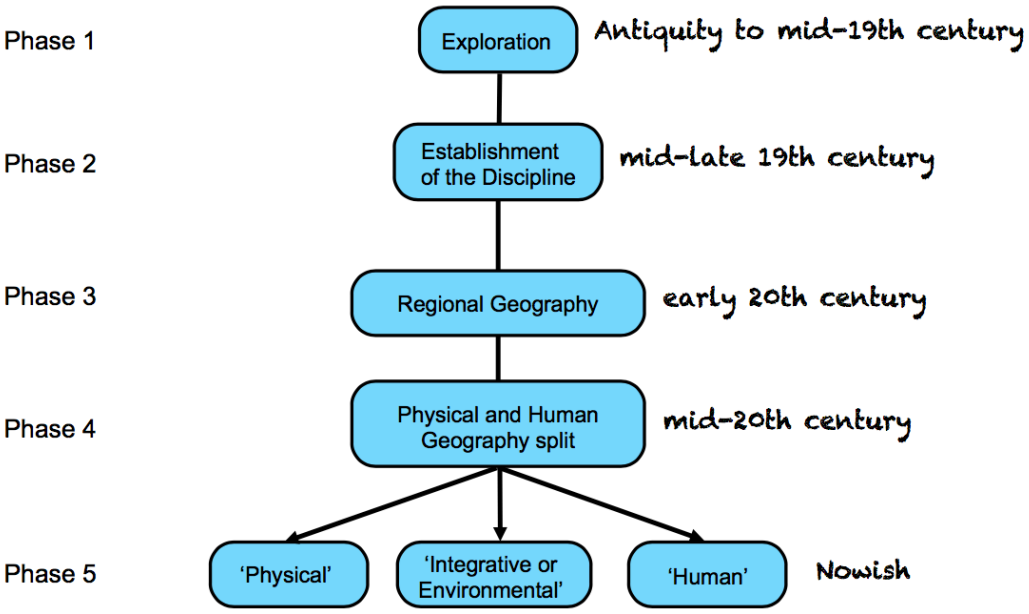
GEOS1002 Exam Summary (Semester 2, 2017)

Introduction to Geography

- Core concepts of Geography
  - Space
    - 'Fixed'
    - Euclidean
    - Immutable
  - Place
    - Subjective
    - Contested
    - Fluid
  - **Space/Place: the distribution of, and relations between, objects and phenomena over space, meaning and values attributed to space and spatial relations.**
  - Scale
    - Spatial (over space)
    - Temporal (over time)
    - **Global → Regional → Local (case study: disaster, drought, conservation, conflict, technology)**
    - **The product of intellectually 'bounding' or defining spaces/places according to some characteristics. There are many scales, therefore, in one place or space**
  - Human/Environmental interactions
    - Tangible and intangible
    - Positive and negative feedbacks
    - Unpredictability and non-linearity
    - **The interaction – synergy – between human society and the rest of the natural world**
  - **Maps: Tools to conceptualize, model, and communicate geographical thought**
- History of Geography



  - Immanuel Kant
  - Halford Mackinder's
  - Sir Edgeworth David

GEOS1002 Exam Summary (Semester 2, 2017)

- Geography as a practice or mode of thought, and later as an academic discipline, has a long and noble tradition
- 19th century geographers were part of a unified tradition, seeing Geography as incorporating both social and natural aspects seamlessly
- since the mid 20th century Geography has diversified, specialized and split, weakening the 'brand' both internally and externally
- despite this, the core of this disciple remains strong and readily identifiable
- global-scale environmental and social challenges over the coming century will (and have already) increased the demand for people capable of synthesizing information across the traditional disciplines

---

Drought, War and the Tragedy of the Commons I

- Human/Environment Interactions ('Environmental Geography')
- Natural/Social 'systems'
    - Reductionist, quantitative
    - Focus on operation of components and 'whole-of-system' properties
    - "A natural system is a unit occupying space, comprising of components that interact to process inputs of matter and energy into outputs of matter and energy that cross the boundary of the system"
    - Socio-ecological Systems (SES) → resilience is a key concept
    - 'Engineering resilience' = return to equilibrium
    - 'Ecological resilience' = a shift to a new stable state
    - 'social resilience' = the ability of a community to tolerate perturbation
- Environmental Determinism
- Degradation of 'common' resources
- Links between social and natural resilience
    - social and natural resilience maintain a synergistic and coevolutionary relationship
- Scale
- The Darfur Crisis
    - Region of Sudan, country in Eastern Africa
    - Population 30 million in Sudan
    - Darfur around 0.5 M km*2
    - Severe drought and ongoing desertification in 1980's led to outbreak of civil war in 2003
    - Increasingly violent struggles over water, pasture and farmland following drought and land degradation
    - 'climate change war'
    - Half of Darfur is hyper-arid, the rest is arid, and very highly vulnerable to desertification
- Deserts
    - Arid regions: severe lack of available water, preventing the growth and development of plant and animal life
    - Dry descending air from the top of the troposphere produces regions of very low rainfall
    - Hadley and Ferrel Cells
    - Land degradation: result of several processes related to human activity and the natural environment
    - Desertification: product of the interaction between people, landscape and climate
    - Overgrazing is the major cause of desertification worldwide
    - Over grazing and removal of vegetation expose soil to erosion by wind and water
- At synoptic scale, rainfall belts over Africa are determined by the position of the Atlantic component of the inter-tropical Convergence Zone (ITCZ) → the ITCZ is a band of intense convection and rainfall that circles the Earth at or near the equator → rising air cools, water vapour condenses, releasing latent heat, producing intense rainstorms
- Main sources of sulphate aerosol

    - Emissions from fossil fuel burning (72%)
    - Marine phytoplankton (19%)
    - Volcanoes (7%)
    - Biomass burning (2%)
- Summary
    - Desertification is not a natural process, but the result of both human activity and natural processes
    - Desertification is a result of land management approaches that are poor in the environmental context in which they are deployed
    - The Civil War in Darfur was precipitated by environmental (water) stress triggered by drough in the 1980's
    - Climate over the Sahel is influenced by other components of the Earth System, and the causes behind the 1980's drought are complex
    - Future climate projections are positive for the Sahel

Drought, War and the Tragedy of the Commons II

Mega-Deltas I

Mega-Deltas II

A Geography of the Internet II

Biodiversity and Conservation I

Biodiversity and Conservation II
