Brudzewski again: (p.35)

- “Astronomy does not describe the universe as it is, but only as we observe it. That theory is correct, therefore, which accounts for our observations. Ptolemy’s theory is perfectly, almost perfectly valid insofar as pure astronomy is concerned, because it saves the phenomena. "

Paradigm change, an act of creation

Doctor Copernicus, p.85

"If the sun is conceived as the centre of an immensely expanded universe, then those observed phenomena of planetary motion that had baffled astronomers for millennia became perfectly rational and necessary….What mattered was not the propositions, but the combining of them: *the act of creation*….It was the thing itself, the vivid thing."

What is a Paradigm change?

- Banville has read widely , and admits to relying on books on the History of science by Arthur Koestler and Thomas Kuhn. Kuhn is famous for his analysis of the structure of scientific Revolutions.
- If we think the earth is flat, our actions will be different than if we think it is round.
- Putting the sun at the centre of the universe (and convincing people) is a paradigm change

The novel's 4 parts

- Orbitas Lumenque---Orphaned life/Light

[His solitary quest to maturity and solutions]

- Magister Ludi—Master actor

[His worldly negotiation]

- Cantus Mundi—Singing heavens

[The intellectual catalyst provided by Rheticus]

- Magnum Miraculum—A great marvel

[publication of his book]

What is Banville interested in?

- The Extra-scientific Factors that contribute to a new theory.
- How Science and Religion jostle
- The connections between Scientific Theory and assertions of power
- Master and pupil dynamics in the negotiation of scientific ideas
- That scientific theories rely on aesthetics

Extra-Scientific Factors

- Boyhood interests—”the thing itself, the vivid thing”
- Influence of Family, friends, colleagues
- Science mediated by public policy
- Science monitored by Religious figures

Girolamo Fracastoro

Girolamo Fracastoro's Influence

- An historical person, contemporary of Copernicus
- Professor of Medicine, coined the term Syphilis; wrote a poem on it!
- Major work on Contagious Diseases
- Believed treatment and philosophy should be based on experience rather than on theory

Rheticus

- A Lutheran Mathematician arrives in 1539 with books from a German publisher.
- He persuades Copernicus to publish, copies the manuscript and returns to oversee the publication
- He is missing from the acknowledgments—why?
- Does his first person narration draw attention to the repressed subjective aspect of science?

Albrecht of East Prussia

- “You and I, mein Freund, we are lords of the earth, the great ones, the major men, the makers of supreme fictions….The people—peasants, soldiers, generals—they are my tools as mathematics is yours, by which I come directly at the true, the eternal, the real.” (p.136)

What does the novel reveal?

- Science-in-the-making

[spotting anomalies in an old theory; fixing anomalies by a paradigm change]

- Science-in-its-justification [theories have to be socially and politically negotiated]
- Science is a blend of subjective and objective factors ruled at times by aesthetics to create a unique synthesis.

For Banville, always Book ahead