THE PANDEMIC THAT TRANSFORMED AMERICA (AND THE WAR THAT CAUSED IT)

By Andrew Cameron Bailey

Exactly four centuries ago, in the summer of the year 1614, the indigenous population of the northeast coast of the land they thought of as Turtle Island spotted the first sign of the troubles to come. An English sea captain with a marvelously generic name - John Smith - sailed into Cohasset harbor on the coast of today's Massachusetts Bay. His welcome by the Cohasset locals took the form of a shower of arrows. You have very likely heard of John Smith as a result of his legendary (and probably apocryphal) 1607 rescue in Jamestown, by a certain Pocahontas, from a lingering and painful death at the hands of the Powhatan Indians. Seven years later, Smith was back in America engaged in an exploratory mapping expedition in the service of Sir Ferdinando Gorges, a visionary and wealthy Englishman determined to plant the first colony in the area that Smith was about to re-name "New England."

Sailing with Captain Smith were several other men who were destined to play a part in the impending colonization of New England. One of them was, notably, a local native of the nearby Patuxet band, a group which numbered about 2,000, according to the detailed report that Smith presented to Gorges upon his return to England. The Patuxet man's name was Tisquantum, or "Squanto," as the English had nicknamed him. Also on the vessel was a sailor named Thomas Dermer, and a part of Smith and Dermer's mission was to return Squanto to his home at Patuxet. Squanto had, willingly or otherwise, spent the previous several years in England as the guest (or captive, depending on your perspective) of Sir Ferdinando. Squanto seems to have liked and trusted the English, and had learned their language. Now he was being delivered home to his people.

On a separate ship sailed Captain Thomas Hunt, Smith's business partner and subordinate. Captain Smith was able to get his vessel turned around and out of Cohasset, while the local warriors rained arrows on them from the high cliffs on either side of the harbor. It was no easy matter. None of the arrows found its mark, fortunately for the sailors. A few weeks later, after completing his mapping work and returning Squanto to Patuxet, Smith and Dermer set sail for Jamestown, at that time the only English settlement in North America. Captain Hunt was left behind, with instructions to fill his hold with fish and beaver pelts, and then to return to England. Squanto was to remain with Hunt, and assist him for the time being, if he so chose.

Captain Hunt, however, was a devious fellow. He had an alternative strategy, one which, he believed, would bring him a great deal more wealth, a great deal sooner. Using Squanto as interpreter and go-between, Hunt was able to lure twenty or more
lusty Patuxet men onto his ship. They came aboard with a view to trading their beaver and other pelts for kettles and knives and other European goods. As soon as the men, including Squanto, were below deck, the hatches were slammed, the anchor was weighed, and the ship set sail for Malaga, Spain, to the slave market there. Squanto's Patuxet homecoming was short-lived. Once again Squanto found himself in Europe. It was not until 1619, five years later, that he was able to find his way back home, thanks once again to his friend Thomas Dermer, who was by that time a fully-fledged sea captain in his own right. As fate would have it, this dastardly act by Captain Hunt had a positive consequence. It preserved Squanto's life, and as is well-known, Squanto went on to play a very significant role in the survival of the first boatload of English settlers to arrive in Massachusetts Bay in late 1620.

These events took place four hundred years ago, six short years before the fateful arrival of a little English ship named Mayflower. The landing of the Mayflower in New England signaled the beginning of one of the most significant population transfers in recent history, a phenomenon known to historians as the Great Migration. However, in the half-decade between Smith's 1614 voyage and the historic landing at the place Smith's map had called "Plimoth," things had changed dramatically. Two little-understood, closely-related and profoundly devastating events had unfolded among the native tribes in the area. In 1614, John Smith had described a thriving, fully-settled coast inhabited by tens of thousands of indigenous people. The Mayflower "Pilgrims" disembarked in late 1620, at the place formerly known as Patuxet, to find a scene of utter desolation. There were signs of human habitation everywhere, but the people, Squanto's people, were gone. Something truly awful had happened. Something that had changed everything.

Whatever that awful something was, it is still not fully understood, four centuries later. The Pilgrims, once they had made contact with the local natives, concluded that the disaster was the result of an outbreak of plague, probably of European origin, which had swept the entire New England coast from Canada to Cape Cod between the years of 1616 and 1618. The precise identity, nature, origin, and mode of transmission of this epidemic disease is the subject of this writing. Many theories have been put forward over the centuries, many with merit, some patently absurd. This writer offers a brand-new hypothesis based both upon historical research and upon some very recent, as-yet-unproven medical findings. Neither the disease itself, the hypothesis goes, nor its origin, nor its mode of transmission are what we have been led to believe. The truth, if this analysis stands up to scrutiny, is stranger, wilder, and more compelling than any of the various fictions. It is a game-changer.

The history of humanity, for better or worse, has been one of unending migration, invasion, and inter-cultural exchange. Ever since <i>homo erectus</i> left Africa 70,000 years ago and began to explore the rest of Planet Earth, we have rarely been content to stay in any one place forever. Always, the unknown, the far horizon, has beckoned us, and we have never failed to answer the call. We got to Australia 50,000 years ago, they
say, across uncharted waters. Today, we are looking to the stars, the place the Aborigines say we came from in the first place. It wasn't necessarily that our current home was overpopulated, or that we'd used up the local resources. It was often the spirit of adventure that drove us, the urge to push the boundaries of our current understanding, as well as a compelling human desire for freedom from conflict and oppression and the vision of a safe and prosperous home for future generations.

By the end of the last Ice Age, *homo sapiens* had pretty much populated the entire planet. New migrants were likely to encounter communities already established in the places they migrated to. That could and did create problems, one of which is the subject of this dissertation. But first, an example, a relevant example as we shall see, of a place that has been invaded countless times: the British Isles, the place where this writer happened to be born in the midst of the most recent invasion attempt - World War Two. For thousands of years, every couple of centuries, boatloads of warlike foreigners, Angles or Saxons or Romans or Vikings or Celts or Normans, sailed over the narrow English Channel to Britain and made themselves at home, no ifs, ands or buts. We're here. Get used to it! The original Ancient Britons, today's Welsh, adapting as best they could, became a minority in their own homeland. They're still angry about that, just as the current generation of Native Americans is still angry. Today, after repelling later invasion attempts by the Spanish, the French and the Germans, the United Kingdom, at least on the surface, is a reasonably well-integrated, ever-evolving mishmash of multicultural bloodlines, and the blending has been, to a great degree, beneficial. The United States of America is a direct outgrowth of those early invasions of Britain.

Each time a major migration (or invasion, depending on your perspective) occurs, a cross-cultural exchange is the inevitable result, with profound and often positive consequences for humanity as a whole. The new immigrants learn from the locals, and the locals learn from the newcomers. Genes, ideas, cosmologies, art, language, music and technologies are exchanged, each side adapts to the other, and the net result is an evolutionary leap for our species. Unfortunately, there is very often another, unseen, unplanned and unexpected exchange that takes place at the same time: an exchange of dangerously infectious or contagious microorganisms. For instance, one of the more significant and least-understood consequences of Columbus's 1492 journey to the New World, at least for the rest of the world, was that he and his crew returned to Europe carrying a devastating new malady: syphilis. Within twelve short years, the disease had spread at least as far as China. Over the subsequent centuries, syphilis has become a much more treatable malady, but throughout the 1500s, 1600s and 1700s it was a widespread, swift, painful and almost certain killer. Syphilis was responsible for countless millions of unpleasant deaths, up until the discovery and widespread use of penicillin.

The foregoing is a little-known historical fact, but it has been proven beyond doubt by recent medical analysis of skeletal remains.* A much more notorious transfer of
disease, however, went the other way, from the Old World to the New. From 1492 on, waves of Europeans brought smallpox, plague, measles, and numerous other deadly maladies to the native peoples of the Americas, with devastating results. This investigation will specifically address one of the most historically-contentious transfers of disease from Europeans to Native Americans: the 1616-1618 pandemic that is believed to have reduced the native population of New England by as much as 90%.

What, exactly, was the terrifying, voracious, deadly disease that decimated the New England coastal tribes between the years 1616 and 1618? Where did it come from? How was it spread? Who was to blame? Was anyone to blame? There is a great deal of speculation, confusion and misinformation concerning these questions. Right now, in the opening decades of the 21st Century, you may be surprised to hear, there is much anger, blame, shame and guilt around the issue, four hundred years after the fact. It would appear, for instance, that there are lot of Americans, of both Native and European descent, who blame the Mayflower "Pilgrims" for the epidemic, and would like the Pilgrim Fathers, all fourteen of them, to go down in history as cruel, rapacious, murderous invaders who massacred the indigenous population on arrival, while simultaneously, intentionally or otherwise, delivering a deadly disease to the shores of New England in late 1620.

This widely believed and utterly incorrect viewpoint is not supported by the historical record. In fact, it is an absurd fabrication. Whatever the disease was, historical evidence indicates that the epidemic began sometime in late 1615 or early 1616, peaking around 1617. It tapered off and ended by early 1619, roughly two years before the Mayflower passengers came ashore at a haunted and abandoned place on Massachusetts Bay the natives called Patuxet. The new settlers called the place Plimoth, as had John Smith six years earlier. The inhabitants of Patuxet, 2,000 strong in 1614, had become extinct by 1619, with the exception of the aforementioned Squanto, and perhaps a few scattered survivors who had taken refuge elsewhere. What killed all of these people? A smallpox epidemic? Or could it have been something else, in combination with an epidemic disease, smallpox or otherwise?

As Alice Park writes in her December 2014 TIME article on AIDS, a disease that has thus far killed an estimated 36,000,000 people: "Every epidemic, however devastating, has a beginning and an end. The Black Death that spread from China to Europe in the 1300s peaked over five years. The (Spanish) influenza pandemic of 1918 ripped through nearly every country on the planet, leaving an estimated 50,000,000 dead in its wake. But nearly as quickly as it came, it disappeared after about 12 months." She goes on to say: "However dark the circumstances seem at the start, history teaches us that eventually there is an end."

Like the pandemics described by Park, whatever the New England disease was, it started, peaked, and disappeared over a period of approximately two years. The
The current Ebola epidemic in West Africa is only the latest in an ever-unfolding series of potentially devastating pneumonic diseases, which are vastly complicated by
the realities of modern transportation and human mobility. The Ebola vector is simply any infected or exposed human being. Anyone coming in contact with a carrier (or his breath or his bodily fluids) is at great risk personally, and becomes a potential carrier. Other current examples of potentially deadly epidemic diseases include Asiatic flu, swine flu, bird flu, West Nile disease (transmitted by mosquitoes) and SARS. Many of these viruses originate among domesticated animals in China, just as they did hundreds of years ago. The viruses are often spread by the annual migrations of birds, an extremely effective method of worldwide transmission, and one against which it is almost impossible to defend. This is a biological phenomenon that has been in motion for countless thousands of years, and it will not end any time soon.

To return to the New England pandemic of the early 1600s, let us ask ourselves a few key questions. What do we know about the 1616-1618 outbreak that so dramatically reduced the indigenous New England population, and how does that knowledge accord with commonly accepted beliefs on the subject? Challenging as it may be to get at the epidemiological truth 400 years after the fact, a little historical detective work, combined with the latest medical research, sheds an entirely new light on the subject, light that effectively does away with a number of the most commonly-held theories and beliefs held by 21st Century Americans. Remember, we are looking for two factors: a highly-contagious, rapid-acting, deadly pestilence, and a distribution mechanism that might have enabled that pestilence to spread over hundreds of square miles and kill tens or hundreds of thousands of people, very very swiftly.

This writer has spent a great deal of time analyzing just about everything that has been written (at least, in the English language) about the earliest contacts between Northeast America’s indigenous peoples and the Europeans, with a particular emphasis on Plymouth Colony and the relationship between the so-called "Mayflower Pilgrims" and the Pokanoket "Indians" with whom the English settlers shared more than half a century of peace and friendship. In the autumn of 2014, I sat in on a conference of leading academic historians at Plimoth Plantation, the living history facility in Plymouth, Massachusetts, carefully listening to each of the sixteen panelists to see what is currently being said, and just as importantly, to see what is not being said. I had recently developed a compelling theory, and was interested to see whether anyone else had noticed what I had noticed. Apparently nobody had, or if they had, no one was talking about it.

In the course of my own research, it had not taken me long to realize that, in order to truly understand the events that unfolded at Plymouth after the historic landing in December, 1620, it is essential to know what had preceded that event. Why, for example, was Patuxet (aka Plymouth) uninhabited in 1620, whereas Captain John Smith had described a thriving community there (possibly as many as 2,000 strong) as recently as 1614? How did the famous "Squanto," a Patuxet, come to be almost the sole survivor of his people? What was the relationship between the local native
groups and other, earlier European visitors? What were the socio-political structures within and among the various native tribes across all of the North East? These and many other questions cannot be fully answered merely by investigating Plymouth and its immediate surroundings. We must expand our horizons.

We need to go deeper in time, and wider in space. Much deeper and much wider. At least half a century deeper in time, and a radius of at least several hundred miles wider in space. The events at Plymouth in late 1620 and early 1621 did not take place in a vacuum. Massachusetts Bay in the early 17th Century, like most other inhabited locations on the planet, was part of a populous, adaptive, ever-changing, inter-active network of indigenous communities, some coexisting peacefully, and some in the throes of intense competition and even, at times, brutal war. The Massachusetts tribes were connected, by trade and political alliances, with hundreds of other native groups, all the way north into present-day Canada and Nova Scotia, to the west deep into Iroquois country, and south through present-day Rhode Island, Connecticut, New York and all the way down to Jamestown, Virginia, where the first struggling English colony was established in 1607.

We can't understand the history of Plymouth and the Cape Cod Wampanoags without a pretty exhaustive study of the Iroquois Confederacy (in particular the Mohawk,) the Massachusetts Federation headed by the great sagamore Nanapashimiet, the Narraguansetts, the Mohegans and the Pequots, and most importantly, the tribes to the north, the Mi'qMak and the Abenaki Federation, in particular the Penobscots. We also need to understand the profoundly significant impact of French fur-trading around the mouth of the St. Lawrence River, which began in the late 1500s. More than anything, we need to know about the Tarratines War. The what?

The reader may not have encountered some of the words, names and events in the foregoing paragraph, especially the last one. Don't feel bad. Not every professional historian has, either. A couple of months ago, for example, I asked a leading Plymouth-based historian what he knew about the Tarratines War. He looked at me blankly. I told him that the Tarratines War was very likely the most significant event in pre-Mayflower Massachusetts history. He seemed unconvinced. Oddly, given the importance I ascribe to the event, I have, with one exception, yet to meet an historian in or around Plymouth who knows anything about the Tarratines War, despite the fact that there is an abundance of information available simply by Googling the phrase. Try it!

The one exception, so far, to this universal ignorance of the Tarratines War is a Cohasset, Massachusetts-based historian I met briefly at a 2014 event which she was organizing. The event was called "Captain John Smith Day," a celebration of the 400th anniversary of John Smith's visit to Cohasset. To my great surprise, given my previous experience, she brought up the term "Tarratines War," unasked. She obviously thought it was important. There was no time to explore further, but she did
offer one very interesting piece of information. She told me: "The Indians will not talk about the Tarratines War." Interesting, I thought. Very interesting. Nobody in New England is talking about one of the most significant events in New England history.

Let's play a little game of "imagine." Imagine you are a Patuxet indigenous person living, as have your ancestors, relatively peacefully and abundantly on the shores of present-day Plymouth Bay in the year 1615. Your name is not Tisquantum (or Squanto) because Tisquantum had been kidnapped the previous year along with some twenty other young men and taken to Spain to be sold as slaves. Other than occasional squabbles with the neighboring tribes, regular autumn raids from seafaring warriors from the north, and the occasional visit from a European explorer or fishing vessel, life goes on pretty much as it always has. Your people are a semi-autonomous part of a loose federation of tribes and bands headed by a sachem called Massasoit. This "Wampanoag" Federation is in turn part of the larger, more powerful Massachuset Federation a little to the north and west. You have some powerful enemies, including the Narragansetts to the south, the Iroquois to the west and various others. Your people pay an annual tribute to these powers in the form of corn, beans, and beaver skins. Finally, every autumn you have to keep a sharp eye out for seafaring Mi'qMak raiders from the north, who appear each harvest season in search of food and attractive young women.

As we have learned, the English ship that captured Tisquantum and the twenty young men in 1614 was skippered by John Smith's associate, the treacherous Captain Thomas Hunt. There had been other recent visitors from over the sea. In the past couple of years, for example, two French ships have paid visits to the area, with dire and terminal consequences to the crews of both. The first vessel was shipwrecked, its crew captured, used as slaves, and eventually tortured to death. The second ship had come seeking furs to trade, but was overrun by Indians and burnt. The second crew met a similarly horrific fate to those on the earlier shipwreck. We know this because one Frenchman survived to tell the harrowing tale, and his story was later corroborated by one of the Indians who led the raid on his ship. The Frenchman was "redeemed" in 1619 by Captain Thomas Dermer when the latter returned Tisquantum from Europe to his home at Patuxet.

As is well-established historically, Tisquantum came home to find his people gone, and Patuxet abandoned. Late the following year, in December 1620, the Mayflower arrived. Let's continue our "what if?" scenario. What if, in the midst of this relative peace and stability at Patuxet, long before the Mayflower made its fateful appearance, a horribly unwelcome surprise emerged from beyond the sea? What if, out of the blue, an armada of birch-bark war canoes, infinitely faster and more maneuverable than the clunky local hollowed-out log misbooms, each carrying a dozen terrifying warriors in full war-paint, appeared on the shoreline? What if the seafaring invaders were familiar, because they were the same much-feared, well-armed raiders who came down from
the north every autumn, right when the crops were ready for harvest? The ones who materialized out of the mist firing French muskets, chased you away, and stole your corn crop and your young girls every year? What if this time, however, the situation was different, very different? Horribly different? What if, this time, the canoes brought incomprehensible, indiscriminate death and destruction? What if the raids continued for the next several years, until 1619, when the northern warriors finally succeeded in killing a person you had heard of but knew very little about, the Massachuset sachem Nanapashimet, in his secluded, inaccessible fortress near present-day Medford, Massachusetts? What if, in addition to death and destruction, the war canoes were also delivering something invisible, something deadly, carried in the bodies of hundreds of bloodthirsty warriors? What if the warriors were, in fact, the unwitting vector for an unprecedented epidemic?

If this scenario comes close to describing what actually happened during the Tarrantines War, can you imagine a more effective distribution mechanism for a pandemic - sustained hand-to-hand slaughter, and all the other activities that go hand-in-hand with war, going on year after year after year? There is no way the innocent people in the little Patuxet town could have known what hit them. Like many of today’s historians, the Patuxet had never heard of the Tarrantines, but the Tarrantines War was about to change their lives and the lives of every Wampanoag, Massachuset, and Abenaki band and tribe within 50 miles of the coast, all the way from northern Maine to the tip of Cape Cod. It was about to change the history of America. In the case of the Patuxet, the war and the accompanying epidemic was about to terminate their very existence. The fearsome Tarrantines themselves, as the deliverers of this terrible fate to the tribes of New England, were far from exempt from its consequences. They too lost 60-70% of their tribal members between 1615 and 1619, after which they ceased to be nearly as much of a threat to their neighbors.

By the time the Mayflower passengers first set grateful eyes on Cape Cod on November 9th 1620, then, there had been an enormous demographic change throughout New England. John Smith’s detailed 1614 description and map spoke of a situation that simply no longer existed. Were the Mayflower passengers aware of the change? Did this information, if they were in possession of it, affect their decision as to where to plant their colony? It is entirely possible that Capt. Thomas Dermer had reported on the changed circumstances at Patuxet before his unfortunate 1619 demise at the hands of the Capawack (Martha’s Vineyard) Wampanoags. If the Pilgrims had that report, which is quite likely, it may well have influenced their decision as to where to settle, but that question is beyond the scope of this hypothesis.

My primary focus, obviously, has to do with the nature, the genesis and the distribution of the deadly epidemic that decimated the coastal tribes of New England between 1614 and 1618. To reiterate, I am seeking to answer the questions: what was the disease, where did it come from, and how was it spread so rapidly? What is the
historical truth, and what are the most common current misbeliefs around the subject? What is the current situation on the ground in present-day New England?

For many decades, the disease was commonly believed to have been smallpox, but as we now know, the historical evidence does not support such a conclusion. There are numerous historically-inaccurate and absurd theories that have entered the modern world-view, including the widely-held and unpleasant rumor that the Mayflower arrived carrying a load of smallpox-infested blankets as gifts for the Indians. Biological warfare, no less, back in 1620. The Hollywood actress Cher, for example, sent out this 2013 Thanksgiving message to her 2,000,000 Twitter followers: "I do not celebrate Thanksgiving because they (the Pilgrims) gave smallpox blankets to our people." Apparently, children are taught this and other inflammatory untruths in school, as "politically-correct" revisionist history has crept into our curricula. Difficult as it may be to believe, I have encountered this same story at the college level, being taught as "history" in Massachusetts universities in very recent times. Just a month ago, I was in California, interviewing a retired college professor on an entirely different subject, when he went into a rant about smallpox blankets. Roughly three out of every four people I have asked, believe the blanket story in one form or another.

Let's dispense with this nonsense and move on, shall we? Let's look at the facts. The pandemic raged between 1616 and 1618. The Mayflower arrived in late 1620. There is no historical evidence of smallpox on the Mayflower. The epidemic occurred several years prior to the arrival of the Mayflower, and the disease was not smallpox. The first recorded outbreak of smallpox in New England occurred in the Boston area in 1633. The first known discussion of the possible use of smallpox-infected blankets occurred in 1763, 143 years after the landing of the Mayflower, up north in present-day Maine, during the French and Indian Wars. So much for that absurd and inflammatory hypothesis! Other preposterous misbeliefs continue to spread. Pilgrim historian James Baker calls such misinformation "gratuitous nonsense." There are other, less kind terms that could be applied. The phrase "poisonous propaganda" comes to mind.

Historically-correct or otherwise, the current consensus among many native people (and many non-natives) in and around New England (and all across the country, apparently) is that the English brought smallpox to the Indians, intentionally or otherwise, and that is what caused the demise of such a high percentage of the native population. Having said that, in a recent meeting with a Wampanoag tribal member at Plimoth Plantation, I heard a different story. I was told: "The disease came down from the north." He went on to explain that the disease was not smallpox but leptospirosis, an illness spread by rat urine and particularly dangerous to dogs. On examination, this diagnosis seems somewhat improbable. So, what WAS the disease, and where did it come from? If it indeed "came down from the north" what was it, and how did it get to Plymouth? Perhaps a pattern is beginning to emerge here?
Detective work in general, and historical research in particular, has a lot to do with the detection of patterns. If, for example, one sees something "coming down from the north," and then lo and behold, discovers something else, also "coming down from the north" at precisely the same time and in precisely the same geographical location, one might begin to put two and two together. Elementary, my dear Watson?

As suggested earlier, the most likely candidate for the disease is pneumonic plague, the airborne, fast-moving and exceptionally infectious, lethal, bacterial illness that some scientists now believe killed 60% of London's population back in the mid-14th Century. Bubonic plague can become pneumonic when, as with the Londoners of 1348, the victims are malnourished and their immune systems compromised. In the midst of a protracted war that prevented the New England Indians from growing their staple crops, was the population malnourished? What about the raiders themselves, who depended on the labor of the southern tribes for a large part of their sustenance? There is no question about it, is there? It seems clear that all of the conditions were ripe for a pandemic of the kind I am describing. The numerous other candidates - smallpox, measles, leptospirosis, yellow fever, and so on - do not stand up to examination. One has to give some serious thought to influenza, a bird-distributed disease that in the malnourished aftermath of WWI killed an estimate 50 million people worldwide. For a long time, though, based on the few written accounts that have come down to us, I was convinced that the disease had to have been bubonic plague, but I was stymied by the established "fact" that bubonic plague requires rats and fleas as its vector, and the process would take far too long to fit the bill, despite first-hand reports that the native wigwams were indeed flea- and louse-infested. I just couldn't picture the rats in those war canoes. A few fleas perhaps, but not rats.

Compelling support for the plague vs smallpox theory comes from the testimony of one Phineas Pratt, who escaped in 1623 from an impending massacre at Wessagusset, not far from Plymouth. Pratt later wrote about his experiences and clearly distinguished the 1616-1618 outbreak from the later smallpox epidemics around Boston in the 1630s. He called the earlier epidemic "the plague" as distinct from "smallpox." The English at the time certainly knew the difference. The rat-borne bubonic plague theory remains and will continue to remain problematic, but the emerging 2014 research concerning pneumonic plague unexpectedly offers a viable explanation for the humanitarian disaster that hit New England in 1615. So let's, as a thought experiment, accept two things as true: first, that the disease was indeed pneumonic or airborne plague, and second, that it "came down from the north." By "the north" we refer to present day northern Maine and the Maritime Provinces of Canada, in particular Nova Scotia.

The remaining question, then, is this: if we have correctly identified the disease, what was the mechanism by which it was delivered and distributed? I propose that we already have the answer. It was delivered by sea, by canoe, in the context of a multi-
year inter-tribal conflict called the Tarrantines War. In that war, wave upon wave of war canoes "came down from the north." Do we have a match? It seems likely. If so, a couple of questions still remain: who or what were the Tarrantines, and exactly where did the plague originate?

Let's address the second question first. I propose that the disease originated, as bubonic plague, with French fur traders in the area of present-day Quebec, around the mouth of the St. Lawrence River. Is there evidence for an outbreak of plague, possibly airborne plague, at that time in that area? Yes. I have not found statistics for the French, who were probably not terribly malnourished, but an estimated 60 - 80% of the native population perished during a series of epidemics (the historical record calls it simply "the plague") between 1615 and 1618. The plague that decimated the northern natives so swiftly, whatever it was, seems to have been identical with the pestilence that destroyed a correspondingly large percentage of the population to the south.

To complete the hypothesis then, the final questions are; who were the Tarrantines, where did they live, and what possessed them to attack the coastal tribes to the south of them? The word "Tarrantine" or "Tarratine" does not sound Native American, does it? "Tarrantine" was another name, possibly of European origin, for the Mi'qMak, the seafaring raider people of Nova Scotia. Because corn does not grow so far to the north, the Mi'qMak had, possibly for centuries before the advent of the Europeans, adopted a survival strategy involving annual raiding parties in high-speed birch-bark canoes which swept down the coasts of present-day Maine and Massachusetts each fall, returning with a bounty of corn, squash, beans, furs and fair young maidens. Once the French arrived in the latter part of the 16th Century, and the fur trade began, things began to change. The Mi'qMak were the first to ally themselves with the Europeans, who proceeded to trade them modern European arms and to teach them how to use the new weapons. Needless to say, this gave the Mi'qMak an enormous advantage over the neighboring tribes.

Unfortunately, the Mi'qMak were not the only people interested in trading with the French. There were the Mohawks inland, who had already established a trading monopoly, apparently by exterminating the competition far up the St. Lawrence in the region of Lake Champlain. Much closer at hand, though, the Mi'qMak's traditional enemies, the Penobscot, immediately to the south of the St. Lawrence, were in direct day-to-day competition for the French fur trade. Ongoing, small-scale clashes between the Mi'qMak and the Penobscot ensued in 1607, culminating in the killing of the Bashaba, the grand sagamore of the Penobscot, and his entire family, in 1614. This event signaled a major escalation of the Tarrantines War. Of critical importance to our story, the Penobscot had a powerful ally to the south, the Massachusetts Federation, which encompassed all of the tribes in and around Massachusetts Bay, including Massasoit's domain. Fatefully, the grand sagamore of the Massachuset, Nanapashimet, sent a large war party in support of the Penobscot.
Their campaign was quite successful. They killed a large number of Mi'qMak warriors, captured a number of women and children, and returned to Massachusetts with their captives.

This bold and supportive act on the part of the Massachuset tribes, however, was the beginning of the end for Nanapashimet and his Federation. It was rather like walking up to a hornet's nest hanging from a branch in the forest, punching a hole in it, and then turning around and walking off as if nothing had happened. Revenge was not long in coming. The following summer an armada of war canoes swept down the coast, indiscriminately slaughtering anyone and everyone the warriors encountered. Nanapashimet and many of the other tribal sachems fled inland, leaving their people confused and leaderless, easy prey for the raiders. Unbeknownst to anyone concerned, and this of course is the central point of my thesis, the war not only killed thousands of innocent people, and completely destroyed the Massachusetts Federation, but I believe it also delivered and spread one of the most devastating disease epidemics in human history. The disease stopped where the warriors stopped. It never reached the Narragansett, for instance, just a few miles to the south of Plymouth. It never reached the Nauset, at the very tip of Cape Cod. It did not travel very far inland, other than isolated outbreaks triggered by terrified people fleeing the invaders and taking the disease with them.

Today, hardly anyone seems to have heard of Nanapashimet, or of his powerful Federation, or of the Tarrantines War, for that matter. How can that be? These seem to be very significant historical events, given their profound effect on the future of North America, but somehow they have been forgotten or suppressed. The Massachuset Federation was utterly destroyed. It was erased from history. Some northern Maine historians acknowledge that the Mi'qMak (a.k.a the Tarrantines) did indeed wage war on their southern neighbors, but propose that the warriors "ran headlong into the epidemic" down south, turned around and brought it back north with them, triggering the demise of 60-80% of the Mi'qMak. That is the opposite of what really happened, as I have proposed.

Knowing nothing about infectious disease, and having never encountered anything like the ferocious, all-devouring plague in their midst, how could the Patuxet or any of the dozens of other coastal groups have known what caused the epidemic, where it came from, or how it traveled? If my theory is correct, the answer is that inter-tribal competition over fur-trading rights with the French triggered a paradigm-shattering event that changed the future of New England. Had things been different, had there been no Tarrantines War, had there been no epidemic, Squanto would have returned from his European sojourn to his friends and family in 1619, and the Mayflower would have arrived the following year, coming ashore in a fully-occupied, fiercely-defended region where their chances of survival would have been slim to nonexistent. Numerous earlier settlement attempts had failed, and New Plimoth would have been no different.
As it turned out, however, when the Pilgrims debarked on December 16, 1620, Patuxet was deserted. Squanto, who would appear on the scene some four months later, was living in a state of captivity (and virtual slavery) at Massasoit's Pokanoket headquarters at present-day Mount Hope, Rhode Island, some 46 miles from Plymouth. Of the 102 Mayflower passengers who came ashore, fourteen adult Englishmen, four adult women, and thirty-four children survived the first bitter winter. On the spring equinox of 1621, Squanto, who liked the English and had learned their language, was on hand to broker a mutual-protection treaty between Massasoit and the English, an agreement that the Pilgrims and the Pokanokets would honor for more than half a century. Providence does indeed move in mysterious ways. The Pilgrims, as well as the Puritans who began arriving a decade later, can be forgiven for seeing the hand of God in these events.

Finally, we must ask ourselves a very challenging but unavoidable question. It seems certain that the Tarratines War has somehow been omitted from both the oral history of the Indians, as well as from the written history of this very-well-researched part of the world. If what I was told by the Cohasset historian last summer is in fact true, and the present-day Indians for some reason will not talk about the conflict, the obvious question is: why not? Do they actively refuse to address the subject, or do they simply not know about it? Could it be that to acknowledge the very existence of that purely indigenous conflict would be to change their entire history, as handed down in the oral tradition? In the North East there continues to be enormous anger and blame and unhappiness among the Indians in the aftermath of King Philip's War, the 1675 bloodbath that brought a sad end to the half-century of peace and friendship between the English settlers and the Indians of New England. The Indians started the war. They had their reasons. They almost prevailed, but in the long run they were defeated, not because the English had superior weapons, but because the Indians lacked unity. The Indians were significantly better-armed than the settlers, who were farmers, not warriors. King Philip (Massasoit's son Metacom) in fact lost his war because many of the Indians chose to side with the English. The war ended when Philip was shot and killed (by an Indian, although in Maine the conflict initiated by Philip continued for another 80 years. In New England today, among the descendants of the tribes encountered by the Pilgrims and the Puritans, there is still a very active antipathy towards white people, especially the English. Given the subsequent suffering of the Native Americans from coast to coast, this is more than understandable. On the other hand, if the old adage is true, that the truth will set us free, then it is essential for future generations that the historical facts be acknowledged, tough as it might be to face one's ancestors' shadows. Propagating untruths is not the way to move forward.

If the foregoing hypothesis is correct, and an epidemic of pneumonic plague, originating with the French fur traders, did indeed come down from the Maritime Provinces, and was delivered to all of New England by a sustained inter-tribal conflict
called the Tarratines War, it is no longer possible to blame the English in general, or
the Mayflower Pilgrims in particular, for the fate that befell the coastal tribes between
1616 and 1618. An entire world-view has been built on the historically-incorrect idea
that the English were responsible, intentionally or not. If instead, the natives
themselves were responsible in large part, for their own demise, then this information
is going to be highly controversial. It is going to be challenging to face. There will be
resistance. It is understandable that the Tarratines War might be a forbidden subject,
but the truth will set us free, if anything is going to set us free. There is no alternative,
if we are to heal the rift between red and white, if we are going to eliminate the
untruths being taught to our children and assuage the ongoing guilt and anger.

It is incontrovertible that syphilis is a New World disease. It came back to Europe
with Columbus in 1492. I don't think anyone is angry at the Native Americans for
that fact. It was simply a horrible but unexpected consequence of human migration
patterns. It is equally incontrovertible that the Mayflower Pilgrims had nothing to do
with the New England pandemic of 1616-1618. And yet, irrationally, countless
Americans, both Native and Anglo, are angry at the Pilgrims for something they were
entirely innocent of. The Pilgrim/Indian story and even the Puritan/Indian story
were in fact a great deal more positive than they appear from the recent "politically
correct" portrayals, which appear in many cases to have been distorted for political
reasons.

In the fateful summer of 1614, the Cohassetts succeeded in chasing Captain John
Smith away with their bows and arrows. By 1675, however, it was too late to get rid
of the English migrants, even with the finest European weaponry money could buy.
For better or worse, the English were here to stay. The Puritans, it should be said,
were nowhere near as unpleasant as they have been portrayed to be, and the first
generation of Pilgrims, William Bradford, Edward Winslow et al, were pretty much
impeccable in their treatment of their Indian friends and allies. The Pilgrim migration
was not a military invasion. What both the Pilgrims and the Puritans recognized,
however, was that their successful settlement of New England would have been
infinitely more difficult (and bloody,) if not impossible, had it not been for the 1616-
1618 pandemic which preceded their arrival. Like most of today's historians, the
English settlers had no idea that the epidemic was triggered and spread by a purely
indigenous inter-tribal war, although the _yersinia pestis_ bacteria causing the plague
originated among the rats and fleas aboard a French ship. All the English knew was
that the Massachusetts Bay area had been cleared of much of its previous population.
Given the terrifying precedents set in other settlement attempts, Jamestown being
just one of many examples, they were understandably grateful for that fact, and they
gave thanks accordingly.

WORKING DRAFT: February 25, 2015 (approximately 7,800 words)

Copyright 2014 Andrew Cameron Bailey
Abstract
Evidence-based research now allows clear separation of syphilis from other diseases in its class of treponematoses. Examination of skeletons from populations with clinically diagnosed bejel and yaws revealed bone alterations distinctive to those diseases, clearly separating them from alterations due to syphilis, transcending the limitations of current DNA and immunologic technologies. These insights allowed confident identification of the New World origin of syphilis. Absence of skeletal evidence of any treponemal disease in continental Europe before the time of Columbus excludes it as site of origin of syphilis. Treponemal disease appears to have originated in East Africa with late transmission to England, perhaps as a complication of the slave trade. The original treponemal disease apparently spread from Africa through Asia, entering North America. Approximately 8 millennia later, it mutated to syphilis. Presence of skeletal evidence of syphilis at the site in the Dominican Republic where Columbus landed suggests the route by which it was transmitted to the Old World.

The osseotype characteristics of syphilis are absent in specimens from pre-Columbian Europe, Africa, and Asia [61, 91–93]. With regard to North and South America, these characteristics have been identified in North America as far back as 8,000 years ago in sites as disparate as Windover, Florida; Frontenac Island, New York; Libben, Ohio; and Amaknak, Alaska [19, 92]. Somewhere between 2000 and 1800 years ago, the first identified osseotype of syphilis occurred [49]. The Mogollan Ridge proved to be the dividing line with respect to both the first appearance of syphilis and the climatic change that may have been responsible for the event [93, 94]. Its osseous signature is recognized to have occurred 1500 years ago in New Mexico, 1000 years ago in Wisconsin, 800 years ago in Ecuador, 700 years ago in Florida, and 600 years ago in Michigan and West Virginia [49].

It is clear that syphilis was present in the New World at the time of Columbus' arrival [19, 49]. Especially pertinent is documentation of syphilis in the area where he actually landed, the Dominican Republic [95]. The periosteal reaction characteristic of syphilis has been recognized in 6%–14% of skeletons from the El Soco (800 A.D.), Juan Dolio (1400 A.D.), La Caleta (1200–1300 A.D.), Atajadizo (1200–1300 A.D.), and Cueva Cabrera (1200–1300 A.D.) sites. The average number of bone groups affected ranged from 1.7 to 2.6. Sabre shin remodeling was often so marked as to erase all surface indications of periosteal reaction. The osseous evidence documents the presence of syphilis in the Dominican Republic where Columbus landed.
Columbus' crew clearly had the opportunity and the means to contract and spread the venereal disease we now call syphilis.

** Black death skeletons reveal pitiful life of 14th-century Londoners

** DNA from emaciated London Black Death skeletons matches modern plague bacteria and supports airborne theory of spread.**

The 25 skeletons unearthed in the Clerkenwell area of London a year ago may hold the key to the truth about the nature of the Black Death that ravaged Britain and Europe in the mid-14th century.

A Channel 4 documentary on Sunday will claim that analysis of the bodies and of wills registered in London at the time has cast doubt on "facts" that every schoolchild has learned for decades: that the epidemic was caused by a highly contagious strain spread by the fleas on rats.

Evidence taken from the human remains found in Charterhouse Square, to the north of the City of London, during excavations carried out as part of the construction of the Crossrail train line, may support a theory held by some scientists that only an airborne infection could have spread so fast and killed so quickly.

The Black Death arrived in Britain from central Asia in the autumn of 1348 and by late spring the following year it had killed six out of every 10 people in London. Such a rate of destruction would kill five million now. By extracting the DNA of the disease bacterium, Yersinia pestis, from the largest teeth in some of the skulls retrieved from the square, the scientists were able to compare the strain of bubonic plague preserved there with that which was recently responsible for killing 60 people in Madagascar. To their surprise, the 14th-century strain, the cause of the most lethal catastrophe in recorded history, was no more virulent than today's disease. The DNA codes were an almost perfect match.

According to scientists working at Public Health England in Porton Down, for any plague to spread at such a pace it must have got into the lungs of victims who were malnourished and then been spread by coughs and sneezes. It was therefore a pneumonic plague rather than a bubonic plague. Infection was spread human to human, rather than by rat fleas that bit a sick person and then bit another victim. "As an explanation [rat fleas] for the Black Death in its own right, it simply isn't good enough. It cannot spread fast enough from one household to the next to cause the huge number of cases that we saw during the Black Death epidemics," said Dr Tim Brooks, a scientist from Porton Down, who was not part of the Crossrail team, will put forward his theory in a Channel 4 documentary, "Secret History: The Return of the Black Death," on Sunday.
To support his argument, Brooks, who has yet to examine the Crossrail evidence, has looked at what happened in Suffolk in 1906 when plague killed a family and then spread to a neighbour who had come to help. The culprit there was pneumonic plague, which had settled in the lungs of the victims and was spread through infected breath. The skeletons at Charterhouse Square reveal that the population of London was also in generally poor health when the disease struck. Crossrail's archaeology contractor, Don Walker, and Jelena Bekvalacs of the Museum of London found evidence of rickets, anaemia, bad teeth and childhood malnutrition.

In support of the case that this was a fast-acting, direct contagion, archaeologist Dr Barney Sloane found that in the medieval City of London all wills had to be registered at the Court of Hustings. These led him to believe that 60% of Londoners were wiped out.

Antibiotics can today prevent the disease from becoming pneumonic. In the spring of 1349, the death rate did not ease until Pentecost on 31 May.

- This article was amended on 3 April 2014 to make it clear that the pneumonic theory of the Black Death’s spread is Dr Tim Brooks’s own, as shown in the Channel 4 documentary. He is not associated with the Crossrail research.

Additional Reading:
Joseph Byrne, Pestilence, Pandemics, and Plagues, Volumes 1 and 2

30 MAR 2014: NEW FINDINGS REWRITE THE STORY OF THE BLACK DEATH IN BRITAIN

- Skeletons discovered by Crossrail had deadly bacterium Yersinia pestis, which causes the Bubonic Plague.
• Poor health and malnutrition may have contributed to the disease spreading quickly.
• Portland Down scientist Tim Brooks* claims the speed at which the black death spread suggests that the outbreak was in fact Pneumonic Plague – a more virulent and crucially more infectious form of the disease. But the research into the Crossrail skeletons has not been able to inform the debate.
• Records indicate that 60% of London’s population died. The equivalent of nearly 5 million people today.
• Ground-penetrating radar in Charterhouse Square reveals extent of an emergency cemetery and that people were carefully buried according to Christian ritual.

The Black Death is the biggest pandemic in history with millions of our ancestors dying in agony, often in a matter of hours, from a disease no one had ever seen before. More than 650 years on, there’s still a mystery at the heart of this catastrophe.

In 2013, a team from Europe’s biggest engineering project, Crossrail, led by archaeologist Jay Carver, dug a shaft on the edge of Charterhouse Square in central London and uncovered a large number of skeletons, neatly buried in layers. They were victims of the Black Death - the worst disaster ever to hit Britain. This was a corner of a long-lost Emergency Burial Ground, created by Edward III’s men in 1348, as the Black Death reached British shores.

How and why the Black Death was such a killer is still unproven. These skeletons could add to the research. For the first time fresh samples of human DNA have been subjected to a brand new scientific test that can not only spot Bubonic plague, but also every other pathogen present.

These new findings, revealed for the first time in a Channel 4 documentary to be screened on Sunday 6 April (Return of the Black Death: Secret History, 8pm), completely rewrite the story of the Black Plague in Britain.

Crossrail commissioned extensive research into the skeletons. When the scientists analysed the skeletons’ teeth the mystery deepened. DNA analysis shows that the victims did have the deadly bacterium Yersinia pestis, which causes the Bubonic and Pneumonic Plague.

So why did Yersinia pestis kill in such numbers in 1349, when the same bacterium doesn’t seem to detonate pandemics today?

Received wisdom suggests that the culprit was Bubonic Plague, spread by the fleas of infected rats. However, Dr Tim Brooks, from Public Health England, Porton Down, is unconvinced: “As an explanation for the Black Death in its own right, it simply isn’t good enough. It cannot spread fast enough from one household to the next to cause the huge number of cases that we saw during the Black Death epidemics.”

Dr Brooks has uncovered a story that he thinks is key to the mystery. In 1906 in
Suffolk, plague killed a whole family, then spread with a neighbour who had come to help to her family; and then to her relatives, who came 50 miles for her funeral. But the culprit wasn’t Bubonic Plague: they had caught an even more virulent version of the disease, Pneumonic Plague. This settles in the lungs of the victim, and spreads swiftly from person to person through their infected breath.

The strain of *Yersinia pestis* in London in 1349 has previously been compared to the modern bacterium and found it is almost identical to the one that’s present on four continents today. This wasn’t some super-strain of the bug. Plague today is the same as plague in the 14th century.

The Charterhouse skeletons provide clues as to why *Yersinia pestis* caused such high mortality in the 14th century. Crossrail archaeology contractor Don Walker from MOLA (Museum of London Archaeology) and Jelena Bekvalacs (Museum of London) discovered that these people were already in poor health when the Plague struck. They had rickets, anaemia, bad teeth; and they were also the children of famine. Climate change in the early 14th century meant they had suffered from repeated malnutrition in childhood. A perfect storm of circumstances came together and the people were ripe for the slaughter when the plague reached our shores.

There’s a second mystery about the Black Death. No one knows exactly how many people died. Archaeologist Dr Barney Sloane has been searching out the clues for 20 years: “It was the most lethal catastrophe in recorded human history. There are huge gaps in our knowledge. Historians have guessed, some of them at maybe 10 or 15%, medieval chroniclers were suggesting nine out of every ten people died.” Then he discovered the perfect source of information for London, hidden for hundreds of years. Every will made in the City of London in medieval times had to be registered at the Court of Hustings. These documents are a complete record of the wills of wealthy Londoners during the Black Death. They are touching and personal – as fishmongers and wax candle sellers, grocers and shipwrights hand on their property, their silver spoons and embroidered coverlets to their wives and children, as the plague fell like a dark shroud over the capital.

With painstaking detective work, Dr Sloane has worked out from the wills how death struck the city creating a precise timeline for the pandemic - the rise and fall of nine months of unprecedented terror. For the very first time, he’s also worked out exactly how many people died during the Black Death in London: an astonishing 60% of the population. In today’s terms, that would be very nearly 5 million Londoners dying in the course of just nine months.

What’s astonishing is that the city didn’t fall apart under the strain. As Sloane says: “How do you lose 60 per cent of a city and still have that city function?” You’d think the city would have collapsed under the strain of sometimes 200 bodies a day being buried in the Charterhouse emergency burial ground. Brand new ground penetrating radar reveals these skeletons were part of a giant emergency plague burial ground lost
for centuries stretching right under today’s Charterhouse buildings. The radar results
show they were carefully buried according to Christian ritual and that great care was
taken of the dead despite six out of every ten people dying in nine months of the
horror. Contrary to received wisdom, dead bodies aren’t a danger to health: “The
urgency around burying bodies is not so much one of disease control and medicine,
it’s more around the psychological aspects that cause immense human distress when
they see a large number of bodies left neglected.” London’s 14th century emergency
managers worked on exactly that same principle.

As Tim Brooks, Public Health England, says, plague is far from an historical
curiosity: “Plague has everything it requires to cause the Black Death. All it needs is
the opportunity. It’s still there. It’s still the one that we used to have, it still has all the
power and the threat that it used to have, and it’s only a different set of circumstances
that’s keeping it in its place. Plague has what it takes. Plague can do it again.”

Notes to Editors

• *Tim Brooks was not involved in the research into the Crossrail skeletons and has
  not seen the research associated with the Crossrail skeletons
• RETURN OF THE BLACK DEATH: SECRET HISTORY is a True North
  production for Channel 4. Transmission: 8pm on 6 April on Channel 4
• Channel 4’s Secret History strand showcases the best in historical journalism.
• To view the programme and for clips please contact: Yad Luthra
• For stills please go to: www.channel4.com/info/press - click on images & then
  week 15

For more information regarding the research into the Charterhouse skeletons please
visit www.crossrail.co.uk

Black Plague: Rats, Fleas, and Pandemics

http://www.decodedscience.com/digging-black-death-caused-black-plague-danger/44166

The plague is famous for killing millions of people in Europe during the 1300s.
Although we’ve always thought it was infected rats and their fleas, some scientists
now think that a more dangerous form of the plague spread via airborne particles
between the infected people. Dr. Gage at the CDC, however, believes that the rat
fleas – and possibly human fleas – contributed.

Human plague infections continue across the western United States, but more so in
parts of Africa and Asia. Antibiotic treatment to avoid the development of
pneumonic plague is critical, but due to current advancements, we’re in little danger
of a global plague pandemic.