Edmund Burke, “Islam at the Center”

I. Islam’s centrality to WH is based on 2 concepts

A. Legatees in WH
Societies that received knowledge and skills from earlier societies: e.g. science passed from the Greeks to the “Arabs,” and from them to Europe

B. Technological complexes: toolkits
Implements, skills, and technologies that were transmitted or migrated with groups in history (e.g. Neolithic toolkits like flaked flints, string/rope, fishhooks, needles, etc. that enhanced survival in various environments. Toolkits may also include, in agricultural societies, domesticated plants and animals)

II. Origins of Nine Major Technology Complexes
Burke critiques discussions of technologies in ancient societies as being insufficiently systematic—identifying only single aspects of technology such as hydrology and warfare (Arnold Pacey, for example, studies comparative hydrological systems in premodern agrarian empires)

A. Burke identifies nine major technology complexes that were important in human history:
Burke sees these complexes as key to understanding the emergence of/transition to modernity, “since the standardization and transmission of the major technological toolkits was a pre-condition of modernity.”
1. a weapons complex
2. a textile complex
3. a writing/information complex
4. a pyrotechnical complex
5. a water management complex
6. a bureaucratic/fiscal complex
7. an animal power complex (may include wind & water power)
8. a maritime transport complex
9. a mathematical/cosmological complex

B. These tech complexes got their basic components and became standardized between 650 CE and 1700 CE

1. These toolkits are key to understanding the role of “Islam” (Muslim societies) in world history

THESIS: “examines how and why some key technological complexes (“toolkits”) came to be standardized in the period 1000 to 1500 c.e. Our story is not one of independent invention, but of the operations of an unconscious human collective process over very long run (say, the history of agrarian empires, ca. 3000 b.c.e. to 1750 c.e.). At this level of abstraction what is striking is how individual technological solutions to concrete problems cumulatively accumulated in local and regional contexts before coming together under the auspices of Islam and being subsequently diffused throughout the world. Hence: “Islam at the Center” (of WH in the transition to modernity; of Europe’s access to this toolkit?)

C. Article focusses on 3 of these toolkits

1. Water Management Technological Complex
Canals, dams, tanks, qanats, waterwheels, windmills, agricultural manuals, crop transfers, water distribution law & custom

Gathered from Persia, India, M.East difussed in all directions, landed in Spain, and was transferred to Dutch, English, Spanish, Italians, and on to the New World

2. Writing Technology Complex
Alphabets, paper/parchment, reproduction of writing by scribes, copyists, systematic readings, Arabic script, grammar and advanced notation, education and broad literacy, culture & technology of the book, libraries & cataloging, encyclopedias, manuals, compendia, colleges and universities

House of Wisdom, translation paper from China to C Asia and on throughout Muslim lands; madrassa, college in Egypt, Iraq, major libraries and book markets, literate tradition widespread printing didn’t catch on bec of script until later, lithography did (Bulliet)
3. **Mathematical/Cosmological Complex**

Numeracy, Arabic/Hindi numerals, Greek & Indian & Babylonian mathematics, arithmetic, computation and higher math, cartography, musical notation, coinage-letters of credit-trade systems based on correspondence networks

Cosmology includes astronomy systems & investigations, record-keeping on stars, timekeeping, calendar revision, navigation and mapping through use of astronomical knowledge

4. All of these advanced and were disseminated through Islamic lands through royal and other patronage, the availability of networks of trade and travel, the need to carry out religious duties, etc.

Go back to other 6 technology complexes and you will find examples from Muslim science, technology and material culture...

...where it came from, its significance in Muslim society, specific instances and objects, persons, and paths of transmission beyond Dar al Islam

D. **Networks and the Role of Islam in World History**

1. Human beings are individuals, but their cooperation and dependence on social living makes them collectively like an organism, and complex societies become efficient at harnessing and maximalizing the use of energy, information, and transmission of technology. This is called collective learning, and is a distinguishing characteristic of humans as a species

2. World historians look at the patterns of expanding and intensifying human networks (McNeill & McNeill’s *Human Web*; David Christian’s *Maps of Time*, Jared Diamond’s *Guns, Germs & Steel*, and *Collapse*) and complexification from bands to tribes, villages to cities, states to civilizations and empires, and global society.

3. The lands of Islam (where it was ruling or was a majority of population) between 650 and 1750 CE were especially suited to being in the Center of this transmission of technology complexes due to

4. Great Arid Zone from Africa to N. Asia; Atlantic to China, connected waterways from the Mediterranean to the Indian Ocean & S China Sea

E. The center of gravity of this zone shifted between 3000 BCE and 1000 CE, and from 1000 CE to 1500 CE among different parts of Afroeurasia, but the territory of Dar al-Islam in the latter period was pivotal to the absorption and transmission of those technological complexes.