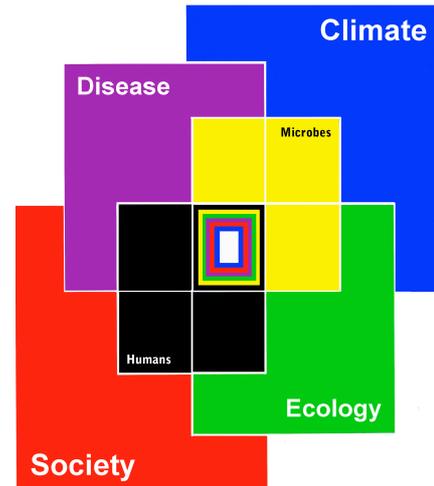


The Ellen McArthur Lectures 2013

THE GREAT TRANSITION: CLIMATE, DISEASE AND SOCIETY IN THE 13TH AND 14TH CENTURIES

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Lecture 1 (Monday 4th February)

**The 14th century as tipping point:
From one socio-ecological status quo to another.**

Lecture 2 (Wednesday 6th February)

**The enabling environment:
The Medieval Solar Maximum and Latin Christendom's
high-medieval efflorescence.**

Lecture 3 (Monday 11th February)

**A precarious balance:
Mounting economic vulnerability in an era of increasing
climatic instability.**

Lecture 4 (Wednesday 13th February)

**Disease intervenes:
The Black Death and the 'Great Transition' to an alternative
socio-ecological equilibrium.**

Across the Old World the late-thirteenth and fourteenth centuries witnessed profound and sometimes abrupt changes in the trajectory of established historical trends, as the long era of economic efflorescence which had characterised Latin Christendom and the agrarian empires of eastern and south-eastern Asia since at least the late eleventh century finally drew to an end. Eventually, a set of new socio-economic equilibriums emerged. A combination of environmental and human processes were involved in this 'Great Transition', whose full ecological and geographical dimensions are only now coming to light thanks to detailed scientific research into past climates, application of aDNA analysis to the diagnosis of plague and decoding of the *Yersinia pestis* genome, and emergence of comparative global history as a significant field of scholarly enquiry.

Between c.1250 and c.1450 the atmospheric circulation patterns characteristic of the Medieval Climate Anomaly were replaced by those of the Little Ice Age, with far-reaching consequences for all agrarian-based civilisations. Over the same period plague was transformed from an enzootic of ground-burrowing sylvatic rodents within the steppe grasslands of Arid Central Asia into a deadly pandemic of humans, with profound repercussions for population levels and trends across western Asia, North Africa and most of Europe. Significantly, the Black Death erupted at precisely the time when climatic conditions across Eurasia were most unstable and associated ecological stresses were at a maximum. Human agency also furthered plague's spread.

Meanwhile, Latin Christendom's commercial revolution of the twelfth and thirteenth centuries suffered a significant loss of momentum. In the mid-thirteenth century the opening of fuller and more regular trade with Asia had appeared to offer the prospect of incremental gains in long-distance trade and exchange, but during the final decades of the century the opposite occurred as trans-Eurasian trade routes became ever more obstructed and constricted and transaction costs rose everywhere. The ensuing commercial recession bred agrarian congestion as non-agricultural sources of livelihood first stagnated and then contracted. These structural economic problems raised the numbers of households vulnerable to harvest failure at the very time that climate change was delivering increasingly unstable and extreme weather.

By the critical decade of the 1340s, as war on all fronts escalated and the burden of structural poverty steadily mounted, Europe's once dynamic commercial economy entered a period of self-reinforcing contraction which, compounded by population decline, was to persist for the next hundred years. Between 1347 and 1375 four major plague pandemics along with more localised outbreaks reduced Europe's population by between a third and a half; thereafter recovery was long delayed. Eastern Asia's population also shrank, although whether from plague, other 'pestilences', or climatically induced ecological dislocation and political collapse remains far from clear. Across the Old World, advent of the new disease environment in conjunction with ongoing climate change meant there would be no return to the ecological status quo ante.

Human responses to these altered environmental circumstances and associated near universal step reduction in population levels varied enormously. In many regions under-population became a serious problem and pre-plague per capita levels of economic activity became unsustainable. In more populous and commercialised regions, in contrast, loss of numbers proved to be more of a boon than a misfortune. Small countries with favourable institutional structures, beneficial locations and advantageous resource endowments tended to fare best. Hence it was in the aftermath of the Black Death that economic leadership started to pass from Italy to Flanders, Brabant, Holland and eventually England. This post-plague transition to higher levels of per capita GDP and more dynamic growth trajectories made especially striking progress in the countries of the southern North Sea region and prepared the way for the rise to World commercial prominence of Holland from the sixteenth and England from the seventeenth centuries.

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Bruce Campbell, Belfast, 28th January 2013