Interview - John R. McNeill

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John Robert McNeill is an American environmental historian who is serving as a professor at Georgetown University. He is the son of William H. McNeill early proponent of world history, together they wrote The Human Web: A Bird's-eye View of World History. John R. McNeill is mainly known for his pioneering work on enviromental history publishing works such as Mosquito Empires: Ecology and War in the Greater Caribbean, 1640-1914 and Something New Under the Sun: An Environmental History of the 20th-Century World.

Where do you see the most exciting research/debates happening in your field?

Many would disagree with me but what I find most exciting and interesting are efforts to complement textual evidence about the human past with evidence from the province of the natural sciences. Or, to put it differently, to combine archives with geo-archives and bio-archives. In some respects, archeologists have been doing this for a century. And historians have long been open to evidence from, for example, art history. But now the offerings from various corners of biology and chemistry are tumbling forth as never before, illuminating aspects of the past that texts cannot.

Among the thousands of examples, here is one. Iceland acquired human population only in the 870s. Its first settlers, the progenitors of the great majority of today's population of 300,000 Icelanders came in dribs and drabs over the next couple of centuries. The males among those first settlers came overwhelmingly from Norway. The women among them mainly from Britain and Ireland. We know this not from the Icelandic sagas (which are wonderfully informative about other things) but from the study of the genes of today's population. Icelandic mitochondrial DNA, passed down exclusively from mothers to daughters, implies mainly Scottish and Irish ancestry. So it seems that Norsemen going to Iceland stopped en route to kidnap or purchase women and girls in the British Isles. Or perhaps a human trafficking business grew up supplying the Icelandic market with females. The national museum in Reykjavik has some excellent material on this story.

And here is another. For more than a century scholars have speculated that the sudden expansion of the Mongols under Genghis Khan had some climatic push behind it. Typically they supposed it was drought, to which the Mongol steppe was and is prone. But now, thanks to the work of dendroclimatology (the study of past climate as revealed in tree rings) it seems the scholars have gotten it right but backwards. In the last millennium the longest period with consistently above-average rainfall (15 years of it) came just as Genghis was getting his conquest machine off the ground. Rather than desperation due to drought, the Mongols broke out of their homeland (in part at least) because of opportunity: more rain, more grass, more animals (including ponies used in military campaigns), more food, more young Mongols.

My view is that historians would do well to embrace the evidence coming from the natural sciences, as archeologists have long done, and recognize that the tyranny of the text must end. After all, there is a lot of accident in what happens to get written down and what writing survives. Basing one's understanding of the past solely on those accidents is a blinkered, if venerable, approach.

How has the way you understand the world changed over time, and what (or who) prompted the most significant shifts in your thinking?

The biggest change for me has been my discovery of environmental history. That occurred by accident on a rainy afternoon in the office of Prof. Peter Wood at Duke University when I was about 25 years old. Wood was on leave and I, then working as an instructor, was assigned his cavernous office with its (maybe) 3,000 books. I pulled Alfred Crosby's Columbian Exchange off the shelves, intending only to browse until the rain ended and I might be on my way. I read it through, into the evening and after the rain stopped, interrupting my progress only to tidy up spots where the ceiling's rain-soaked plaster fell onto my papers, typewriter, or Wood's books. History has never seemed quite the same to me since reading Crosby's pages.

He showed how horses, cattle, sheep, goats, pigs, apples, oranges, wheat, rye, sugarcane, smallpox, mumps, measles, influenza, whooping cough and honeybees, all of them absent in the Americas before 1492, changed the history of the hemisphere after Columbus. And how maize, potatoes, and a few other items from the American flora and fauna, changed the history of Europe, Africa, and Asia after 1492. In short, he put human history into a fuller, and fully dynamic, ecological context.

It is mainly to that accident that I attribute my conversion to the dogma I now profess, that human history is a subset of ecological history and, for many subjects but not all, best understood within that matrix.

In your book Mosquito Empires you suggested that the long existence and eventual collapse of the Spanish empire, but also the American revolution were all influenced by the environment and disease. Could you explain your reasoning for this?

It took me hundreds of pages to do so in that book! A short version, confined to the case of the American Revolution, is that in the southern campaigns of 1780-81 the British Army suffered heavily from malaria, much more so than did the Continental Army, the various local militias, or, once it arrived on the scene at Yorktown, the French army of Rochambeau. Indeed, in the malaria season, roughly June through October, on average about half the British army was too sick to stand duty. At Yorktown, in the days before Cornwallis's surrender, the proportion was well over half. And he emphasized that fact in his correspondence, which previously historians seem to have disregarded, perhaps supposing that since illness was routine in 18th century armies, it affected all parties equally. But in the malaria season it most definitely did not.

The reason for this lies in the backgrounds of the soldiers and the training of their immune systems. The British army was composed of young men from Britain and Germany, the great majority of whom had never experienced malaria before the summer of 1780. The local militias, in the Carolinas and Virginia, consisted of men who had had malaria every summer of their lives. The same was true of most of the men in the Continental Army, as the units involved in the southern campaigns were mainly from the south or the mid-Atlantic (although there were some from New England, where malaria had disappeared about 1750). Most of these men, as a result of the disease environments of their childhoods, has built up considerable resistance to malaria and were thus less likely to acquire renewed infection, and less likely to suffer severe symptoms – far, far less likely than men who were now exposed to malaria for the first time.

The French army consisted of men many of whom had served in the West Indies and had acquired some resistance to malaria. But the fact that they arrived at Yorktown only about a month before the siege ended was probably more important in explaining their good health – because they did suffer heavily from malaria after the surrender (when it no longer mattered). Cornwallis's men had been camped out among swampy creeks and malarial mosquitoes all summer, during which they were infected again and again with malarial plasmodia, to the point where most of them were too sick to be of use. Disease incapacitated about ten times as many men in the British Army as did combat (at Yorktown).

Interestingly (to me at least) earlier in the war smallpox had been equally partisan in its effects. Most of the British Army were smallpox survivors and immune to the virus. Most of the Continental Army were not, and served a welcoming hosts to the smallpox pathogen. However, in 1777 there was something one could do about smallpox, and Washington did it: he mandated variolation for all recruits, which effectively ended the army's smallpox epidemic. In 1780 there was nothing the British Army could do about malaria (they were blockaded; they didn't have much of "the

bark"; the sole supplier of "the bark" was Spanish America and Spain had entered the war against Britain).

When somebody mentions the Cold War one is not necessarily inclined to think of the environment, yet you do suggest it played a significant part in it. What do you think its impact was on the Cold War?

Most of what I have written about the Cold War and the environment argues that the Cold War left a significant imprint on the environment around the world, from deforestation in guerilla proxy wars to the residues of nuclear weapons programs. The impacts of the environment (and environmentalism) on the Cold War may be significant too, although I have not gone far in making this case. But I think one could, for example, claim that environmental concerns and international actions intended to address those concerns helped a little in making 1970s détente more feasible. And one can make a pretty good argument to the effect that the presence of abundant oil in the west Siberian fields helped keep the Soviet economy afloat from 1973 to 1985, when oil prices were very high, and helped after 1986 to put the Soviet economy and state in its terminal crisis. That is partly a matter of environment, although at least as much as a matter of the fluctuations of the international oil market.

Could you explain the concept of Anthropocene and when do you think this period began?

The Anthropocene means different things to different people and there is as yet no consensus definition. Typically, scholars and scientists see it through prisms of their own disciplines, so atmospheric chemists consider it defined by detectable changes in the concentrations of such greenhouse gases as carbon dioxide or methane in the atmosphere, whereas paleontologists prefer to see it as defined by changes in the fossil record.

For my own part, I see it as beginning in the mid-20th century and as defined by the tremendous surges in fossil fuel energy use, population growth, urbanization, tropical deforestation, carbon dioxide emissions, sulfur dioxide emissions, stratospheric ozone depletion, freshwater use, irrigation, river regulation, wetlands drainage, aquifer depletion, fertilizer use, toxic chemical releases, species extinctions, fish landings, ocean acidification – and much else besides.

The term Anthropocene now increasingly serves as a shorthand way to recognize the great power that humankind now exerts—clumsily—over some of the Earth's basic biogeochemical systems, over life on Earth, and upon the surface of the Earth itself. Several chemical compounds and elements, including water, nitrogen, sulfur, and carbon are constantly wafting or zipping around our planet, cycling among living things, the Earth's rock and sediments, the oceans, and the atmosphere – these are the biogeochemical cycles. They did this planetary cycling before humans existed and they will likely do so after humans no longer exist. But for a few thousand years (just how many is a subject of debate), humans have affected those cycles. And in the last few decades, human actions have radically altered some of them.

This is not to say that human impacts on the environment were trivial before 1950. They have been more than trivial since our ancestors began to use fire several thousand years ago. But, as I see matters, it is only recently that our powers, numbers, and appetites have reached a point where the condition of the Earth (on any number of measures) is outside the range of variation experienced throughout the Holocene (which means the last 11,700 years in the language of the Earth sciences).

What do you make of the current attention placed on climate change, and the movements it has spawned? How would you place this in an historical perspective?

The attention given to climate change is, I would say, well placed. Both in the sense that historians and other scholars are finding more and more that can be understood better by reference to past climate change, and in the sense that today's trends in climate merit genuine concern. I do not, however, see much in the way of 'movements' spawned by concern over climate change. I see a shift in the emphasis of environmentalists here and there, and some international diplomacy directed at slowing the pace of future climate change.

On some levels there is no historical perspective that can accommodate today's climate trends, because never in

recorded human history has climate been changing as rapidly as it is today. (It did change faster from time to time but too long ago for us to know much about what it meant for humankind; the most recent such episode was probably the onset of the Younger Dryas, roughly 11,500 years ago.) Nor has any sharp climate shift occurred in a world where people found it as hard to walk away to different climatic zones as they do now. So placing current climate change in historical perspective runs into sharp difficulties.

The political problem of climate change may have closer analogues. In general, it falls into a category of public goods problems and creeping timeline problems. (By the latter I mean problems that are likely only to get a tiny bit harder each year and are thus tempting for policy-makers to leave to their successors, as with, for example, pension reform in many countries). The historical record in addressing such problems is not encouraging. I would not expect policy-makers to get serious about climate change. (Unenforceable promises to reduce greenhouse emissions by x percent over the next 25 years, or reduce the rate of growth in emissions, do not count as serious).

In The History Manifesto Jo Guldi and David Armitage argue that historians need to adopt longer time-frames in their analyses and insert this knowledge into policy debate. How do you think long-term thinking, something you have used prominently, can impact policy making?

I'm all in favor of long-term thinking among historians and everyone else for that matter. I do not regard it as the only way historians should proceed (as some people claim Guldi and Armitage say). I frequently say that collectively historians should work on all time scales and all spatial scales, from the very micro to the very macro, but individual historians should do what they do best. I am very reluctant to compel my colleagues to make one or another set of choices.

I am probably less optimistic than Guldi and Armitage that long-term thinking by historians would restore to them their rightful influence in the corridors of power. First, I think they over-estimate the degree to which historians ever had much purchase on the lever of power, and under-estimate the degree to which, when they did, it was a matter of accident and personal connections (as with Schlesinger and Kennedy, e.g.) rather than of historians working on longer time scales. Indeed, I think their contention that historians once upon a time worked more often on longer time scales is suspect, and others have tried to show it is demonstrably false. Whether for good or ill, historians in general offer wisdom that is less attractive to policy makers than that on offer from lawyers and economists. It may be better wisdom, but it is less easily translated into policy. Lawyers can tell you how to craft a bill. Economists can tell you, with a confidence unshaken by repeated failure, how to ensure prosperity through fiscal and monetary tweaks. Historians are wont to say, in effect, that there will be unintended consequences, that most situations are too complex and contingent to control via policy interventions, and so forth. While this sort of pronouncement is prudent and wise, it is not a clear recipe to do x or y. So influence belongs to those who can offer clear recipes, whether or not they are prudent and wise.

What could international relations learn from history as a discipline, particularly world history and environmental history?

In a remote way, international relations (IR) depends utterly on history. The extant data from which all conclusions in IR ultimately derive is the sum of historical examples up through yesterday's events. So one can accurately say that IR has learned from history. But one can also say it has not learned well enough.

That is true for a number of reasons, some defensible, some less so. The most defensible reason is that IR as an intellectual procedure usually must categorize, must lump things together and thus ignores some particularities. All social science must do this to some extent and historians, whether they count as social scientists or not, must do it too when speaking of social groups. But historians are far less likely to generalize about the behavior of states than are IR scholars, or even of subsets such as 'great powers' or 'status quo powers' or 'revisionist states' or what have you. Intellectual life includes a fair amount of argument between lumpers and splitters, and on average IR includes more lumpers and fewer splitters than does history. That no doubt leads to some dubious generalizations, failures to recognize salient distinctions and so forth. (It leads historians into a different set of problems of course, many of them

summed up by the question, so what?)

In the less defensible category is the fact that IR has learned from the history of the European state system and not enough from other systems of power competition. There remains, despite 40 years of transnational actors popping up in IR, a state fetish. And there remains an extrapolation from European state behavior and system behavior to a general, normative model (although I think in recent years this tendency is weakening since the days of Kenneth Waltz).

As for learning from environmental history, I think there are some opportunities for IR there too. As I tried to explain above, there are times and places where international affairs, such as war, are powerfully affected by non-human actors such as diseases and disease vectors. IR, so far as I know (which could well be not far enough), is almost entirely uninterested in non-human contexts that affect international politics except with respect to natural resource distributions.

What is the most important advice you could give to young scholars?

Make sure you enjoy the work itself, because there are no guarantees of any other rewards. Unlike, for example, petroleum engineering or plastic surgery, for which one can reliably be expected to be well compensated for one's work.

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