

I. Climate and crisis

'Nowadays'

The views of Secondo Lancellotti (1623), Giovanni Battista Birago Avogadro (1652), Majolino Bisaccione (1653) and Thomas Hobbes (1651)
Li Zicheng, Wu Sangui and the Ming-Qing transition

The Paradigm

- a sudden episode of 'global cooling' that placed many (but not all) areas of an overpopulated planet under extreme stress.
- In spite of this, a sharp increase in social, religious and (above all) fiscal pressure by many (but not all) governments
- the crumbling of the prevailing demographic regime under the combined pressure of adverse natural and human factors
- new radical ideologies in many (but not all) societies, causing both orgies of violence and sustained constitutional resistance.

'The climate has changed'

The Kangxi Emperor and others on the 'extreme climatic events' of the mid-17th century (examples from 1640-2)

In search of causes

- Opinions of Hermann of Hesse (stars), Increase Mather (comets), Raymundo Magisa (volcanoes), Giovanni Battista Riccioli (sunspots)
- Observations of Christopher Scheiner (1626) and Johannes Hevelius (1642-4) and the 'Sunspot Minimum' (1643-1715)

The fatal cycle: volcanoes plus sunspot minimum → solar cooling → more 'El Niño' events (1640, 1641, 1647, 1650) → more volcanic eruptions.

Climate and calories

A fall of 2° C in *average* temperature

- reduces rice harvest yields by 30-40%
- reduces grain harvest yields by 15% in temperate latitudes and 80% further north
- kills livestock and reduces milk yields
- increases mortality and reduces marital fertility

Staples and survival

- The economics of 'staples': cereals, rice, maize and millet
- The economics of harvest failure: a 30% reduction in crop reduces market share by 60%; a 50% reduction wipes it out
- Reducing daily calorie intake for humans by 25% halves energy.
- A weight loss of 10% reduces energy by 15%; weight loss of 20% reduces energy by 50%; weight loss of 30% kills.

II: The ecology of the crisis

To have and have not

Structural versus cyclical poverty.

- **Navalmoral in the Montes de Toledo: population c. 1600 = 243 families (perhaps 1,100 people): 11 families owned one-third of the village's land, 22 families owned half of it, and 108 families owned all of it. Almost 20% lived in permanent destitution.**
- **Regional variation: the examples of Spain (Galicia, Valencia, Castile) and China (Shandong, Sichuan)**

The geometrical increase of population, overpopulation, the three 'zones' of maximum risk, and gender discrimination.

1. Towns: the 'graveyard effect'

Quotations from Xie Zhaozhe, *Wa za zu* (1608), Giulio Cesare Capaccio, *Il Forastiero* (1634), and Don Juan Chumacero (1647)

2. Marginal lands

Examples from Old Castile (Hoyuelas and Frechilla), Sicily (Leonforte) and Scotland (the Lammermuir hills)

3. The 'macroregions'

Examples of the 'Spice Islands' (Indonesia) and Macao

4. 'The birth of a girl child is like a thief in the night'

Gender discrimination through biology throughout the early modern world, and in East and South Asia also through

- **Confucian teaching**
- **Infanticide**
- **Marriage customs**
- **Suicide**
- **Gendered distribution of food, heat and clothes**

Additional gender discrimination in the West

- **Domestic service (especially in towns)**
- **Insanitary industrial conditions**
- **Enforced 'claustration' in Catholic countries (Europe and Latin America)**

III: The theory and practice of absolutism in an age of crisis

The etiquette of absolutism

- The policies of Mughal emperor Jahangir (1605-27)
- Political thought in the Islamic states of South and Southeast Asia (Iskander Muda, his daughter and his neighbours); in Ming and Qing China; in Tokugawa Japan (Ieyasu and Nikko);
- The 'Divine Right of Kings' and its defenders (Filmer, James I, *Eikon Basilike*)

Circumventing the doctrine

- Hobbes's *Leviathan*
- Cromwell and God
- Philip IV, his confessor, his theologians and Sor María de Ágreda

The century of the soldier (Fulvio Testi)

- The increased frequency of war
- 'Star Wars' and growth in army size
- Paying for war: Botero, taxes, loans and 'contributions'
- The siege of Bergen-op-Zoom (1622) and the 'Spanish Road'
- The costs – and opportunity costs – of war

Keep your hair and lose your head; lose your hair and keep your head

Controversial policies unrelated to the economic crisis:

- Spain's 'Union of Arms' (1625); Ferdinand II's *Edict of Restitution* (1629); Charles I's attempts to impose religious uniformity on Scotland and Ireland (1630s)
- Sartorial tastes in England, Catalonia and the Ottoman empire
- The Qing policy on 'head-shaving' by Nurhaci and Dorgon

IV *The demography of the crisis*

The 'preventive checks' I: Western Europe and its American colonies

- **Sancho de Moncada and Francisco Martínez de Mata: pioneers of historical demography**
- **Rising age of brides at marriage (from c. 20 years to 27-28)**
- **High infant and child mortality (25% within first year, 50% by age 20)**
- **Rise in abortions, wet-nursing and foundlings (examples from Madrid, Seville, Milan and Lima)**

The 'preventive checks' II: China

- **High female marriage rate (often very young); multi-family households; collective demographic decisions**
- **Four preventive checks: women started to reproduce later and ended earlier, with longer intervals between births, than in the West; high adoption and infanticide rates (especially girls). Economic adversity affected all four.**

The 'preventive checks' III: other areas

- **Japan and Russia: abortion and infanticide ('mabiki' in Japanese)**
- **Southeast Asia: abortion for women and interesting surgical procedures for men.**
- **Mexico: brutality? Disruption? Drought? Disease?**

The 'positive checks' I: disease

- **Smallpox: incidence in Europe and China – the 'conquest of smallpox' by *variolation* (sponsored by Qing emperor Kangxi)**
- **Bubonic plague: examples of mortality from Naples, Seville, Eboli and Moscow – the 'conquest of plague' by *cordons sanitaires***
- **Links between epidemic disease, famine and death: plague in Barcelona (1651: Miquel Parets), Tuscany, Gujarat and China.**
- **Links between endemic diseases and climate.**

The 'positive checks' II: war

- **Massacres of civilians: examples of Hangzhou (1645), Magdeburg (1631), Drogheda and Wexford (1649)**
- **Battles: examples of Rocroy (1643), Marston Moor and Freiburg (1644)**
- **Cumulative impact: the example of Bygdeå (Sweden 1621-39); the testimony of Johann Valentin Andreä (Swabia 1639)**

Crude statistics: overall mortality between 30 and 50%?