

Logbook “The Arctic Highway”

Date: June 5th 2040

Weather conditions: 27 °C cloudy, glimpse of sun

Location: Hamburg, Germany



The extensive oil spill in the North Sea has been cleaned up, and on *Hanjin* we have finally got permission to start the journey from Hamburg via the Arctic to Yokohama in Japan. *Hanjin* is one of the newest container ships, and it has equipment such as for instance huge screens, surveillance cameras and the new super-radar, and the boat can without problems connect to the communication system. The ship has a deadweight of 90 000 tons which is the maximum size allowed to sail through the Panama Canal. The boat is however 32,2 meter wide and 13 meter depth. The container ship, that is 140 meter long, is one of the biggest container ships in the world, and it can carry 11 000 containers.

The salmon was carried onboard three days ago, and the rests of the unsalted dried cod and the apricots were unloaded today. All 15 members of the crew on *Hanjin* are ready for departure tomorrow morning, Tuesday 6.6.2040 8 a.m. and I, a journalist in European Shipping, have got permission to join the crew at the third journey ever across the Arctic with a container ship. I am looking forward to watch the spectacular life in the ocean and the new oil platforms that have been built in the North Sea during the last years. It will be exciting to discover the Polar Ocean, almost 150 years after Nansen crossed the Arctic Ocean. The weather reports are good; smooth and still sea and almost 23 degrees Celsius in the sea. I really hope that the weather will stay nice.



The journey from Western Europe to Japan through the Suez Canal, about 40 years ago, is marked with yellow line. The seaway to Yokohama via the Northeast Passage that has been used for the last 10 years is marked with red.

Today, the journey across the Arctic and further on to Yokohama is expected to take slightly less than 12 days. The seaway between Europe and the Far East was very much reduced when the ships started to sail through the Northeast Passage. Increased temperature due to the greenhouse effect has made the ice in Arctic melt much faster than expected. The new route reduces the time by 30 – 40 %.

It has been possible to sail the Northern Sea Route in July and August for the last 30 years. If the ships used icebreakers it was possible to sail there from May to September as well. In winter it has however hardly been frost anywhere; not even in the Arctic.

The ice that earlier left the Arctic Ocean and ran through the Fram Strait, between Greenland and Svalbard, is gone for ever. The scientists predict that the Arctic will be heated even faster than the rest of the globe, and the prophecies have definitely started. White snow and ice

reflect energy from the sun, and send most of it back. Dark ocean and landscape on the other hand, take up the energy. The heating gets a self-intensifying effect because the ground constantly absorbs more and more energy when the snow disappears. The ice in the Arctic has decreased 3 % each decade in the period from 1970-2000, but from 2000-2030 the area decreased by 3 % each year! Today the Arctic Ocean as well as is ice-free in the summer and the ship traffic has increased.

The Arctic Ocean is an important alternate shipping route for shipping to Asian countries. Shorter travel means economic advantage. Climate researchers state that if drastic changes are not made, such as the change of the Gulf Stream course, there will be so little amounts of ice left in the Arctic that container ships and other vessels will be able to travel across the Arctic even in wintertime.

The fact that the Arctic Ocean sea ice is rapidly melting, brings severe consequences. Species like the polar bear, ring-seal and the bearded seal are practically extinct from the Northern Hemisphere. These animals depend on their passage to sea ice, seen that this is the place they live and breed. Nowadays we find these animals in zoos in Alaska. The sea is, however, far from empty! Many species that are in need of a colder climate have migrated north to the Arctic Ocean. Mackerel, cod and herring no longer spawn along the Norwegian coastline, but choose to go the Barents Sea to spawn for the reason that the conditions there are superior to the conditions along the coast of Norway.

I can not wait to get started after all this waiting! The next few days will be incredibly exciting and challenging because of the oil leak in the North Sea, and if the crew needs a helping hand, I am more than happy to help them out!

Date: June 6th 2040

Weather conditions: 16 °C, clouded, part sunny

Position: The North Sea heading for 60°N - 4°E

Planned sea-voyage: Piloting from Hamburg to Elbe pilot station N54° 0'E08° 10'

Rumblinelinepassage: from Elbe pilot station to position N60 00 E04 00

Continuing Greatcircletrack (meridian passage): N60 00 E04 00 to position N90 00 E04 00 (North Pole)

Our journey started in Hamburg at 05.30. A pilot boat guided us from the harbour to Elbe pilot station, and we set off at a slow speed (17 knot). We reached the station around ten o'clock. At present we are sailing north-east to 60°N and 04°E. The distance is 386 nautical miles, and with an estimation of a speed around 23,5 knots, the journey will take slightly more than 24 hours. When we reach 60°N and 04°E, we will turn our course and head for the North Pole. There we will use the one-way highways specially intended for container ships.

Because of the constant shipping traffic and all the tourist ships, it is highly important that every ship out on the ocean keeps to the new, international sea policy. I have been told that, because of the heavy traffic to and from the oil platforms, they had to introduce convoys in certain routes. Moreover, because of the diminishing interest in aviation, the traffic between the coast stations has increased extensively.

It is prescribed that every ship has her own booms in case of oil leak. This is to protect and maintain the fishing farms and ocean life. All shipping traffic is connected to a certain intranet and satellite system to enable the government to supervise and control oil leaks, accidents and possible sabotages. When we approach the North Pole, we have to use satellite pictures to make out the best shipping lane before we pass through the Strait. Hopefully the distance across the Arctic Ocean will not take us more than four-five days to cross. We proceed west

of Saint Lawrence Island and continue south through the Bering Sea along Korjakskij Khrebet. We pass the Kuril Islands and sail along the east-coast of Japan, (into the Tokyo bay). Expected arrival in Yokohama is in the afternoon, June 16th 2040.

There are 600 kilos of apricots from Hardanger, and 140 kilo dried fish from Sunnmøre on board the *Hanjin*. In addition there are 10 000 containers filled with fresh, Norwegian salmon, mackerel and herring. The fish will be cooled down so that it stays fresh until we reach Japan, and the residents will get first-class products. Numerous islands outside the coast of Japan have sunk under water in the last few years because of the 4,3°C temperature rise. Increasing greenhouse effect has led to a rise in sea level. This has had a harsh affect on Japan, and many places with high population density have suffered from storm surges several times a week. In addition, Japan has difficulties in food production. It is not surprising that a country with a population of 180 million inhabitants needs to get food shipped across the ocean from other countries. Moreover, areas surrounding Japan are still affected from a number of cyclones that ravaged outside Japan last year, and as a result of this the poorest population now lives under unbearable conditions. They have no food and they have to seek shelter in small shacks.

Date: June 7th 2040

Weather conditions: 20 °C, sunny

Position: N60 00 - E04 00

We have reached the same latitude as Bergen. After barely two days at sea everything is perfectly fine with the ship, the crew and me as well. The new satellite system is working as it should be, and we constantly get reports on the weather and passing wind systems on the Northern hemisphere, and it seems that the weather will stay bright for the next few days. Today's weather has been brilliant with a light breeze and a clear, blue sky. Life at sea takes time to get used to, but today I got to try out different techniques of communication, and I have been in contact with different ships across the globe! It feels like an everlasting expedition where you get to see different continents and get to know people from a variety of different locations around the world. Earlier today we were communicating with a cargo ship near Japan, and the crew nominated the ships' cameras so that we could see the boat as well as the ocean, even some of the islands in the proximity of the boat. Moreover we got a look at all the kept data on board of the cargo ship.

The crew is separated into several shifts. The captain and the chief mate hold the main responsibilities and they have to be prepared for unpredictable events and situations at all time. Moreover there are two machinists on board, one electrician and one IT-supervisor. The chef cook is in charge of the cooking. The cabin boy is the one who keeps everything neat and tidy, and he keeps everyone in a high spirit. He has promised to give me a tour around the boat. The boat has a total of 15 crew members and 10 of these are Norwegian. The additional five, who all do work as handymen on deck and in the engine room, are respectively from England, Italy, Ghana and the Philippines. The chef cook on board has been working at sea for more than 50 years, and he told me that a few years before he started working, ships only communicated via telephone, and even earlier than that, the only possibility of communicating was by Morse, and every ship had its own telegraph operator. They could not see with whom they were talking, nor the data on board of the other ships. In addition, the chef cook told me that shipping went through a radical and extensive change approximately 30 years ago.

After the English language became the first language in Europe, China and large parts of the African continent, international cooperation has become a lot easier. Within a few years all shipping merged into an enormous international project. Progress was made and the project led to a boom in international shipping. Increased shipping and decreased plane traffic are a result of reduced CO₂-emissions. The chef cook tells me that the cooperation in international transport of fruit and vegetable, oil products and vehicles, made the trade between countries more effective, and the best products from all sea nations were united.

Cooperation within international shipping was necessary to avoid disagreements and war between Russia and other nations. Captain Mustafa Wright actually got the Nobel's Peace Price in 2015 for his splendid work in the making of this cooperation agreement. The agreement has been exceedingly decisive to maintain a peaceful coexistence in the North-Atlantic area.

Numerous satellites have been built as a result of this agreement. These have proved helpful in times like these with drastic climate changes and an increasing number of cyclones and hurricanes. The new satellite makes it easier to foresee the weather conditions. Because of the international cooperation, ships are now able to fill up the tanks with petrol outside the coast of different nations and cargo ships can reload their containers on Svalbard. In addition, many of the larger cargo ships now run on hydrogen instead of petrol. Talk about progress!

Date: June 8th 2040

Weather conditions: 15 °C, clouded

Position: N 70° - E 04°, the Norwegian Sea

Earlier this morning we passed Nordkapp. We have had a midnight sun all the time since we passed the Arctic Circle. *Hanjin* constantly passes new gas and oil platforms. They are many in number, along with a lot of tank ships and booms, and oil spill cleanup because of numerous accidents in the last few years. I have never seen efficiency like this at sea before! Several of the new platforms are hundreds of square kilometres big, and the largest one has got 64 floors. 540 people are constantly living there. Recently they even established a school and kinder garden on this huge platform so that families can live as normal a life as possible and still be able to give their children a proper education and life on the platform.



Because of the large number of boats that arrive at, and leave the platform every day, we got caught in a queue and had to wait for nearly two hours before we were able to continue our journey, just like the rush-hour traffic back in the old days! The Sea Department in the EU was out to keep control of the traffic so everything would go smoothly without major problems. Moreover, they have marked the “roads” in the ocean with floating, colourful cones. Because of this, there are many one-way “roads”. When I was told that this was the way they kept control of the traffic at sea, I have to say I was surprised, but soon I realised it was not such a bad idea after all.

Tomorrow we will sail pass platform *Osetrom*, where one of the oil pipes perforated nearly two weeks ago. This is easy to see by the looks of the areas we are passing by at the moment. Even though we are 70 nautical miles from the scene, we can see dead seabirds and traces of oil floating about. Because of the many oil leaks this passed time, the environment police has not had enough time nor capacity to get rid of all the oil, which would make it easier for shipping to run as normal as possible in this area. The reason for this taking so much time is

that the environment police need more boats loaded with the super solvent "oilfix" that makes the oil more soluble. This will make life at sea easier for the seabirds, and moreover, beautiful holiday destinations like Lofoten will not be ruined by the numerous oil leaks.

Because we are going faster than first planned, we are ahead of schedule. Therefore we are slowing down to save fuel. We are passing calm waters today, but soon we are going into more troubled waters with a lot of powerful ocean currents. Especially the ocean current coming from south will push us ahead. Water from the Atlantic Ocean is constantly being transferred east and north because of the powerful northbound ocean current, while a southbound ocean current brings water from the Arctic Ocean far south. I remember that when I was little, someone told me that there would be an end to the Gulf Stream some day, and I am really glad this has not happened yet. Today, the fact that the Gulf Stream is melting the Arctic ice is not such a hot topic as it once was. Approximately 80 % of the ice has already melted and added a lot of fresh water to the ocean. The UN has decided that it is necessary to supply the water with enormous amounts of salt every day for the next 30 years. This is to keep ocean water as normal as possible. This has kept the Gulf Stream, the Labrador Current and the Peru Current in check.

The next few days will be hectic, and I will probably go through a lot of new experiences. I hope the wind will stay calm so the ocean will keep calm as well.

Date: June 9th 2040

Weather conditions: 14 °C, rain

Position: N 80° - E 04°, the Arctic Ocean

Rough winds and mountainous waves have made the last few days difficult and hectic. We were nearly beaten off course by a particularly big wave, probably 17-20 meters high. *Hanjin* is well equipped to handle bad weather; however, the captain says it is hard to manoeuvre the boat in such powerful waves. Because of the troubled water, we did not see many traces of oil leak when we passed the *Osetrom* platform. I am starting to feel a bit sea sick, thus I hope the ocean is calmer farther north. It was far from easy to aim at the toilet when I got sick, and the floor was swinging from side to side just like in an amusement park. Several of the crew members advised me to sleep in a hammock tonight. I can not wait!

After seeing thousands of dead birds floating about in the ocean, I really hope the security on the new oil platforms will improve. A Spanish cargo ship we talked to via our satellite telephone told us they had seen about fifty dead seals on a rock near the Norwegian coast.

While I am writing this we are 20 nautical miles from the North Pole, however, it is quite a distance to the magnetic North Pole. Because the magnetic North Pole today was located only 60 nautical miles from Siberia, we had some minor problems trying to regulate our compass and satellites. The magnetic North Pole has moved around a lot lately, and therefore we have to revive all equipment once a day to maintain the correct course.

The First sailor is ill and not fit for anything but lying in bed until he gets better. He has tried the new painkillers, however, the captain called the Centre of Sea Medicine at the occupational medicine ward at Haukeland Universitetssjuehus, and they told him we will not see any results of the medication on the first day, but when it starts to work his health will be back to normal within the hour. Because the sailor is ill, I get to help the crew out today. It was exceptionally challenging to wash the toilettes because of the huge waves, even though this was far from the funniest job to do. When I asked the cook if it was tricky to be making

food while in such troubled waters, he told me that both the stove and the oven were designed for swaying, so they could swing with the boat, and they kept quite horizontal all the time.

I got down to the enormous engine room, and the sounds coming from the machines were so loud! In spite of the fact that I was wearing earpieces, it felt like my eardrums were about to burst. The machinist told me there were more sounds now than before because *Hanjin* runs on environment protecting oil and not the traditional ethane oil. The oil that *Hanjin* runs on is produced in the Norwegian oil fields Statfjord, Brage and Sleipner. The new technology and effective mechanics in the engine room makes a very little lose of energy.

Now when we have reached quite far north, there is not such a heavy traffic. There are fewer and fewer platforms; however, we can see more and more tourist ships. The whales attract many tourists to this area. You can not find whales like this anywhere else on the planet. I wish I get to see them while we cross the Arctic.

Date: June 10th 2040

Weather conditions: 5 °C, partly clouded and light showers

Position: N90° 00 - E04° 00 North Pole

We passed the North Pole at 7.30 a.m. this morning! Now we have to turn the clock 5 hours backwards to 02.30. Japan is merely 10 hours ahead of us (European time), and in order to get the correct zone time at the date line, we have to turn the clock 4 hours backwards for the next two days. *Hanjin* is now turning south towards the Bering Strait.

We passed some areas in the Arctic Ocean that was entirely ice-free. It was so exciting to finally be here, especially since I have seen so many photographs of this place. The Arctic Ocean has gone through a lot of changes in the past hundred years, and it does not look at all like the time Fritjof Nansen and his boat *Fram* got stuck here in 1893-1896. The famous explorer Børge Ousland along with two of his friends crossed the North Pole on cross country skis in 1990. He would not have succeeded today, seeing that there is no ice left.



Furthermore, earlier this morning we saw a group of whales, not more than five or six, but they were so pretty! When I get home I am going to take part in a whale safari, and now I really understand why this is amongst the most popular areas for doing just that. The whale living here in the north is endangered species and I really hope they will survive and not die out completely. The news report that there is a lot of fish in the ocean this year, so I guess finding food will not be a problem. Then I am more concerned about the many oil leaks.

The offshore industry has expanded a lot along the Russian coastline. An oil leak in the wintertime is especially dangerous because the dark and freezing winter makes it nearly impossible for nature to absorb the pollution. In spite of an active environment police, good oil lenses and the super solvent "oilfix", there is a lot that needs to be improved!

When the soil is frozen all year around, we call it permafrost. The mild climate melts the permafrost in Arctic areas, and large amounts of CO₂ and methane are released, and this will harm the environment. Heavy metals and pollutants from the old Soviet industrial activity will

be released as well, along with radioactive matters from Siberia. Because of the pollutants, reproductions will decrease and sicknesses among species living in the ocean will be an additional and common problem, and researchers do what they can to prevent this from happening.

Because of the midnight sun I do not sleep well these days, however, I do not feel as sea sick today as I did yesterday. Abel seaman is still ill, but he is not in so much pain any longer. The new pharmaceuticals are not always working as they should. If I were in his shoes, I would probably drown a glass of sherry, which is just what my great grandmother used to say.

The captain keeps a constant contact with other ships, platforms and the maritime matters. The person who is in charge of the technology and communication on the boat says that there is currently a lot that needs to be done, and he is quite busy. *Hanjin* is the third cargo ship to cross the Arctic; therefore the influx is great at the moment. I got to help out in the control room today as well, but there was not much to do. Most things happen automatically, and most of the time we only have to pay attention and be prepared in case of emergency or if we receive any SOS-calls. The weather report notifies us that there is a bad weather going on in the Bering Strait, and as far as I know we are less than a day away from the strait. However, I can not wait to get to the place visited from a lot of famous people, like Desjnjov, Vitus Bering and James Cook! The strait has its name after Vitus Bering, who was the Russian tsar in the 16'hundreds, and now, 400 years later, the central shipping route will go through this very area. I was shocked when the captain told that the strait is only 60 meters deep at the most, a distance an average human can run in less than ten seconds! I am glad I am not the one to manoeuvre *Hanjin*. When we pass the Diomedede Islands we are no longer in the Arctic Ocean. We have reached the Pacific Ocean and I presume the weather here is a lot hotter then in the Arctic.

The fact that we sailed across the North Pole where there is a midnight sun, has damaged the senses that tell me whether it is day or night, so I guess sleeping will be a difficult affaire the next few days seeing that I am used to getting up when the sun is up and going to bed at night when it is all dark.

Date: June 11th 2040

Weather conditions: 5°C, pouring rain, strong wind, enormous waves

Position: N 70° - V 169°

I woke up with quite a start this morning and managed to fall out of bed. I got dressed in a hurry, and made my way up to the others. I nearly fell over in the stairs as the ship rolled from side to side. The Captain gave me a quizzical eyebrow, but the rest of the crew seemed quite okay even though I had dreadfully overslept. I am not used to so much difference in time. We turned the clock back two hours further tonight, the second night in a row.



When I looked outside, I understood why the entire crew had gotten out of bed to work. I could hardly see anything. The thick, dark fog licked the windows and formed a wall impenetrable to the eye. I could not see the sea outside, except for when waves wiped the windows. I felt the panic rising through my body; however one of the crew (chef cook) came with an explanation.

We had received a warning of the storm, but the fog came as a surprise. We sailed into the fog because lightning had ruined the satellite system on board. The electrician was working his head off, trying to fix the radar amongst other instruments. The captain and the second officer were desperately attempting to contact the coastal guard or any ship close enough for contact. We were soon to be on our way through the Bering Strait, a journey not easily undertaken without a satellite system!

The Bering Strait is heavily trafficked, especially by the huge container ships aiming through the north-east passage. *Hanjin* has sailed across the pole, a shorter, but far more perilous route. When a storm gathers in the Pole sea, steering the boat can be incredibly hard. Nevertheless, one assumes the traffic across the pole will take form of an exponential curve in the next few years, concurring the market for trafficking goods from Western-Europe to the Far East and visa-versa. The shorter journey will ensure less pollutant climate gases in the atmosphere.

A lot of people seriously doubt if this is the right way to save our climate, however, for superpowers like the USA, China and Iran, effectiveness and cost frequently come before security to a certain degree.

The fog dissolved as the day went on, but the communication system was impossible to repair. I have not been able to contribute; however, I made all the workers some lunch. The food I was cooking splashed over a couple of times because I did not have control caused the dash of the waves. I could hardly stand and the frying pans were gliding.

The crew is getting tired and I hope the storm will settle down so they can have some rest. Second officer has the dogwatch from 00.00 to 04.00 and later from 12.00 to 16.00. Third officer is on duty from 08.00 to 12.00 and from 20.00 to 00.00. Chief officer is leading the work and he decides what the crew has to do. Today have both chief officer, second and third officer been working 12 hours without a break. It is fortunately calmer in the machine! The engine-room-crew changes normally between morning watch and night watch, and it has been like this today as well.

While having dinner we decided to set off through the Bering Strait regardless of the fact that we had no communication possibilities with others what so ever. Because of the bad weather, we have to reduce our speed to eight knots. The weather will probably change for the better later on our journey, and then we will be able to increase the speed enough to get us to Yokohama on time.

The cook told me that when he was young, it was commanded to keep a compass onboard at all times. When the international rules were introduced, this rule was abolished because of the new confidence in the modern technology.

Date: June 12th 2040

Weather conditions: Foggy, windy

Position: N 65° 00 - V 169° 00. The Bering Strait

We were moving along slowly and throughout the day we heard several thunder cracks with heavy rain. Fortunately the waves went from a height of 23 meters quickly down to 14 meters. The clever crew led us safely passed the Bering Strait at 9.00 a.m. today, and I felt relieved when we finally entered the Bering Sea. The sea was much calmer here, and the crew managed to repair the electronic equipment. You can just guess how relieved I was!

The passage binds the Arctic Ocean and the Pacific Ocean together, placed between Asia and North America. Diomedes Island is situated in the middle of the passage, but because of the heavy fog we could not even get a small glimpse of it. As the evening crept up on us, we managed to establish contact with the satellites and could therefore communicate with the other boats and the international sea navigators again. They told us that the cargo-ship had gone missing and so they had sent out a rescue team to search for us. By the time we passed the St. Lawrence Island I had to creep to bed. It is still raining and tonight is the first night without the midnight sun shining. The steward tells me that when the ship sails from a western longitude to an eastern longitude we have to leave 24 hours behind us, and that is why we have lost a day on our journey. Tomorrow morning it will be June 14th.

Date: June 14th 2040

Weather conditions: 15 °C, cloudy

Position: N 55° - E 165°

The journey has gone according to plan. At some point we were able to see Russia far away, but most of the time we travel across the open ocean. Everyone onboard is healthy and the satellite system is working properly again. After being “alone at sea” for almost 3 days, we are finally able to spot other cargo-ships. Yesterday we saw several walrus but unfortunately one of them was badly injured. The water that surrounded it was red with blood, and we had to send a message to the Russian animal protection about them coming to help the poor animal. We received a message today saying the walrus had been captured and moved to one of the Russian reserves. It was fabulous news!

Other than that nothing big has happened, except from the weather getting much warmer. The water temperature has reached 11°C. Approximately 40 years ago, this area was covered with thick ice and wild polar bears and foxes lived here. Today it has changed into a summer paradise with tons of exotic animals and flowers. I really do hope that the whale does not face the same destiny as the polar bear. There are just a few reserves in Alaska that hold polar bears, and the population is falling heavily each year. Nobody knows if the white coated bear will survive this summer or not.

The polar bear's survival is not just threatened by the lack of ice. Also slowly broken down environmental-poisons, like dioxins and PCB, are fat solving materials which accumulate in the nutrition ladder. Scientists have proved that dioxins and PCB has broken down the polar bears immune system and also their ability to propagate. At the same time, animals that have eaten these poisons are more likely to get cancer and damages on their nervous system.

The urban inhabitants in the north are being forced away from their original areas, and I have not heard of a single one who still lived after their old traditions which old generations have done before them for many years. In schools, cultures and languages were very important parts of the lessons. That the urban inhabitants had to let go because of the climatic changes is horrible and almost incomprehensible.

Earlier there were many smaller islands in this area, but since the sea-level has risen (almost five meters) a few of them have disappeared fully or partly under water. It is therefore very important that we closely look at the radar- and satellite pictures so that we avoid striking ground.

Date: June 15th 2040

Weather conditions: 17 °C, sunny

Position: N 142° - E 155°

The sun was back, and when I woke up this morning the whole crew, except the captain and the first able seaman, were out on the roof having a good time in the morning sun. There was still dew on the containers after a cold night, but in these areas the air is quickly heated.

The crew does their daily chores. The machine room is under surveillance, the logbook has to be written, manoeuvring, cooking and washing. I finally have an opportunity to turn on my 50 inch flat screen that I have been equipped with in my room. I zapped quickly through the channels, and was surprised to find several Norwegian channels. It was weird to listen to Norwegian again. All communication on the boat and at home in Norway happens in English. At least I got to update myself with the news; the war between Northern Korea and the USA was still plundering, and 700 million Africans were forced to flee because of the drought. At the same time not less than 50 people had died in a cyclone in Mexico and two million people were killed by the big flood in Bangladesh. The climatic changes have led the ocean level to rise and major territory is flooded by water forcing the inhabitants to move.

Tonight is my last night at sea, and I have to admit that I am looking forward to getting my feet safely placed on land, even though I have enjoyed the trip. Tomorrow morning we will have reached the coast city Yokohama, and I will be able to see the flooded areas up close. A few years back, Yokohama was a significant industrial city with large oil refineries, petrochemical industry and shipyards. The city was built with several canals running through, but as the water rose, the canals were flooded and destroyed. Because of false heights and bridges the city is still an important port today. It will be a great contrast compared to Norway who has until now only had positive changes because of climate changes. High temperatures have led to a blooming of the agriculture on the east side of Norway. And besides that, you are able to pick apricots in Hardanger and still go swimming in December. The fishing industry had major problems at one point, but now that the fish has moved north the breeding business has adjusted itself by moving the plants on ground. Fortunately we do not suffer from drought and rainy seasons as many other areas on the earth. The west coast of Norway has on an average the most rainfall, but we do not have rain seasons. The ocean has risen with approximately 4-5 meters. This has led to great construction work to try and save *Bryggen* in Bergen and other areas along the coast. The North Sea is experiencing a boom after boom because of new oil- and gas reserves. Today it is still possible to fish in the whole of Norwegian waters all the way up to Svalbard.

Date: June 16th 2040

Weather conditions: 17 °C, sunny

Position: N34 50 - E 140 00

We got safely passed all the sunken islands just off Japan, but the captain received a distress signal from a smaller cargo ship that had hit one and got stuck. There was not a lot the crew aboard *Hanjin* could do, but we waited at the scene until the rescue boat arrived and salvaged the boat as well as the goods and the crew. It was some exciting hours!

Today I accompanied the first mate to make ready the cargo so that it could be loaded on Japanese ground as quickly as possible. When we only had the containers left to check there was a great disappointment. Three large containers filled with apricots had lost power when the lightning struck, and therefore the cooling system did not work. In one of the containers

the fruit was already filled with mildew. There was still a container with apricots of first class in good shape. There was nothing to be done to save the fruit, and some of the crew did not quite understand why the containers had not given them a signal that they were at the wrong temperature. They sent message out to special personnel from Japan who was to take care of the problem when we reached land.

It was fabulous to see land again, and eventually we discovered cities, houses and people. The Nogeyama Park, which also consists of botanical and zoological gardens and an open air theatre that shone at us as we got closer to land. We arrived at the massive concrete quay in Yokohama right before it went dark. It was too late to discover Japan and their circumstances.

I have to thank the crew for an amazing journey across the Arctic and wish them all the best on their way back to Hamburg.