

## **When the Gulf Stream was commandeered**

A new ice age over Sweden

Erik 'Mac' Nyblom

1910

On March 4, 1911, the Swedish Foreign Office received from Minister Lagerkrantz in Washington a coded telegram which at first generated a measure of surprise and amusement in the palace at the Gustav Adolf Square in the center of Stockholm, but it soon led to other thoughts. It read as follows:

“I just learned from the British Embassy that the government of the United States in the coming days plans to propose to Congress a detailed plan and recommendation to guide the Gulf Stream closer to the east coast states by means of a major dam construction in the Florida Strait. The senate and house are thought to be receptive to the idea, as well as the press. Preparatory work would begin as soon as a decision is made. The Canadian government is thought to be supportive of the idea.

This is of great concern to the countries of northwestern Europe. The British and German embassies express unease at the situation.”

As mentioned, officials in the Foreign Office were at first inclined to take this dispatch from the minister in Washington rather lightly. But the Foreign Minister thought it best to learn more about the basis for the telegram and therefore sought up the American Ambassador Mr. Graves. He visited the legation on Strandvägen in an easy mood, but 20 minutes later his face was far more somber when he hurried to the Royal Palace.

What the emissary of the United States could share was not amusing. While Mr. Graves acknowledged that he didn't know the details in the dispatch the government had received, and while he hoped that these plans would not impact Swedish interests in any serious way, he had to admit that the US government through certain steps wanted to improve climate conditions, and thereby productivity to the benefit of everyone.

In the Foreign Office people had almost forgotten the dispatch from Lagerkrantz when the British emissary sought permission to meet immediately with the Foreign Minister. When he learned that the minister was out on the town, he said he preferred to wait for the minister's return. The Englishman's sober mien and posture was so evident that it spread to the Swedes. One couldn't avoid connecting his behavior to the message they had just received and began to wonder what it all might mean for Sweden. They started looking at atlases and reference books, they looked at the Gulf Stream in the charts about which they had heard

played a certain role for Scandinavian climate, but for which they otherwise gave little thought or consideration.

Now, suddenly, those red lines over the blue stretches of the Atlantic took on a new and serious meaning. One could see the mighty warm water current come streaking north from the coast of Brazil, south of the Haiti's and Cuba's palm-lined coasts, swing through the huge Gulf of Mexico where it warmed to 30°C at the surface. One could see the newly formed current racing past the US Naval Station at Key West and the shimmering Havana at 6 km/hour before speeding through the Florida Strait. The rivers of the world amounted to nothing compared to this indigo-colored warm current more than 1000 times greater than the Mississippi and Amazon rivers together; this 50 km wide current, which every second supplied 40 million cubic meters of warm water to the cold regions of the Atlantic, which in less than an hour could fill Lake Vänern, Sweden's largest lake. One could see the current, gaining in width, streak along the sandy coasts of Florida where luxury hotels sprout in lush tropical vegetation, follow it up the Georgia and Carolina coasts to Cape Hatteras where it turns east and away from the American coast. One could see how the palm tree, the symbol of the southern states, disappeared at the same latitude as the current and understood that it was the warm Gulf Stream that enabled the noble tree to prevail so far north. One followed the warm river's passage across the Atlantic, could see how it washed the British Isles, and as it slowed and mixed with cooler waters streak north along the long Scandinavian peninsula with rain and heat in its wake. A branch lapped around the fog-shrouded coasts of Iceland toward the cold waters of the Iceland Sea and the Scandinavian branch could be felt all the way to Spitsbergen during the summer months, while the Greenland coast at the same latitude was a terrible and deserted ice desert to which only the most daring expeditions would venture.

That the climate of the Scandinavian peninsula, in the firsthand Norway's but also Sweden's, would without question respond to any change in the path of the Gulf Stream was now what the staff at the ministry noted with unease.

A few hours later this unease would spread across Stockholm, all of Sweden and yes, across all of Scandinavia. This, because while the diplomats in Stockholm conferred, while new dispatches flew between Washington and Stockholm, between Berlin and London and the governments of the three Scandinavian countries, a private telegram from New York arrived at the Stockholm Daily News:

“The New York Journal will tomorrow report the details of a plan that the government of President Taft will present to Congress for immediate consideration. The idea is to build a dam in the Florida Strait. between the two coral reefs Elbow Cay and Muertos Cay. By means of this 40 km long dam and at an average depth of less than 200 m, the Gulf Stream will be strongly deflected to the northwest, and considering the bathymetry farther north will follow the full length of North

American coast instead of now head off and take the route over to the northwestern European waters. Through this arrangement one hopes to give the states in the northeast a temperature corresponding to Rome's and Northern Italy's and the Labrador and the Hudson Bay area conditions like that of central France and thereby transform wastelands into productive fields. It is estimated that an area corresponding to that of European Russia could be opened for agriculture.

The proposal, which has an estimated cost of about 2 billion dollars and could be completed in 6 years, has been embraced by many, and this is the case in Canada as well. Canada's Prime Minister, Sir Wilfrid Laurier, declared in a talk today to the Iroquois Club that Canada, while acknowledging its links to its mother country England, cannot help but with sympathy consider the US government's project, which would open for Canada unfathomable possibilities for productive development. The Prime Minister acknowledged that although the British Isles would suffer from this change, they could anticipate compensation from the enormous developmental opportunities in the British Empire's partner Canada. As for the Scandinavian countries, their interests should not play any decisive role in a matter of this great import."

This private telegram, which through an extra print was spread around Stockholm at 7 PM, was an enormous sensation. What the consequences of the American project might hide was perhaps sensed by only a few, but everyone realized that it must mean something to life as it was understood, and the last sentence of the telegram made clear it was a serious threat to our interests. But it was more bitterness rather than fear that the Florida project engendered. One realized that the American ruthlessness wouldn't just strike the Scandinavian countries, but also England, and one could not doubt that England would do everything in their power to preserve their sovereignty. How Germany would react was not yet clear since it wasn't clear what the consequences of the Gulf Stream project might be, but a sharp protest to the proposal was anticipated from the German Chancellery.

The mood in London, Copenhagen and Kristiania was no less upset. In Trafalgar Square an enormous crowd of people assembled from all walks of life, and at the foot of the Nelson column senior politicians gave sharp speeches to which the crowds shouted "down with the Yankees!". The suggestion that the proposal should be met with a major naval demonstration seemed to get the greatest support.

Dispatches flew hither and dither between the various governments. A joint action from the threatened countries was put forth and already the next morning before the proposal had been presented to Congress, the attachés of England, Sweden, Denmark and Norway would present to the US State Department identical serious reservations to the project, which they viewed as unfriendly. Germany

withdrew cooperation with the other European countries, but would express its concerns on theoretical grounds.

But when the four attachés met with the Secretary of State, he noted that the proposal had already been presented to Congress. When they met with President Taft, he declared that he couldn't allow European interests to interfere with activities within US territorial waters. He noted that all US states were supportive, and with a concealed threat to England the president noted that he didn't doubt that a similar view was shared by the people of Canada.

Thus, in a day, the situation had taken a very serious turn.

The next step of northwestern Europe was to refer the question to an international conference or to the Court of Arbitration in the Hague. The US responded that while it in principle was supportive of arbitration and maintaining peace, it couldn't allow European powers to have a voice in a strictly American matter.

At 8 PM on March 5 the square of Gustaf Adolf was packed with people. Although it was a biting cold wind, no one thought to go inside. Life bubbled outside the window of the Daily News where one telegram after another was posted. It was known that Sweden along with other European powers had delivered an ultimatum and that whether the century-long peace would depend upon the response. It was also known that orders had been issued to put the Navy on full alert.

The tension was enormous for it was now clear to everyone that nothing less than the country's existence was at stake.

The political clouds grew darker. The reports from Canada were revolutionary. Its government declared solidarity with the US. England would have to turn not only against the US, but also against its rebellious empire. Smitten by Canada's behavior Australia declared it would take charge of its foreign affairs. They had long been uneasy with the UK-Japan alliance, which made it impossible to keep people from Japan from their territory. So, England would have another front to fight.

At 11:15 that evening a message arrived that the US had turned down the ultimatum.

There wasn't a single person on the square who didn't understand what this meant. A deep solemn hush settled across the crowd. All you could hear was the ominous whine of the northerly wind as it pushed along the heavy winter clouds.

It was at that moment someone by the statue started singing the national anthem. Solemnly, like a psalm, the song spread out across the square. Suddenly, caught by the same thought, the people turned toward the Royal Palace. Up on the 3<sup>rd</sup> floor the lights were on in the cabinet room. Like an unstoppable current the masses surged across Norrbro toward this light.

At that same moment war was declared.

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It ought to be unnecessary to dwell on this most painful chapter of our country's history, which every child knows about. It now became clear what America meant by the huge naval expansion started under Roosevelt and continued now with even greater force by Taft. The loss of the colonies paralyzed England by tying up large parts of its fleet far from the main battle fields. Sweden, for its part, focused on securing its own coasts and delegated the coastal defense ships *Äran*, *Manligheten* and *Oscar II*, as well as the cruiser *Fylgia*. What did it matter that our fleet on the Newfoundland Grand Banks could sink the battleship *Kentucky* and heroically provide cover for Admiral Fisher's retreat on the damaged *Dreadnought*? Or that *Fylgia*, before she ran aground in the Bahamas and blown up by her own crew, harassed the Florida Strait and destroyed the staging areas on Cay Muertes for the dam construction. The final defeat of the English fleet at Bermuda also impacted our country like a lightning bolt. There was nothing more the northwestern European states could do. The September 19 peace treaty in Brussels sealed the fate of the north. England and the Scandinavian countries agreed to not in any way interfere with the intended dam constructions in the Florida Strait. That England could keep Australia in the British commonwealth meant little to us.

Doom had broken out across old Sweden. Only those who were there could know the despair that prevailed everywhere.

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In the meantime, America was at work. The gigantic Cayo Sal bank north of Cuba was covered with huge barges, floating islands with factories, worker quarters, and even cafés and theaters. Twenty thousand people lived on these anchored vessels where engineers designed and drew, where workers toiled, where concrete was cast, and enormous cranes lowered the fabricated blocks to the bottom of the sea. They found it too challenging, time consuming and even dangerous to constantly lower divers to work at depth; instead, they built immensely strong steel apartments on the ocean bottom to which the workers could retreat and get out of their diving suits while the next shift was at work. Nonetheless, it was thought best that the workers spend at least 10 hours at sea level. But despite this precaution diver mortality was large. But the government paid generously for these workers – there never was any problem filling new job openings.

The new dam grew rapidly. By the end of the third year, they had already built it up halfway along its 40 km length. The impact on the Gulf Stream was already evident. The sluggish and heavy bottom current was being forced toward the surface and mixing with the warm water resulting in a temporary cooling of the surface waters. Along the coasts of the southern states it became at first cooler than it had been before. But the Americans weren't worried for they knew that as soon as the dam reached the surface the mixing would cease and the temperature in the current would be as before. The only difference would be a greater speed toward the northern coasts of America.

Scandinavia was already feeling the effects of the enterprise. The impact was first felt in Iceland. Until then they had mild winters like in southern Sweden and the sheep, the main source of wealth of the island, could graze outdoors all year round. But now snow was lying one meter thick all over and wouldn't melt, the animals died everywhere, ruin and famine threatened all. And with the few harbors freezing, no rescue was possible. The northern side was already becoming an uninhabitable desert from which the inhabitants fled through the sheep trails to Reykjavik. But the capital couldn't do anything. All that remained was mass emigration once the waters opened, and the Canadian government was quite willing to gratis ferry Icelandic workers to its territories giving them inexpensive labor for its railway and forestry industries.

Snorre's old mythical island, which had recently enjoyed its regained political freedom went inexorably toward its demise. But already before that the Faroe and Shetland islands had gone quiet.

On August 19, 1917, to the sound of thundering salutes from the American ships on patrol, the last block was lowered onto the dam construction in the Florida Strait. The full strength of the Gulf Stream rushed and warmed, giving life along the American coast, where at Newfoundland it met the cold the Greenland Current pushing it off toward Europe. The warm waters continued up toward Labrador and into Hudson Bay where it gave the Canadian tundra a summer these poor grounds hadn't seen in a hundred thousand years. Courageous pioneers, smart businessmen had already drawn up plans for the capital of the new country and already the first skyscrapers could be seen along the pompous avenues in Taftsville, the city of the future for millions.

But along the coasts of Scandinavia it was reported that fields of drift ice driven by the cold Arctic ocean waters were pushing ever farther south.

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Like the bad omen of a crow flying in from the north came a telegram on the 24<sup>th</sup> of August from Riksgränsen, the border in the north:

“A violent storm from the north has deposited 2 meters of snow. The iron ore train to Narvik has been cancelled. A locomotive with an American snowplow is stuck 5 km from here. At 8 AM this morning the thermometer read  $-14^{\circ}\text{C}$ . A violent snowstorm rages in Narvik. The bulk ore carrier Tiefland on its way to Rotterdam collided with an iceberg and sank. The crew was saved in great distress.”

Perhaps this message might have passed fairly unnoticed had it not been for a most disturbing message from the local administration in Luleå to the government. In Torne and Kalix river valleys all grain has frozen and ahead loomed a year of unimaginable desperation. In Kiruna and Malmberget it was so cold that all iron ore excavation had to cease as they were not prepared to meet the cold this early. All over Lapland came reports of extreme cold, frozen grain and iced-over lakes. The Laps who were in the mountains for the summer, died in the cold and their reindeer herds dispersed, working their way into towns where they caused much damage. From all over the north came pleading prayers for assistance from the south.

But the government couldn't help. Reports of frost, hail, and destroyed harvests came from all directions. On August 28 and 29 it snowed in Värmland. Following the snow came days with clear skies and piercing cold. And on August 30 in Stockholm in the middle of the day it was  $-3^{\circ}\text{C}$ . The water at Molin's fountain stood still, clear and frozen, and in all the parks the treetops were singed black.

Panic broke out, unstoppable and terrifying. The failed harvests of recent years led to enormous despair. One knew that this was only the beginning of what lay ahead, all one could see was the collapse of the country, national and economic ruin. The government's decision to call for an emergency parliament to address the situation was unable, even for a moment, to calm the mood. All wealth fell helplessly – an unstoppable crash against which nothing helped.

For a moment it eased up. The first days of September came with southerly warm winds. The sanguine began to hope that maybe after all it wouldn't be so bad.

But on September 8 the traffic department reported that all rail traffic north of Boden could expect to be severed at any moment. Outside Luleå it was beginning to ice, and one could hope to keep the northerly harbors open only another day or two. Hoards of poor people from the countryside with fear for famine had abandoned their farms, transporting with whatever property they could along the roads looking for help. The trains to Trondhjem and Göteborg didn't have room for all who were fleeing, fleeing from the approaching ice age to those coasts to which the Gulf Stream brought life and heat.

Then it was winter over the country. It was terrifying. Brave ones still struggled and especially those in the north who had most to hang on to.

But in the distant settlements people died due to the hardship and the rest pushed in hungry crowds farther south where people were preoccupied trying to save themselves. Up in the big mines it became increasingly quiet as people left. Sometimes horrifying snowstorms came followed by five days of harrowing quiet and deep cold. It wasn't conceivable to work in the forests under those conditions. The sharp teeth of the sawmills wouldn't have any wood to bite into until the next season. The most important export of the country would cease.

Ocean shipping to Stockholm was over. To no avail *Isbrytaren* (an ice breaker) tried to open up a lead but had to give up outside Fjäderholmarna. Only a *Jermak* (a Russian ice breaker) could break through the Arctic ice of the archipelago. Only with difficulty could one keep open a path into Gothenburg.

On January 17, 1918, the boys in Helsingborg skated over to Helsingör. At this time a new conqueror could have repeated King Carl Gustaf's famous advance across Big Belt (in February 1658 - a major event in Swedish history).

The Norwegian coast was now blocked with ice all the way down to Bergen. All of Finnmark and most of Nordland was nothing more than a snow-covered tundra long ago abandoned by all. A number of settlers in the interior of the country, overwhelmed by the events, had been blocked from escape and died after terrible suffering.

Meanwhile, the vitality of the Scandinavian countries streamed across the Atlantic for its survival. It was no longer a departure of human capital, it was a depopulation on a massive scale. There was nothing one could or wanted to do about the frightening flow of emigrants. The country could no longer expect to feed its people.

At first it wasn't noticed so much in the cities. Many people had arrived from the north, but most of these refugees were people that had something to live off of. Later came the others, who forced by hunger and cold pushed along the roads in begging masses. In the thousands and tens of thousands they came to Stockholm, where the locals did what they could for the emigrants. But the usual charity didn't suffice, the capital itself was succumbing to the economic crash. The begging masses soon became bands of thieves who in despair robbed and stole and now and then broke into houses where they helped themselves to whatever the cupboards had to offer. Everyone who could fled from this new danger. The stream of emigrants took on a new character, now it was the well-to-do who were leaving the country in numbers. In time, houses and streets stood empty, unless taken over by the begging and thieving gangs. The population shrank at an astonishing rate.

Slowly this awful winter advanced in the mood of a city as if it were plagued by the pest. Most theaters were shuttered: Who had the desire or courage to have



fun in these times? The voices in the cafés and restaurants faded away, the music on the stages died, and the lights were turned off. No one dared venture out at night and the snow on the streets piled higher and higher – it wouldn't melt in the Siberian winter which often settled across the city, twenty, thirty degrees cold.

The days lengthened, the sun rose, and March and April arrived but no thaw for the snow; instead, new terrible storms seemed to bury all of Stockholm. The northern cities, as far south as Sundsvall, were all but abandoned; houses gaped with empty windows, and it happened that the wolves came from the mountains and howled in the abandoned squares. In June an anxious spring came crawling – a bleak miserable spring without flowers. The fruit trees turned black and died, the linden trees in the Stockholm parks tried to spring their buds but couldn't, they remained leafless stretching their bare branches toward the bleak steel blue sky. Only the birch, chokecherry and a few others broke out into a pale green.

Out in the country the frost never left the ground – no point in plowing. During the winter some had looked for spring, but now all hope was gone. With a heavy heart people broke up from their frozen homes and hurried away. In the vast forests of the north the snow melted no more; it lay there packed into ice and the air breathed cold across the entire country.

The flow of emigrants grew inexorably. The entire population was breaking up, driven by the polar cold.

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The bleak light of the June night shown through the windows of the editorial office and added a pale color to the those in the office. Most of the work was done and it hadn't been encouraging. It was the same, always the same stuff, the cold and increasing devastation.

The conversation languished in the cigar smoke: the night editor's hand wrote down the titles of a few typed messages. He took a tape with a few typed lines of a kind he had seen before, one he might have tossed in the wastepaper basket. It was the usual report from the met office: "Our seismograph registered today a signal of a major volcanic disturbance, most likely around 7000 km away. This event is the biggest one since 1901."

The night editor was about to throw away the notice when he decided to sort it under *Natural phenomenon*.

A half hour drifted slowly by. A telegraph boy came by and threw an envelope on the table: - Telegram!

It was a private telegram, written in the usual contorted telegraph language. Reluctantly, the editor began to read it. Suddenly he hands began to shake and his face turned white.

“What’s the matter?” wondered his office mate who sat near him in an easy chair resting his feet on the wastepaper basket.

The other one’s voice broke as he read:

“New York 4 PM. Today at 8:15 AM Mount Pelée had an enormous eruption. Most of the cone has collapsed; nearby parts of Martinique sank into the ocean. Loss of life enormous but cannot be determined. At the same time a huge earthquake in the Florida Strait. Key West was completely destroyed by a gigantic tsunami which swept with it people and property. In Havana the cathedral, customs house and several other public buildings were knocked over and more than 400 people lost. Several ships in the harbor were destroyed.

“The earthquake seems to have spread across much of the Gulf of Mexico shoreline. From all over come reports of seawalls and destroyed cities. There is much concern for the fate of the Florida dam.”

An absolute quiet settled across the bureau. An order was about to be phoned to the typesetters, but it couldn’t be completed before another telegram flew in. Ripped open it read:

“New York 5:20 PM. The battleship Alabama, which immediately after the earthquake left Tampa Bay, thinks it has found the rests of the dam at 1900 m depth. The sea floor has sunk around 1500 – 1700 m. The report has generated extreme dejection.”

The order to the typesetters was resumed, this time calmly, almost solemnly: “Prepare for an extra print!”

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Like a marauding army, like a god wrapped in fire and towering clouds, the mighty current broke through its old furrows. It met and wrestled with the icy waters of the north, was cooled, shrouded in sheets of steam and thunder clouds, and forced back. But it pushed forth, wrapped ships in impenetrable fog, swirled with blocks of ice, pushed them northward – and succeeded! In three weeks it fought its way up to the Scandinavian coasts and warmed up the cold waters. Then came some horrible days when the whole peninsula seemed to be in a steam bath as dense misty airmasses rolled in an endless train over Sweden and shut out the day. All life stood still waiting while in the west the current roared and fought to bring to those coasts once again the warmth of its bosom.

Then came the rains the likes of which one had never seen, which seemed to drown the country and wash away all life. They were cold at first, but gradually turned milder, warmer, and lighter when one day between the fluffy clouds Stockholm saw a deep blue sky, was hit by a beam of sunlight, and felt that heat, and life had returned.

The current had succeeded. In heavy gray lines the ice retreated to the poles like a defeated band of murderers.

(Translated from the Swedish by T. Rossby)

About the author:

Erik 'Mac' Nyblom (1873-1947) was a Swedish journalist and author. After a few early years in the US, he became in time a well-established and highly respected journalist at the big daily in Stockholm 'Dagens Nyheter.' This short story reflects widespread public awareness of the Gulf Stream's role to European climate. The author's descriptions of devastation were undoubtedly influenced by the extended hardship Sweden suffered in the late 1860s (famine driven by cold and drought) that led to a greatly increased emigration, especially from the countryside.

His biography (in Swedish) can be found here:

<https://sok.riksarkivet.se/sbl/Presentation.aspx?id=8446>