FACULTAT DE TRADUCCIÓ I D'INTERPRETACIÓ

Traducció i interpretació

TREBALL DE FI DE GRAU
Curs 2015-2016

Chernobyl: a history

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Barcelona, Juny de 2016

Dades del TFG

Títol (en català, castellà i anglès, o una tercera llengua):

Història de Txernòbil

Historia de Chernobil

Chernobyl: A history

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Centre: UAB Traducció i interpretació

Estudis: Traducció i interpretació

Curs acadèmic: Quart

Paraules clau:

Entre 5 i 10, en català, castellà i anglès (o una tercera llengua).

Txernòbil; reactor; desastre; explosió; ucraïnesos; russos; Alla Yaroshinskaya

Chernobil; reactor; catástrofe; explosión; ucranianos; rusos; Alla Yaroshinskaya

Chernobyl; reactor; disaster; explosion; Ukrainians; Russians; Alla Yaroshinskaya.

Resum del TFG

Entre 150 i 500 paraules, en català, castellà o anglès (o una tercera llengua).

My final degree project is about Chernobyl, a nuclear accident that occurred on 26th April 1986 and polluted a lot of Ukrainian, Russian and Belorussian areas. My purpose of the final degree project is to describe what the explosion of the Chernobyl nuclear power plant was for the Ukrainian society, how they lived through it, how they received information and what measures they had to take or continue taking to survive the situation. On top of this, it will also contain international reactions and information about aid programs. Therefore, the theme of this work is the Chernobyl accident and the working hypothesis is that Europe, Ukraine and America had different information about the accident. To perform the work, I will use media from different political parties from these countries which will help me to compare the information given to its citizens (in some cases I will have to translate into English). I will also use different books, one of them *The big lie:* The secret Chernobyl documents written by Alla Yaroshinskaya.

Avís legal

En català, castellà i anglès (o una tercera llengua).

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1. INTRODUCTION

There are different reasons why I've chosen this topic for my final degree project. First of all, even though I'm Ukrainian and have had the opportunity to study our history for a few years, I've always been interested in learning more about some of the important historical moments like the Chernobyl disaster and the Second War World. I like reading different history books and I couldn't decide between these two topics for some weeks until I found a very interesting book about Chernobyl. Another positive point for me was when I remembered my granddad explaining to me about his stay in Chernobyl, just after the accident. The Soviet Government had known that Europeans and Americans would come once they knew about the radiation leak, but the roads were not good enough to hold these visits. Because of that, the Ukrainians started doing roadworks and one of the teams was headed by my granddad who is a civil engineer. They worked in an area where people had been evacuated. It's disgraceful to think that the only person alive today from that team is my grandfather. All of them died from radiation related health problems. Our family feels very proud of our granddad who continues to be healthy and energetic. So, it was very interesting to learn so much information from people who actually lived through that nightmare. Moreover, knowing that someone from my family was so close to that area, made me feel even more interested in this topic.

So, my final degree project is about Chernobyl, a nuclear accident that occurred on 26th April 1986 and polluted a lot of Ukrainian, Russian and Belarussian areas. My purpose of the final degree project is to describe what the explosion of the Chernobyl nuclear power plant was for the Ukrainian society, how they lived through it, how they received information and what measures they had to take or continue taking to survive the situation. On top of this, it will also contain international reactions and information about aid programs. Therefore, the theme of this work is the Chernobyl accident and the working hypothesis is that Europe, Ukraine and America had different information about the accident. To perform the work, I will use media from different political parties

from these countries which will help me to compare the information given to its citizens (in some cases I will have to translate into English). I will also use different books, one of them *The big lie:* The secret Chernobyl documents written by Alla Yaroshinskaya.

This book combines perfectly biographical details of the author's life, as she lived in the area after the accident, and her work there as a journalist, including documents, which nowadays have no price tag.

Some of the problems I might come across would be to sum up all the information because nowadays there are so many books and different news about this disaster in lots of different languages. Another problem might be the difficulty while translating from Ukrainian into English, as I've never translated from this language. Apart from this, I consider it could be a good possibility to learn more about my native country and take advantage of learning different skills of translating from this language.

1.1 Alla Yaroshinskaya and Chernobyl: Crime without punishment

Alla Yaroshinskaya was born 14 February 1953 in Zhitomyr Oblast, Ukraine. She is a Ukrainian politician and journalist. After finishing her studies she became a journalist and worked for a local newspaper for 13 years.

While living in Zhitomyr, she always tried to expose party corruption and because of that, suffered administrative penalties. At the end of 1986 she started her own investigation into the Chernobyl disaster. She and her husband travelled secretly into radiation-contaminated areas collecting information[1]. She tried to publish information she found, but no newspaper wanted to accept it. Then she started distributing samizdat copies[2] locally, and finally two newspapers published her publications.

[1] More information: 2.4. Health consequences and Alla Yaroshinskaya's secret information

[2] Samizdat was a key form of dissident activity across the Soviet bloc in which individuals reproduced censored publications by hand and passed the documents from reader to reader.

In 1989 she was nominated for election to the new Supreme Soviet of the USSR and finally was elected with 90% of the vote. During her career, several criminal cases were brought against her and her husband was put under pressure to divorce her.

During her time as an MP, she made copies of top-secret documents of the Politburo of the Central Committee and published them. During a publicly broadcast parliamentary session, she presented a video documenting the terrible living conditions of people in areas contaminated by Chernobyl. After that she released top secret reports of the Politburo of the Central Committee. The same day, two assassination attempts were made against her.

Yaroshinskaya is the author or co-author of dozen of books and over 700 articles in scientific magazines and mass media. Her books about Chernobyl were published in five languages. Nowadays she publishes for important newspapers such as The New York Times, Newsweek, Moscow News and others.

She was a recipient of the Right Livelihood Award in 1992 and was nominated for the Nobel Peace Prize in 2005 as part of the 1000 Peace Women project. She also received other Ukrainian and Russian awards.

2. HISTORY

2.1 Localization

Chernobyl is part of the current country of Ukraine (at that time the Soviet Union). It is in the region of the city of Kiev, located next to the river Pripyat, a tributary of the Dnieper. From 1941 Chernobyl went from being a city that existed almost entirely from agriculture to be a city in which many different factories were set up. One of them was the building of Chernobyl Nuclear Power Station whose construction began on 15th August 1972.

The Power Station is located 16 km from the border between Ukraine and Belarus and 110 Km from Kiev (the Ukrainian capital).

2.2 About the accident:

The Chernobyl nuclear power plant, which consists of four reactors of 1000 MW each, was built in 1977. The power station was considered an example of safe nuclear energy and even the Director of the Security Department of the International Atomic Energy Agency (IAEA) wrote in June 1983 that a serious accident with loss of coolant would be virtually impossible in the RBMK type reactor. Even though, the fourth reactor is known around the world for the accident that occurred on 26 April 1986 at 01:24 local time (00:24 - Spanish time). Moreover, it is considered to be the worst nuclear reactor accident ever.

On 25th April, the crew of Chernobyl nuclear plant began to prepare the fourth reactor for a test to determine how long the turbines could spin and supply power to the main circulating pumps following a loss of the main electrical power supply. It was not the first time the same test was carried out, but as the power from the turbine ran down too quickly, the new voltage regulator designs had to be tested again. The operators had several different things they had to do, for example the disabling of automatic shutdown mechanisms, which was put forward to another test on 26th. At the moment the operator moved to shut down the reactor, it was already in an unstable condition. A dramatic power surge was caused by the special features of the design.

All of these different issues produced an increase in pressure and as the reactor's design characteristics were damaged, it caused the destruction of the reactor.

The surge in the pressure caused the detaching of the cover plate of the reactor, rupturing the fuel channels and jamming all the control systems. Intense steam generation spread throughout the core which caused an explosion. This sent fission products into the atmosphere and the second explosion, which was some minutes later, threw out fragments from the fuel channels and hot graphite. This second explosion was produced by hydrogen.

So, to sum up, the fourth reactor was overheated which caused an explosion of hydrogen accumulated inside.

In about ten minutes fire-fighters came to control the disaster. The flames affected reactor number four, but it also jeopardized the third reactor. The core of the plant was exposed to the atmosphere, burning graphite, metals and combustible material reaching more than 2.500 degrees which became an incandescent liquid mass spreading all over Europe. The explosion killed 31 people, most of them fire-fighters and nuclear power plant workers. The Air Force also dumped sand, clay, lead and dolomite over the reactor. On 13th of May there were about 5.000 tons of materials on top of the reactor.

From that moment on, a new objective was to make a tunnel under the reactor and to install a refrigeration system. That tunnel was built by the youth wing of the soviet army.

2.3 The following days

There were about 600,000 workers, people who tried to put out the fire and control the reactor in the emergency operation, some of who died within a few days and others continue having long-term effects.

During the first few days, the Soviet government refused to comment on the accident. "The fourth reactor of Chernobyl's nuclear power plant exploded and there was an increase in background levels of radiation was first heard from foreign radio voices. Our guide reported it only on the third day".

From the third day Pripyat city residents and people from other villages who were close to Chernobyl began to flee to different parts of Ukraine. So, the vacated area was about 20 km or, at least, this was the information which was explained to other countries. In reality, only inhabitants from some villages, less than 20km, were moved to other regions. Others did not know what to do. "When rumours started just a day after the accident, people would start buying iodine and drink it as water, considering it was the way to protect themselves from radiation. Panic spread in the village and people did not know what to do as no information was given to affected countries. It wasn't until 10 days after the disaster when Anatoly Romanenko, Minister of Health, started

giving some useful advice so people would be less worried. These were: to close windows, to wipe shoes carefully before going indoors, to clean with a wet cloth. These were all the advice for radiation prevention."

The tension was increasing, but all the cities were preparing themselves for an important spring holiday. "The spring holiday, Labour Day, was about to come and probably, no one wanted to believe that what happened a few days before was something terrible and irreparable. That day in Zhitomir, Kyiv Chernigov and other Soviet Union towns and cities millions of people came to a festive party. It was really very hot, not just warm. In Kiev, the Ukrainian children in national costumes, breathing radioactive fumes, danced on Khreshchatyk, the main street of Ukraine's capital, delighting the eyes of the Communist leadership of the Republic, who waved at the demonstrators from the rostrum. And almost at the same time, their children were quickly sent to the airport Borispol, on planes, away from the trouble."

The important day seemed to stop people's preoccupation, but just for a while: "rumours and misinformation became familiar in a living environment. After May 1st they started to grow faster than a snowball. The information the newspapers wrote was much different from people's opinion who visited the place. Railway and airline tickets offices in Kiev sold all the tickets a month in advance. There were no tickets to go anywhere. Excited, scared of the unknown, people stormed train stations, offices and trains. They only wanted to go somewhere, somewhere away from Chernobyl."

"Every day Central Communist newspaper *Pravda* gave sedative pills in form of invigorating articles in which, it was told that everything was all right. I'm still ashamed to remember the titles of my Moscow colleagues "*Nightingales of Pripyat*", "*Souvenirs from under the reactor*" and others. After 25 years about 9 million people who already live in affected areas pay for these expensive souvenirs."

People from the remote area, situated 20-40 km radius, were not evacuated from two to six weeks after the accident, and the United States report assures us that later relocations did little to reduce the radiation exposure. Before the farthest villages were evacuated, the rain of radioactive particles had enough time to fall on the area. There is

not an exact number of people that were moved out: some studies say they were about 130,000 and others, in a US report, say they were about 350,000 people.

Some of people were evacuated to villages, which weren't much better from whose they lived in before. But Soviet government told nothing about the radiation in other places. People bought ginger counters, but these were adapted so as not to show the reality.

Alla Yaroshinskaya has been looking for many answers and while talking to many people who were moved to other villages, she was asked the same questions in almost every conversation. "Who gave the order, so, who decided to build new homes near dangerous radioactive sites for settlers, who had already suffered enough from the walls of Chernobyl. The new houses weren't adapted for living; there were no heating nor other elementary conditions for living there. People didn't want to live in those houses and, of course, many of them didn't move in. Some daring people, who finally moved, stripped floors and threw through the windows the ground soaked with pesticides. They weren't even provided with the necessary food. Those who couldn't come to the shop in the morning had no food in the afternoon. There were long lines of people in the early morning waiting for the arrival of food."

2.4 Health consequences and Alla Yaroshinskaya's secret information

When Alla Yaroshinskaya was in Kiev, she visited different hospitals: "I stayed in Kiev for only a week, but I could finally visit different hospitals and see a lot of workers and children with signs of digestive, neurological, blood disorders and heart diseases, which were unusual for them. After the disaster, an increased incidence of cancer was reported almost immediately, which was at odds with the medical belief that thought there would be no changes for ten to twenty years. At first, local doctors considered that complaints of people feeling bad were only examples of radiophobia (a type of hypochondria against radiation sickness), but soon they were convinced that it was a real disease."

“The doctor explained to me that she carried out the autopsy on some people who had died suddenly and she found their internal organs were severely damaged. “Outwardly, these people looked healthy as before the disaster, but some vital organs were completely destroyed. She said that their internal organs looked like they were from very old people.”

Continuing her own investigation, Alla Yaroshinskaya visited Narodichi, one of the most damaged villages in Ukraine. There she found some interesting information that almost anybody knew about. “(...) When I was in the office of the executive committee chairman, he showed me the map with levels of radiation contamination in the entire area, that he took from his safe deposit. Almost all of it was like a wounded man, painted in blood red. Just in some places I could see green. I quickly wrote down the statistics into my notepad. On the side of the map a note said, “maximum allowable ram per square kilometre - 40 Ci, a lower limit - 15 Ci”. But, as it turned out later, in some places the level of Ci reached up to 1.200 and more. I saw that the houses for resettlement were built in eight other villages, which were really close to others people had been living in, so they were close to the danger area. Most of the new villages had already been listed to carry out the strict radiation monitoring.”

“By the time I started my investigation, in the high radiation area has already been invested 105 million roubles in new construction. And, it seemed, nobody was going to stop it. Instead of that, the construction was increased (...) What for? Why did they need to build houses there but not in any other area? Couldn’t they find any *clean* space in the whole region, the vast Soviet Empire, for the people who had suffered enough at the walls of Chernobyl? It is not just difficult, it is impossible to find a reasonable explanation for this.”

“What I then heard in children’s hospital and clinic in Narodichi village shocked me even more. Testimony of the doctors. October, 1987:

Lyubov Golenko, head of the children's clinic, the Narodichi district hospital:

"We did swallow a certain dose of radioactive iodine for sure. In my opinion, there has been an increase of about 60% in thyroid complaints. We classify the most difficult cases as "T" and "D" and children in these cases are controlled by Kiev hospitals. I could not say if this zone is completely safe for children, but some specialists who visit us say that we will know the answer to this question in 3 to 5 years."

Leonid Ishchenko, head physician of the district hospital in Narodichi:

"We have repeatedly examined all the children from the area. Thyroid glands increased in 80 percent of children. And the normal proportion is ten percent. Of course we have had children with swollen glands, but these were about 10 - 15 percent. We associate it with this accident, and with nothing else. "

Alexander Sachko, manager of the Narodichi district hospital:

"Nobody could convince me that our children are totally health and that if there is an increase in thyroid gland, it is not related to the accident. There is no need to show that everything is all right. I have recently seen all the children's analysis results from this week and I could say is that in 180 cases out of 500 there is an evidence of changes in their blood."

I asked them if the authorities in Zhitomir, Kiev and at the republic's health ministry were familiar with this information. "Of course they know about it" - replied the doctors. A lot of experts visit us, they take blood samples and in some cases, they do not send us back the results. They assure us we have a radiophobia disease, that the health of our children is all right and there is nothing to worry about.

Doctors provided me the results of the children's and adult's medical examination, which determined the level of cesium-137 they bodies contain. These were just two small, but mind-blowing papers. They showed that all five hundred children of the area were irradiated with radioactive iodine-131. From them, 115 children had a risk of such thyroid diseases as different tumors, goiter, excessive or deficient of thyroid

activity, which could lead to mental retardation and other serious consequences; but nobody knew about the problems of these children."

Alla Yaroshinskaya tried to make this information known, but any newspaper didn't want to accept it. What she finally decided to do was to distribute samizdat copies.

Once she had started working for the Soviet Government, she had access to top-secret information. Even though nobody wanted to make her a copy of the 600-page secret book that could neither be taken out nor copied, she finally found the way to copy and publish them. The information was finally picked up by Europeans and Americans so they could know the truth:

"Lie number one is that **radiation has been eliminated**. The operational group of the Politburo was constantly meeting from April 29th, 1986 and from the middle of May, the meetings started to be daily. (This is about the question of how all of them assured us over the years that the leadership had no information on this subject.)"

Beginning on 4th May, an operative group was receiving a flow of messages about the hospitalization of the population.

"Confidential. The protocol № 5. May 4th, 1986 was attended by members of the Politburo members: Ryzhkov, Ligachev, Vorotnikov, Chebrikov; also candidates to be members of the Politburo: Dolgih, Sokolov, Yakovlev (the Secretary of the CPSU) and Vlasov (the Minister of Internal Affairs).

<...> Message from Shchepin (first Deputy Minister of health of the USSR) about the hospitalization and medical treatment of the population exposed to radiation: on 4th May, a total of 1882 people had been hospitalized. The total number of people surveyed reached 38 thousand. 204 people including children were diagnosed with radiation disease of various degrees of complexity. Eighteen people were in a very serious condition. <...> The Ukrainian hospital system allocated 1,900 beds. The Ministry of Health along with the Trade Unions allocated patients without taking into account the patients particular needs to a sanatorium in St. Michael near Moscow, and

motels in the cities of Odessa and Yalta with a total of 1,200 places. Sanatoriums were organized near Kiev with 6,000 places and pioneer camps with 1,300 places".

The secret message of 5th May, 1986: "...the total number of those hospitalized reached 2,757, including 569 children. 914 of them have signs of radiation sickness, of which 18 people are in a serious condition". These numbers increased dramatically during the next few days, reaching 10,198 by the 12th May.

In Protocol No. 21, 4th June, 1986, in "instructions for participants in the next press conference for Soviet and foreign scientists journalists" had this dishonest message: The proper indices have been approved for hospitalizing people. Since the accident, all the people who have been sent to medical institutions were surveyed. The diagnosis of acute radiation sickness was set at 187 patients (all from the staff of the NPP), 24 people died (two of them died at the time of the accident). The diagnosis of radiation disease in the hospitalized population, including children, was not confirmed".

From the 13th May 1986 in the messages from the USSR Ministry of Health the number of hospitalized people suddenly dropped off. So, from 13th-16th May, the number decreased from 9,733 to 7,858 people, 3,410 of them children. The total number of dead is 15 people, 2 persons died on May 15th. But even these data weren't reliable at all.

The last secret message commenting the number of hospitalized people was on 2nd May. That day there were 3,669 people hospitalized, 171 of them with radiation sickness and 26 deaths until the moment including two men who died on the day of the accident.

So, why did people's health improve from one day to another? It seems that the higher the radiation, the less the effect. During the next few years, politicians continued insisting that there were just 209 people who had suffered negative consequences because of the disaster.

As was commented in other secret messages, the Soviet party leadership increased the permissible radiation dose from 10 to 50 times, in order to hide the true extent of the number of people affected by the radiation.

Lie number two is about the "**purity**" of radioactive products on farmland. The secret recipes from special operation group of the CPSU Central Committee on the use of radioactive meat and milk.

"Confidential. Protocol number 32. August 22nd, 1986, p. 4 <...> In areas with contamination density of cesium-em-137 to 15 curies / km², including 1.6 million hectares of land, the production will be carried out in the usual way with the selective control of the radiometric soil and agricultural products. In areas with contamination density of 15 to 40 Ci / km² (760,000 hectares of land) the agricultural activities will be carried out with constant radiometric control and using a set of organizational, agricultural and veterinary measures to ensure the reduction of radioactive contamination of the crop and obtain good-quality food. "So, they didn't think or didn't care that after eating that radioactive grass, cows' milk would be radioactive."

In a month after the accident, the meat industry refrigerators in several regions of the Byelorussia, Ukraine and Russia had about 10,000 tons of meat with a high contamination level and about 30,000 tons were expected to arrive.

In order to prevent the accumulation of radiation in humans from consuming dirty foods, the USSR Ministry of Health recommended a maximum dispersal of contaminated meat across the country (except Moscow) and to use it to produce sausages, canned meat and semi-finished products at a ratio of ten to one with normal meat. <...> But even that wasn't true as in 2002, one of the involved people confessed that the portion was different, it wasn't 10%, it was 20%. The situation with milk was more or less the same and to solve the problem, they decided to raise the standards of radiation and automatically the "dirty" milk became "clean".

"Lie number three is about **printing messages** or, in other words, how the Politburo taught its staff to lie. Almost twenty years after the catastrophe, I came upon a

unique document which was a top secret copy. It explained the meeting of the Politburo of the CPSU Central Committee, dated 29 April 1986. Perhaps this was the first, or one of the first meetings, which dealt with the issue of Chernobyl. So, it was on the third day after the explosion and it was led by Mikhail Gorbachev himself and all the members of Politburo attended the meeting. It seems that there, they decided for the first time the information they were going to give to the world and to their people about the incident."

After debating about the latest news they had received about the accident (including mobilized people, the volunteers, the throwing of sacks from helicopters…) they began to discuss how to provide information.

"Mikhail Gorbachev <...> "the more honest we are, the better." Bravo, Mikhail! But just one paragraph later: "When we are giving the information, I have to say that the station was undergoing a scheduled maintenance to avoid putting our equipment into question".

So, it is very obvious how they discuss about the best way to deceive the world and their own people. This is one of the conversations included in the protocol of that day:

"Gromyko .... We should give a little more information to our neighbours and just a little information to Washington and London. Similar clarification should be given to Soviet ambassadors, as well.

Vorotnikov, V. I. And what about Moscow?

Gorbachev: Don't do anything at the moment. Yeltsin has to monitor the situation.

Aliev: And what if we give some information to our people?

Ligachev: Perhaps, it's not a good idea to do a press conference.

Gorbachev: Perhaps, it would be useful to give some information on the progress of works and what measures are being taken.

Yakovlev: Foreign correspondents will be looking for rumors. <...>

Ryzhkov: It is better to give three messages: for our people, for socialist countries and also for Europe, USA and Canada. (Years later, in 1992, in one interview, Ryzhkov would insolently say to the journalist Karaulov: "We knew nothing!").

Zimyanin: It is important to note in the information we're going to give that there was not a nuclear explosion and that it was just a leak of radiation because of the accident.

Vorotnikov: We could say that there was a breach of containment during an accident.

<...>

Gorbachev :...Do all of you agree with the proposed measures?

The Members Of The Politburo. Agreement.

3. AID PROGRAMMES

From the moment of the disaster, different organizations provided humanitarian, social, psychological and medical help. Such organizations continue existing all over the world and they continue helping Ukrainian, Russian and Belorussian people, especially kids.

The following is a list of the famous organizations all over the world.

In 1991 in Ireland, for example, a **Chernobyl's Children Project International** was founded up by Adi Roche. It was her response to an appeal of Ukrainian and Belarusian doctors for aid. At the beginning it was just a small workplace in a spare bedroom of Adi's home where she began to organize "rest and recuperation" holidays for a few Chernobyl children. Later, the idea of recruiting families who would welcome and care for children spread across the United States. The organization has grown in such a way that nowadays it is the largest contributor on Chernobyl consequences to Belarus. A very important point is that apart from the material help, it also acts as an advocate for the rights of those affected by the Chernobyl explosion. It has exceeded €91 million in direct and indirect aid and it has brought over 22,000 children to Ireland, increasing their lifespan by an average of two years.

Another charity organization is **Friends of Chernobyl's Children (UK)** that was set up in 1995 and it brings children, who are at risk, from Belarus to the United Kingdom for a month every year. This organization brings over 1,000 children to Britain every year (these are children from orphanages or disadvantaged homes). During the year, after spending a month in Britain, the organization provides those children with vitamins and medicine and in some cases, they help their families if they have that possibility.

There are organizations whose purpose is to help as well, but they do it in a different way. **Chernobyl Recovery and Development Programs (CRDP)**, for example, provides support to the Ukrainian Government for elaboration and implementation of development-oriented solutions for the regions affected by the

Chernobyl disaster. It also helps to create better living conditions, to mitigate economic and environmental consequences and others. It collaborates with other community organizations, helping them to implement their initiatives in different ways. And finally, the CRDP distributes information about the Chernobyl catastrophe in Ukraine and all around the world.

In Spain, there are 21 such organizations, as well.

Finally, I'd like to comment that, unfortunately, even if the purposes of these organizations are really very good, politicians continue trying to mislead them so as to send their children for free to any European country and too many poor people, those who really need help, don't even know about such organizations.

4. INTERNATIONAL REACTIONS

It is clearly known that each country has its own way of expressing information and how to make it known to their citizens. This is influenced by the political parties, which in the first place are governing the country, the ideology of the media and, of course, the interests of those who control the newspapers. So, to a greater or lesser extent, we are told the information in the way somebody wants us to know. However, there is another important point while transmitting information, and that is the case of something related to another country. In this case, the relationship between the country explaining the information and the country in which something occurred has a greater weight and if we analyze it, we can see it has to do with past events and history.

If we start commenting on the way information was transmitted in the Soviet Union, we could say that the country wanted to hide the accident and then, to hide its importance, as we previously said. Because of that, the evacuation of the most damaged town, Pripyat, hadn't started until 3 days later. What they tried to do was to diminish the importance of the evidence and most of the countries consider that the Soviet

government finally commented everything just because a high level of radiation was detected in other countries.

The Soviet Union government had also planned how to give the information to other countries and it wasn't the same to Europe, Americans and their citizens, but even though, after analyzing some of the first articles Soviet citizens received about the accident, we can draw up some conclusions.

First of all I'd like to comment on the way the information was provided in the Soviet Union. They maintained silence about the catastrophe during the first days and the way they commented the very first information was by downplaying the importance of the accident. Even though, the Soviet citizens wanted to know as much as possible about what happened and after the first publication in "Izvestia" on 30th April (4 days after the accident) a lot of reporters started traveling to where the accident took place to gather information. But as it wasn't a normal accident and the entire world wanted to know about it, journalists couldn't publish their reports without a strong censorial control.

Every newspaper that existed at that time in the Soviet Union had its purpose and depended on a specific political party. So, not only can we distinguish between what the reporter wants to say between the lines, but there is almost no information about the accident. The first publication was about 4 lines and just commented that an accident had taken place. So, in the Soviet Union the information wasn't provided until the crisis was no longer containable.

On the other hand, the USA's way of giving the same information was very different. As we know, there always existed a kind of information war between these two countries and the accident was just another reason to go on fighting. So, the United States wanted to control the story and tried to gather and to spread all the information they could. They didn't want to lose an opportunity to shame the Soviet Union for the accident. The NYT on its first report on Chernobyl, 28th April 1986 says: "The announcement, the first official disclosure of a nuclear accident ever by the Soviet Union, came hours after Sweden, Finland and Denmark reported abnormally high

radioactivity levels in their skies. (...) the White House chief of staff, said today that the United States was willing to provide medical and scientific assistance to the Soviet Union in connection with the nuclear accident but so far there had been no such request."

Europe's way of giving information was quite different and they were commenting just what the Soviet Union had told them. So, their purpose was just to inform about the trouble, not to shame them about it. The first publication about the accident was on 30th April and in it they commented "After three days of virtual news blackout, the Soviet authorities finally admitted last night what Scandinavia had already deduced from radioactive fallout – that the Chernobyl nuclear accident is a "disaster," that some people have been killed and many thousands more evacuated. (...)Russian scientists said privately that nuclear technicians were being flown in to take turns in tackling the emergency, so as to reduce their exposure to radiation. "

In the case of Spain, the first information about the accident was on 29th April 1986 and in El País newspaper they commented it in the next way:

Radioactive Cloud in Scandinavia due to nuclear leak in the USSR

Last night, the Soviet government officially reported about an accident, which occurred at the Chernobyl nuclear plant near Kiev, capital of Ukraine. Tass agency reported on the television evening news and it was commented that necessary aid was being sent to the victims, without specifying their number or severity. It is the first USSR recognition of an accident since it launched its nuclear program. The alarm came from Sweden, more than 2.000 kilometers from the crash site. There were also some subsequent reports from Norway, Denmark and Finland that recorded concentrations of radioactivity that reached a six-fold increase from normal levels. The Scandinavian authorities pointed to the USSR as a possible cause of the phenomenon, although it was about 12 hours before the confirmation.

The Swedish Government has reprimanded Moscow for not notifying its neighbors about the accident, so that they could have taken the necessary measures. *(My translation)*

So, as we can see, they just had very little information and because of that, the accident wasn't considered as important as it turned out to be.

Finally, we could sum up that almost all the information was explained just in the United Stated and in Western Europe, because the Soviet and the Eastern countries were rarely heard. The Soviets controlled all the information given to the West and because of that, in most of the cases they could just speculate on what might be happening. They were given very little concrete information from specialists like doctors, officials, engineers, etc., and their voices weren't heard until two weeks after the accident.

5. CHERNOBYL'S FUTURE

"In the end, all the volatile radioactive elements will decay and disappear just like Iodine 131, it is just a question of time, but major radioactive fission products are still there 30 years after the explosion and they will stay for many more years. We can say that, overall, radioactive levels are not extremely high any more, but that is not the case everywhere, and some parts of the zone are and will remain dangerous" commented Richard Wakeford, Institute of Population Health, in IBTimes UK.

But what happened just after the accident? Were the reactors immediately shut down or not? Just after the accident the Soviet Union decided to shut down the Power Station because of dangerous radiation to the environment. However, in October of the same year, so just some months after the large-scale decontamination works on the territory, the first and second reactors were put into use again and in December 1987 the third reactor was renewed as well.

In 1991 a fire broke out in the second reactor, so it was decided to decommission it. In 1995 the Government of Ukraine, the G7 and the Commission of the European Union signed a Memorandum of Understanding, in which they decided to start a development program to close all the plants by 2000. So, on 15th December 2000, the last reactor was shut down.

The sarcophagus that was initially built over the fourth reactor was built in haste and is crumbling. But even though this protective building was just a temporary decision to protect the fourth reactor, there are fears it could collapse and lead to the release of tonnes of radioactive dust. It was constructed under a great urgency and it wasn't expected that it would last forever. So, because of that, in 1997 different Ukrainian and international experts worked out a new strategy to convert this shelter into an environmentally safe system.

Their most important decision was to replace the sarcophagus with another structure, called the "New Safe Confinement". This project aims to isolate the reactor number four under a large structure (110 meters high and 165 meters wide). The idea is to build it on site and then slide it over the sarcophagus and then the ends of the structure will be closed-off. It was designed with the purpose to last for 100 years and what is very important is that it will be resistant to temperatures, which could be between -43°C and +45°C. It is planned to be completed in 2017.

As commented by Vince Novak, the Director of Nuclear Safety at the EBRD (the company responsible for building the sarcophagus), "The aims of the new safe confinement are straightforward. First, it is to isolate the reactor more permanently, to protect people and the environment. Second, it is a stepping stone to start dismantling the reactor and manage all future potential operations of getting rid of nuclear fuel and radioactive waste".

Another point to note is that there has been included a large crane system to support the long term dismantlement of the sarcophagus and the reactor. The

sarcophagus can be remotely controlled from afar, which helps experts to control and to monitor what is going on inside the structure.

6. THIRTY YEARS ANNIVERSARY

Thirty years after the disaster we still come across terrifying headlines on the front pages of the newspapers throughout the world: A nuclear disaster that brought down an empire (the Economist); Not a year went by without a Chernobyl funeral: 30 years since disaster hit (the Guardian); Animals Rule Chernobyl 30 Years After Nuclear Disaster (National Geographic); 30 years after Chernobyl, Australia still hasn't learnt to leave uranium in the ground (the Guardian); Memories Painful on Chernobyl's 30th Anniversary (the NYT); Chernobyl should not be forgotten (El Mundo) amongst many others.

What about the residents?

Nowadays, the Pripiat city is being reclaimed by nature and tourists. The city remains dead, apart from about 200 pensioners who returned to their villages. There are no people, no streets, no shops... what was once a city has turned into a forest. Tourists and journalists like visiting the area, taking photographs of gas masks, clothes, toys and textbooks in abandoned schoolrooms.

However, some of the people who had been living there before the accident, like going back to the area. They explain that Chernobyl is the place where they were born and that they have affection for the city. They feel can relax and disconnect from the big cities they are now living in.

Chernobyl can also be considered as a monument to the extinction of the Soviet Empire. Even Mikhail Gorbachev, the last Soviet leader, explained some years after the disaster: “even more than my launch of perestroika, the Chernobyl disaster was perhaps the real cause of the collapse of the Soviet Union five years later.” (The Economist)

What about the animals?

A hundred years ago Chernobyl was just a forest and it has returned to that state now. Three decades after the accident, when it still isn't known how the radiation affects the wildlife, animals have occupied the city again.

It is considered that Chernobyl became a shelter for all kinds of animals (from moose, deer, beaver and owls to more exotic species like brown bear, lynx and wolves) as people don't hunt them and don't ruin their habitat. So, despite the high radiation levels, the wildlife is thriving.

A recent study in Belarus also shows that the population of large mammals has increased since the disaster. Beasley comments that in five weeks observing the zone, they couldn't imagine they would see so many animals. "It's just incredible. You can't go anywhere without seeing wolves," he says.

At the beginning of the study it was considered that no animals lived there and that it would even be really difficult to come across a bird.

Marina Shkvyria, a wolf expert at the Ukraine's National Academy of Sciences and one of the scientists following the fate of Chernobyl's wildlife, says: "The beaver population is growing. Beavers can return it to being a little bit wilder. It will become like it was a hundred years ago."

Is the zone still closed?

The zone is still closed, but not for everybody. There is nobody who can forbid going into it and visiting it. In fact, the El Pais (Spanish daily newspaper) headline about Chernobyl was "30 years after the Chernobyl disaster: five stars on TripAdvisor".

The case is that several companies offer tours from Kiev to the exclusion zone and TripAdvisor had very high mark on that. These tours include "Pripyat ghost town, the mysterious secret military radar Duga and the people can get close to the famous Chernobyl nuclear plant," as is explained in the company's website. The trip also offers the opportunity to meet some of the local inhabitants who survived after the explosion

in the number four reactor. They visit some of the best known places in the town, such as the greenhouse, the school and the forest, so the trip could be described as "a trip back in time ... to 1986". So, the people who like exotic tourism can visit the restricted area for one or two days.

Finally, it is painful to admit that such a terrible accident has become a tourist attraction and a new way to earn money.

The ceremony in people's honor...

The ceremony in people's honor was carried out in different cities of the affected countries. In the ceremony in Kiev, some of the liquidators (people who worked in the area soon after the accident) who are still alive explained how they lived through the situation; in another Ukrainian town, Slavutych (where many workers were relocated after the accident), a Chernobyl vigil was held.

Ukrainian president, Petro Poroshenko led a ceremony in Chernobyl "We honor those who lost their health and require a special attention from the government and society," Poroshenko said. "It's with an everlasting pain in our hearts that we remember those who lost their lives fighting nuclear death."

"Thirty years later, many could not hold back the tears as they brought flowers and candles to a memorial for the workers killed in the explosion. Some of the former liquidators dressed in white robes and caps for the memorial, just like the ones they had worn so many years ago." comments NYTimes.

In Russia, Vladimir Putin made a message to the liquidators in which he called the Chernobyl disaster "a grave lesson for all of mankind".

Finally, the people’s feelings, their thoughts about Chernobyl are still alive: "Chernobyl is continuing today. Our relatives and friends are dying of cancer," said 21-year-old protester Andrei Ostrovtsov to NYT.

Dmitry Mikhailov, a person who was on a crew sent to evacuate a village when people knew nothing about the disaster, also comments "My soul hurts when I think of those days. They smiled at us. They didn't understand what was happening," he said. "I wish I knew where and how they are now. I just can't forget them." Mykola Bludchiy, who arrived some days after the accident to the exclusion zone, comments: "I went in there when everyone was fleeing. We were going right into the heat, and today everything is forgotten. It's a disgrace."

We could find millions of personal, touching examples of people's lives and stories, those people who made it possible to deal with the worst nuclear disaster in history, but we cannot imagine their feelings towards the lack of information, the lies they were told and most importantly, how it feels to lose loved ones because of such an accident.

7. CONCLUSION

After a final closure which took place on 15th December 2000, experts consider that the power plant still carries a great danger to the environment. However, all the effects of the accident are not known. There is evidence and some scientists that cannot agree on the price the accident had and the health impact on people and the environment.

Nevertheless, it has taken about 18-20 years for people to start returning to their homes even if it is still not considered a good idea by the majority in the scientific community. Nowadays Chernobyl has become a Ukrainian symbol because of the damages it caused in the lives of so many people.

As for European aid, it is evident that we have come a long way and during many years Europe and Great Britain have helped Ukrainian children organizing trips and taking them from the affected areas for some months at a time. These countries include Spain, UK and Ireland and these projects have helped the children improve their

health. Moreover, there are several projects in which the European Union has offered financial aid so as to try to fight unintended consequences that the accident may have had.

Because of the accident, in 2003 the UN accepted the decision of the most important countries that belong to the European Union, to make April 26th as the International Day of commemoration of the victims of radiation accidents. Moreover, this accident is certainly considered as the most serious in the history of nuclear energy as it has shown in all its crudity the effects that the environmental movement have predicted a nuclear accident might have had.

With reference to the book: I have read several other books about Chernobyl and this is a documentary which perfectly combines the private and the working life Alla Yaroshinskaya had. The book is written in a very professionally vivid language and easily explains all the lies of the Communist Party and secret protocols that existed in those times. It has been a difficult, but a very nice experience for me to translate from Russian into English for the first time, trying to conserve the ironic language the author uses. I have come across different translation problems such as false friends, the structure of the sentence, the length of the sentence and others.

Finally, even if the wildlife has expanded and the restricted area is a new tourist attraction, "Time passes, but the radioactivity remains. According to those responsible for Chernobyl, the center will remain a dangerous place until 2065. And the radiation zone will return to a fully safe level to within no less than 24,000 years" comments El Mundo.

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