Ata Zargarpour

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HSTC 3502: Time II

Final Take-Home Exam

Question 4. "To what extent does a technology like the telegraph support [Langdon Winner's] claim when it comes to synchronizing time globally?"

"Where should we start? How precise should our time be?" (Frappier). Our lecture on world time made clear just how crucial this question was for the age, how keenly felt. Steam ships were reliant on falling "time balls" for a sort of manual GPS system (Frappier). Railroads in particular made glaringly apparent the need for a synchronized time over and above that of the locale's. The British *Railway Clearing Union* was the first to assert that everywhere needed to run on the same "railway time," "impos[ing] Greenwich Mean Time as the time for all train stations" universally in 1847 (Frappier; Frappier, slide 46). This was categorically different than local time, which, even differing by as little as a few minutes from Manchester to London to Sussex and so forth, could nevertheless cause catastrophic collisions owing to the erroneous calibration of departure times between conflicting trains (Frappier). That is, the problem with local time became apparent only in the context of transnational trains. Globalization, then—in other words, the exponential rate at which the world was becoming materially interconnected—itself fuelled the need to discover not only a universal temporal standard, but also a method for communicating instantaneously calibrations based around this standard.

Sandford Fleming's *Time Reckoning for the Twentieth Century* is primarily concerned with the "chronological confusion" that has for so long hampered human progress (345). His text frames technological development precisely in the way I have described it—that is, as a direct response to the demands of the age. Fleming diagnoses modernity's demands thus:

> Our present system of notation produces a degree of ambiguity which, as railways and telegraphs become greatly multiplied, will lead to complications in social and commercial affairs [...] and [...] it will undoubtedly act as a clog to the business of life and prove an increasing hindrance to human intercourse. (348)

The answer to this quandary lies in a refinement of the tools at our disposal. Continues Fleming: "The discoveries and inventions which have marked this period have produced new conditions of society, and our minds have received an impulse which leads to investigation wherever need of improvement appears to be demanded" (345). Temporally speaking, the need for a global touchstone is clear: "no records can be in accord unless a common starting point be agreed upon from which computations are to be made" (346). The adoption of Greenwich as this "common starting point" and the consequent invention of time zones address precisely such a "need for improvement [...] demanded" by the exigencies of the modern age—in this case, the need for universal temporal synchronization. The telegraph is crucial here. If the Prime Meridian provided the "common starting point," the telegraph, in enabling instantaneous communication, put this commonality to good use. Fleming, however, notes that the telegraph alone is impotent to resolve the confusion he identifies: "The telegraph may give the exact local time of an occurrence, but the time so given must be in disagreement with local time on every other meridian around the

globe" (347). It is only in conjunction with a universal standard time, then, that the telegraph can serve its proper function—namely, to coordinate the so-called modern world.

The colonial nature of this process cannot be overstated. For one, the colonies sought deeper access into the continent of Africa, something only the synchronization afforded by the telegraph allowed (Frappier). The rubber coating for oceanic telegraph cables relied on deforestation in the South Americas on an unprecedented scale (Frappier). Paris pneumatic time understood clocks calibrated to a central time-keeper as "slave clocks," a disturbing analogy for the temporal relationship between colonizer and colonized (Frappier). Case in point: The International Meridian Conference, convened "for the purpose of fixing upon a [...] standard of time-reckoning throughout the globe," was in reality comprised mostly of citizens of the Western-European world—"Twenty-five nationalities were present," according to Fleming—thereby exposing the colonial reality beneath its claims to universalism (Frappier, slides 62, 64-5; Fleming 346). We even see this lurking in Fleming's language: "New continents have been opened to civilization," he jubilantly proclaims (345). For him, the conference's conclusions "make provision for terminating all ambiguity in hours and dates and establishing throughout the world, free from national susceptibility and caprice, perfect uniformity in reckoning time" (346). One must concede that Fleming and the other conference attendees speak as though truthfully unaware of the problematic implications of their project, understanding it in all earnestness as an incomparable service to the entire human race.

The Islamic modernist al-Qasimi appears curiously indifferent to the colonial underpinnings of Greenwich Mean Time and its employment by the telegraph. His text "Guiding Mankind to Act on the Basis of Telegraphic Messages" exhorts Islamic leaders to

embrace the telegraph as a device that enables them—via communication channels with communities with, say, clearer skies revealing the newness of the moon—to accurately announce "the start or the end of Ramadan" (al-Qasimi 181). Al-Qasimi describes the telegraph as "one of the greatest technical advances," providing "general public benefit" to the Islamic world; it is, he says, "the prop of kingdoms' vital affairs" (182). The problematic connotations of this device seem irrelevant to the argument he puts forth—namely, that its use to determine Ramadan's beginning is in fact consonant with *shari'a*, or Islamic law.

Al-Qasimi substantiates this argument with consistent appeals to *ijtihad*, or independent reasoning, a principle that he locates at the heart of *shari'a*. He explains: "The founders of the legal schools [...] plung[ed] into the details of affairs after studying the underlying rationales of existence, tracing every specific regulation to a basic legal principle, and adopting a statute on the basis of that principle" (182). Far from being a fixed entity, *shari'a* is an ever-evolving compendium of past rulings that were themselves decreed on the basis of logical reasoning. Indeed, Islamic law, comprised as it is of "huge volumes of rulings and abundant legal opinions [...] for novel situations that have arisen in both recent and ancient times," itself testifies to the fact that "it is necessary to adapt to novel situations in human society on the basis of the well-known principles of the true religion" (182). Understood in this light, *shari'a* is an ongoing distillation of a collective attempt to discover —*rationally*—correspondences between religious principles and material problems.

For al-Qasimi, this continual adaptability is fundamental to Islam itself: "The excellence of Islam includes [...] the suitability of its principles to the needs of every time and place," as well as "the breadth of its specific regulations to allow for the adoption of necessities and luxuries, however much inventions and discoveries multiply" (182). Because

"experts may easily relate all beneficial inventions to Islam's stipulations, certainties, generalities, and apparent meanings," the Islamic world is able to not only keep pace with technological progress, but also derive the greatest possible benefit from the inventions it produces (182). Al-Qasimi situates the telegraph in a long succession of such inventions: "the telegraph resembles earlier innovations […] such as cannons and clocks used for fasting and prayer, and countless other matters in worship and social transactions. The telegraph is but a drop in the ocean of discoveries and inventions in coming ages" (182-3). All of which leads him to (rhetorically) ask:

> If we do not adopt the telegraph according to fixed principles of discovery through reasoning and analogy, then do we not congeal religion and block the way of ancient and recent generations, and forever constrict what God made wide through understanding and discovery? (182)

"Guiding Mankind to Act" is a curious text. On the one hand, one is tempted to object that the telegraph, like so many other Western-European inventions, sediments coloniality in the technological structures that have come to predominate throughout the world. On the other hand, al-Qasimi is effectively advocating for the co-optation of this device in the service of Islamic religious practice, in this case fasting. Is the telegraph a kind of Trojan horse for Western-European ideas about time? Or is it transformed by the different uses to which it is put by Islamists? Or, more fundamentally, do both of these questions take place within an erroneously absolutist framework, one that essentialistically assumes a false dichotomy between Europe and the "Other"?

Both Sandford Fleming and al-Qasimi seem to accord with Langdon Winner's provocative claim that technological decisions "become strongly fixed" with the passage of

time, and are thus "similar to legislative acts"—though they accord for different reasons. For Fleming, technological innovations address the particular needs of a given age. If I may extrapolate a little the conceptual framework his text suggests: Technology is bound up with the identification of problems. Once a problem is technologically resolved, there is presumably no need to further interrogate the given technology, unless perhaps a future problem throws its suitability into question. With al-Qasimi's text, Winner's comparison finds literal instantiation. Islamic legal rulings regarding new technologies become legislatively encoded in the vast corpus of *shari'a*. The gradual accumulation of such rulings —slowly but surely producing what we might call "tradition"—would understandably narrow the scope of possible decisions with regards to the technology at hand. In either case, there is a kind of irrevocability to technological innovations. While their repealment may not be forbidden, it certainly becomes more difficult with the transpiration of time.

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