

#2(6)/2022



UNIVERSITY OF SILESIA IN KATOWICE

Cover Story: Dangers of the Modern World

O2(06)/2022

Publisher University of Silesia in Katowice

Editor-in-Chief Agnieszka Sikora, PhD

Editorial Secretary Tomasz Płosa

Cooperation Martyna Fołta

Text Authors Weronika Cygan, Tomek Grząślewicz, Małgorzata Kłoskowicz, PhD, Agnieszka Niewdana, Tomasz Płosa, Agnieszka Sikora, PhD, Katarzyna Stołpiec, Maria Sztuka

Proofreading of the Polish version Katarzyna Wyrwas, PhD, DLitt, Assoc. Prof.

Translation of the English version Artur Adamczyk

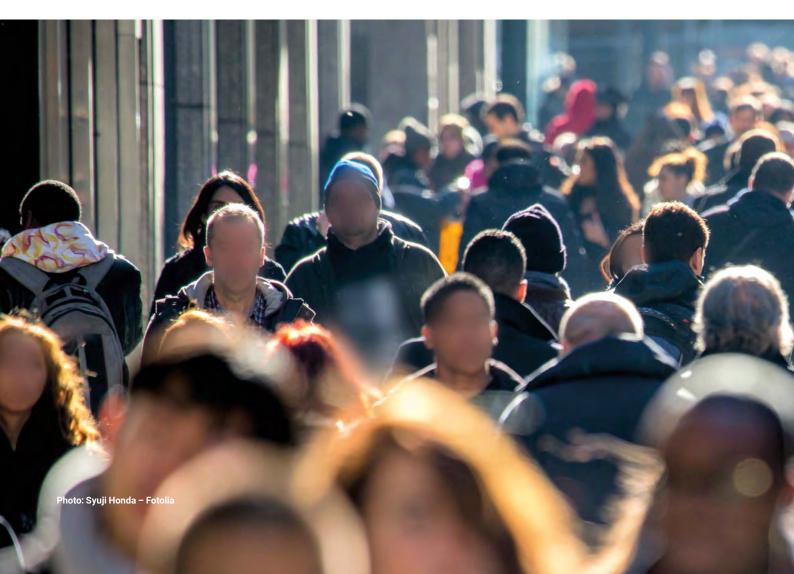
Proofreading of the English version Tomek Grząślewicz

Cover Wojciech Osuchowski, PhD, Assoc. Prof.

Graphic Desgin, preparation for print Patrycja Warzeszka

Science and Programme Council

- Agata Daszkowska-Golec, PhD, DSc, Assoc. Prof. (biological sciences)
- Agnieszka Jaworska, PhD (fine arts and art conservation)
- Seweryn Kowalski, PhD, DSc, Assoc. Prof. (physics)
- Prof. Jerzy Łukaszewicz (film and theatre)
- Agnieszka Nowak-Brzezińska, PhD, DSc, Assoc. Prof. (computer science)
- Prof. Piotr Pinior (law)
- Lucyna Sadzikowska, PhD, DLitt, Assoc. Prof. (literary studies)
- Rev. Prof. Leszek Szewczyk (theology)
- Patrycja Szostok-Nowacka, PhD, DLitt, Assoc. Prof. (communication and media studies)
- Prof. Piotr Świątek (biological sciences)
- Patryk Trzcionka, MA (Doctoral School)
- Waldemar Wojtasik, PhD, DLitt, Assoc. Prof. (political science and public administration)



IS THIS REALLY THE END OF THE AGE OF FOSSIL FUELS?

- 8 PROS AND CONS OF NUCLEAR ENERGY
- AGREEMENTS KEPT ARE WARS AVOIDED
- LAW AND INTERNATIONAL CRIMES
- MIGRANTS AND REFUGEES. ON THE WAY TO PARTNERSHIP



30 INFORMATION WARFARE AS A FOREIGN POLICY TOOL OF THE RUSSIAN FEDERATION



THE OF TH OF FOSS

We will move away from fossil ful However, we do not yet know y and social decisions await us. have to be made. We do know world as we know it will not sur today without the much-hated of

IS T

REA

END EAGE LFUELS?

HIS

LLY

uels in the future — that is a fact. what environmental, economic, Certainly, difficult choices will one thing: without energy, the vive. There would be no energy coal, whether we like it or not. 'Let me tell you a story about a thing as black as tar, which warms you up and comes in a boxcar... But is it worth its price? I hope the readers will want to answer this question for themselves after reading the article', says Prof. Iwona Jelonek from the University of Silesia, who deals with, among other things, the assessment of solid fuel quality, as well as the topics related to the coal carbonisation process and the production and combustion of biomass. The organic petrology expert talks about the energy crisis, the importance of fossil fuels and an alternative transformation model for thermal coal mining.

WHY ARE WE IMPORTING COAL FROM RUSSIA?

One of humanity's main needs has been, is, and will continue to be, the need to secure a good life on Earth — primarily in terms of energy security. Most countries do not have sufficient reserves of fossil fuels, which are currently the basis of the world's energy supply. The specifics of the use of thermal coal are complicated by the fact that, despite having adequate reserves of this fuel, in the case of the European Union, societal conditions are adding an additional burden to this state of affairs, indicating a move away from fossil fuels for the sake of environmental protection and due to the high costs of extracting this raw material.

'Why did we start to close mines? Because we were told that operating them was unprofitable. Despite this, we continue to import coal in huge quantities', says Prof. Iwona Jelonek.

The data collected by the Forum Energii [Energy Forum] think tank shows that 11 million tonnes of coal was imported to Poland from Russia in 2020, including more than 9 million tonnes mined in Russia. This country was our main supplier not only of this energy resource but also of gas and oil. Russian coal ended up mainly in households, heating plants, and industrial plants.

As the expert emphasises, from this perspective the arguments about environmental protection or social aspects seem more like political games than any real action towards the betterment of the planet and people. It is also worth mentioning that according to research conducted by scientists, coal imported from abroad is usually of lower quality than domestic coal, and does not meet the specifications required by the European Union. Furthermore, in many of the world's mines, people work in appalling conditions where no safety standards are respected. It is the economic calculus that decides.

'I have seen such mines with my own two eyes. These activities have nothing to do with sustainable development. What is more, supporting the Russian Federation at the time of war in Ukraine by purchasing hard coal from them is reprehensible. Today we are witnessing the consequences of financing economies governed by non-democratic regimes', points out Prof. Iwona Jelonek.

However, if we were to give up on imports altogether, would then the crisis-stricken Polish mines be able to cover our country's demand for this raw material? It is unlikely.

WHAT DOES THE AUTUMN AND WINTER OF 2022 HAVE IN STORE FOR US?

Certain decisions have already been made. We will start to gradually reduce the demand for thermal coal. The petrologist from the University of Silesia emphasises that this is the right direction to take — the era of fossil fuels is coming to an end, and we should make a shift towards renewable energy. The most important thing, however, is to ensure that the difficult transition does not take place abruptly, under time pressure. In light of the recent events, the key decisions for the whole Europe will now have to be taken much more quickly.

The forecast for this year is not optimistic. We will likely have to face another energy crisis. The European Union is already working to secure gas supplies. We should also prepare for energy shortages. In practice, this means that our country and other EU countries may have to resort to rationing energy supplies in the coming autumn.

According to Prof. Iwona Jelonek, a reasonable way out of the current situation could be to partially awaken the already dormant mining sector in Poland to cope with the current, difficult reality. Naturally, she stresses, only until we are fully independent from powerful economies such as Russia's and have sufficiently developed our renewable energy sources.

'We are prepared for it, considering that Poland still has huge deposits of hard coal', comments the researcher.

However, a return to the past would bring certain serious challenges. This is first and foremost a social problem. It is not difficult to imagine the reaction of Europeans who keep saying: *no more hard coal, no more brown coal, oil, or gas.* Reopening the mines would entail financial penalties from the European Union, and probably also the need to return some of the money obtained from EU funds.

'This is all true, but let me repeat: I believe that changes are being introduced too abruptly', says the scientist.





Iwona Jelonek, PhD, DSc, Assoc. Prof. Institute of Earth Sciences Faculty of Natural Sciences University of Silesia Director of the Centre for Biomass Energy Research and Education Chair of the Board of the Polish Pellet Council iwona.jelonek@us.edu.pl



Photo: Beata Banasiewicz – Fotolia

WHICH TRANSFORMATION MODEL SHOULD WE ADOPT?

Drawing on her knowledge and experience, Prof. Iwona Jelonek suggests developing a model for the transformation of mining plants into the so-called pro-ecological energy production and storage enterprises.

'I believe that rational changes to the production profile of former mining plants would not only ensure an environmental breakthrough in the energy sector, but also create new jobs for miners, who would have the opportunity to undergo retraining'.

The expert from the University of Silesia is of the opinion that such a strong and quick reaction to this year's energy scarcity threat could, metaphorically speaking, help us warm up in the winter and avoid sudden social upheaval.

'Such a scenario is not hard to imagine. Why are we getting rid of the existing underground and aboveground mining infrastructure (excavation sites, shafts, drifts, crosscuts) by filling it with water, hydraulic backfill, and concrete?' It could make a good space for energy storage. We could establish there pumped storage power stations, or sites for biogas plants and biomass or bio-waste collection facilities. The natural processes occurring in biomass release huge amounts of methane, which can be captured, stored, and later used, e.g. for heating housing estates. These are just a few examples', says the researcher.

Prof. Iwona Jelonek also emphasizes the importance of coking coal, which was entered on the list of EU's 27 critical raw materials. We should keep in mind the fact that Poland is the only European country mining this raw material. Recently, renewable energy installations based on the conversion of solar energy have come to the forefront in many discussions about the future of energy security. The petrologist poses a rhetorical question: can this type of installations be currently built without using coking coal?

'Coking coal is used to produce coke, which is then transported to the steelworks, where steel is smelted in blast furnaces. There is no steel without coking coal mines. What is the use of "aluminium trains" if they have nothing to ride on? We cannot currently use aluminium or wooden rails for the purposes of the above-mentioned transportation. There isn't any available cost-effective technology and a cheap raw material which could replace coke. If somebody were to find a suitable solution, then we would witness a gigantic civilisational step forward. Let's hope we won't have to rely on import here as well', says the researcher.

IF NOT FOSSIL FUELS, THEN WHAT?

The widely-adopted climate policy involves a departure from fossil fuels. However, they will still account for a certain percentage of energy production. How large? It is hard to say. We also need to take into account the energy coming from nuclear power plants. Perhaps in Poland? That remains to be seen. We also know that there are plans to increase the rate of renewable energy sources. Unfortunately, these technologies develop relatively slowly, and it will be difficult to reach the planned increase in their share of energy production by 2030.

Photovoltaics is certainly an intriguing proposition, but we need to be aware of the energy waste involved. We still do not have an effective way of storing it. This is a growing industry, therefore, we do not know how long the search for effective solutions will last. Biomass is an interesting option as well. According to Prof. Iwona Jelonek, it is an excellent, underutilised source of energy. Interestingly, our country is currently the fifth largest producer of a solid biofuel, namely wood pellets. They are a sustainable energy source with the potential to become our main fuel in the future.

'Let us hope we won't ruin this product, as was the case with "black gold" and its reputation', says Prof. Iwona Jelonek. Nowadays, she wonders if perhaps we should have invested in researching possible solutions to reduce carbon dioxide and pollution emitted into the atmosphere as a result of burning fossil fuels. Instead, large sums of money were put into the development of renewable energy sources.

'We will move away from fossil fuels in the future — that is a fact. However, we do not yet know what environmental, economic, and social decisions await us. Certainly, difficult choices will have to be made. We do know one thing: without energy, the world as we know it will not survive. There would be no energy today without the much-hated coal, whether we like it or not', concludes the researcher. Contrary to traditional sources, where energy is obtained from the combustion reactions of coal or gas – nuclear energy is obtained from processes related to radioactivity, i.e. the ability of certain atomic nuclei to undergo radioactive decay. Nuclear power plays an extremely important role in the modern world. Some see it as an opportunity for decarbonisation and increased energy security, while sceptics see numerous risks associated with the use of a radioactive energy source.

Most elements found in nature are mixtures of isotopes, which can be either stable or unstable. This means that they can spontaneously undergo the so-called radioactive transformation caused by their interaction either with each other or with elementary particles. Radioactive isotopes are characterised by their half-life, which is a measurement of the decrease in the radioactivity of a sample to half of its initial value. Nuclear fission is a special type of radioactivity, during which a radioactive nucleus splits into two fragments of similar mass. This reaction releases elementary particles, neutrons, capable of inducing further fissions, and a significant amount of energy in the form of high-energy gamma quanta. This phenomenon is known as a chain reaction.

Forced fission, which involves striking an atom of a radioactive element with a beam of neutrons of sufficient energy, is of the greatest practical importance for nuclear power. The most common fission material used in nuclear reactors is uranium, or to be more precise, an enriched form of uranium, i.e. one containing an increased amount of the isotope U-235.

The fundamental issue of nuclear energy is the disposal of radioactive waste, that is, waste containing spent nuclear fuel, as well as radioactive waste generated in the process of extracting uranium ore and its subsequent enrichment. The other problems related to radioactive waste include its transportation and disposal. Radioactive material is considered to be spent after approximately 3 years of operation. However, spent fuel does not cease to be radioactive, and therefore must be stored in special storage facilities and containers, as even a minor leak could lead to hazardous substances seeping into the ground and from there into the sources of drinking water, and eventually could end up being ingested by living beings. The choice of a disposal site is also extremely important. Unfortunately, radioactive waste has become the subject of trade and is often sold to impoverished countries.

Among the ideas for dealing with radioactive waste is an unusual project from Onkalo [Cavity] in Finland. This repository, hollowed out of rock half a kilometre underground, can store 6,500 tonnes of spent nuclear fuel, while the process of its neutralisation and disposal will take up to 100,000 years! Considering just how different humanity was 100,000 years ago, it becomes clear that even just marking the facility for future generations will pose quite a challenge.

Another significant issue in nuclear power is the closure of nuclear plants. A nuclear reactor cannot be simply turned off. The process of decommissioning it is long-term and gradual. Dismantling a nuclear power plant can take decades.

PROS AND CONS OF NUCLEAR ENERGY



 \mathbf{N}

Agnieszka Sikora, PhD

Marek Matussek, PhD Institute of Chemistry Faculty of Science and Technology University of Silesia marek.matussek@us.edu.pl

Nuclear reactors are huge structures requiring constant supervision and control. Although malfunctions should not happen, they do occur, and their consequences are much more serious than those in regular coal plants. Particularly tragic was the Chernobyl power plant disaster in 1986. Despite it being shut down and having a special sarcophagus, called New Safe Confinement, built over it, the reactors housed there still require surveillance. After the Russian invasion of Ukraine on 24 February 2022, the power plant was taken over by the Russian army and became a despicable bargaining chip. This situation has shown that nuclear plants - even decommissioned ones - can become targets for terrorist attacks.

Nuclear accidents might take place also due to other causes than human error, as was the case with the nuclear power plant in Fukushima in 2011. The disaster occurred as a result of a tsunami caused by a strong earthquake, the hypocentre of which was located under the floor of the Pacific Ocean. The safety systems failed despite the plant having safety measures against various forms of natural disasters in place. Finally, another use of nuclear energy must be mentioned, namely nuclear weapons. The humankind realised very quickly that the explosive power of a nuclear bomb was far greater than that of a conventional explosive, and that the consequences of its use were far more serious for both people and the environment. This is why almost from the moment when it was constructed, discussions were undertaken (with varying degrees of success), initially on limiting nuclear weapons testing, later on banning it, then on non-proliferation and disarmament. Unfortunately, the number of active nuclear warheads is staggering. According to the official reports, the United States alone has 7,260 warheads, while Russia has 7,500. Also, the list of countries



actively working on developing nuclear weapons is quite long. This weapon became a subject of blackmail in many wars, including the one in Ukraine. The energy generated with nuclear fuel carries many risks, but it also has a number of indisputable advantages. While low-emission production is certainly the advantage of nuclear power, the processes involved in fuel extraction, reactor construction, and radioactive waste disposal are its weakness. Nuclear fission is indeed a source of tremendous amounts of energy, consequently, nuclear power plants are characterised by an extremely small amount of space required per unit of generated energy. In addition, nuclear energy is a stable and efficient source of energy, completely independent of weather conditions. We must consider whether the advantages outweigh the disadvantages and what the consequences of both using nuclear energy and sticking with traditional sources are.



Sarcophagus containing the remains of the destroyed reactor at the Chernobyl Nuclear Power Plant / Photo: Dariusz Rott





T Maria Sztuka

Magdalena Półtorak, PhD Institute of Law Faculty of Law and Administration University of Silesia magdalena.poltorak@us.edu.pl

AGREEMENTS KEPT ARE WARS AVOIDED

Vulnerable persons are not only women, children, and people with disabilities. This group also includes the elderly, pregnant people, single parents, victims of human trafficking, severely ill people, those suffering from mental disorders, as well as people who have been victims of rape, torture, and other forms of physical, mental, or sexual abuse. Any person, due to certain circumstances, deficiencies, or dysfunctions, might be unable to fully exercise their rights. The role of law (including international law) is to ensure equal opportunities. Moreover, in the era of mass migrations Europe must not only manage them, but also (additionally) implement the existing legal norms more effectively and, if necessary, modify them on an ongoing basis.

Until the late 1990s, asylum seeking in Poland was only an occasional phenomenon. A country which rebuilt itself after a political transformation did not entice foreigners looking for asylum to pursue a permanent residence, and most migrants treated Poland as a transit country. In comparison with other European countries, Poland's experience in granting refugee status was quite limited. Poland ratified the Geneva Convention relating to refugee status only in 1991 and the first refugee centre was established in May 1992 (in Podkowa Leśna-Dębak). It serves as the primary facility to this day.

However, the situation changed drastically in 2014 when Europe became the destination for masses of people from Africa and the Middle East trying to escape warfare, as well as migrants from countries such as Kosovo or Afghanistan, seeking better living conditions. The refugee and migration crisis, the largest one since World War II, began in Europe in 2015 when over 1.75 million people reached the Old Continent. Soon it became apparent that a major reform of the Common European Asylum System (CEAS) was needed. The solidarity expressed by European countries was also indispensable in lifting the burden of this crisis.

Although Poland had not accepted a single refugee from the quota assigned to the Member States by the EU Council until mid-May 2017, the country felt the consequences of the migration crisis in 2021, when thousands of people arrived at the Polish and Belarusian border, brought there by the Lukashenko regime from the Middle East and Afghanistan, as well as a year later, due to mass migration caused by Putin's aggression in Ukraine. In the course of four months, 4,551,000 Ukrainians arrived in Poland, out of which around 2 million remained within the borders of our country. However, providing aid on such a large scale requires institutional support, which should be based on clear-cut legislation.

INTERNATIONAL LAW IN THE FACE OF A MIGRATION CRISIS

According to Magdalena Półtorak, PhD, from the Faculty of Law and Administration of the University of Silesia in Katowice, who conducts research on human rights, the (universal) international law is a beautiful standard and an excellent reference point, but ultimately its effectiveness is decided by the specific regional solutions.

The international human rights law is based on the documents developed by the United Nations. Somewhat naive ideologists affected by the atrocities of World War II believed that this organisation, established in October 1945 to uphold peace and international security, would also guarantee human rights. The phrase No more war was to resound until the end of time, whereas military aggressions were supposed to be deterred by, among others, the Universal Declaration of Human Rights, international covenants on human rights, the Convention on the Prevention and Punishment of the Crime of Genocide, and a number of other 'sectoral' agreements on, e.g. prohibition of torture, rights of people with disabilities, and children's rights.

'If all signatories of the UN Charter respected the agreements, there would bo no more wars: in Korea, Cyprus, Middle East, Persian Gulf, former Yugoslavia, Rwanda, and Afghanistan. These conflicts show the superficial nature of international agreements', concludes the lawyer.

With regard to regional solutions on granting refugee status, it is particularly important to take a look at the aforementioned asylum system of the European Union. The status of the living instrument, on the other hand, is still applied to the European Convention on Human Rights adopted at the Council of Europe. This document protects, among others, the right to life, and prohibits torture and mass displacement of foreigners.

REFUGEES ARE NOT MONO-LITHIC

In some respects, EU law was ready for migratory movements. To a large extent, it also provided special guarantees for vulnerable groups. However, no one could have predicted the



scale of this phenomenon, as the migrants from Ukraine totalling several million people have shown, and the refugee crisis has demonstrated that the asylum system needs a thorough reform. Although discrimination is obviously prohibited, it is not possible to treat all refugees and their needs in the same way.

'CEAS not only recognises the needs of vulnerable persons, but also aims to accommodate them. However, the risk is that this "labelling" may result in stigmatisation correlated with the



person's dependency or vulnerability', says the lawyer.

The conflict on the border between the European Union and Belarus and the hundreds of refugees subjected to the so-called push-backs (turning back people who cross the border illegally), together with the consequences of the war in Ukraine, have shifted the perception of the migration problem not only among policy-makers, but also among Poles themselves. The undeniable presence of women, children, elderly people, and people with disabilities among the refugees has caused



this category to no longer be perceived as monolithic. Although the rights of the aforementioned groups are individually protected in theory, in the migratory context it turns out that the possibilities of exercising these rights are clearly limited. Ukrainians, who are much closer culturally and mindset-wise to us, exposed the inadequacy of the regulation required to effectively ensure care not only for people fleeing war, but also for people who have different needs under these circumstances (e.g. single mothers and their children or elderly people who have suffered additional physical and psychological damage due to the war). 'As far as migration law in Poland is concerned, we have made a huge breakthrough', emphasises the lawyer. 'At the beginning of the 1990s, we had no legal norms covering refugees. The first decisions on granting refugee status were issued not based on a law, because there was none, but on... the UNHCR (UN Refugee Agency) manual. Since then, we have been making good progress in catching up, but Polish migration law must be amended on an ongoing basis'.

Has the attitude of Poles towards people seeking international protection also changed? We still seem much more willing and eager to help our neighbours than people who come from Syria, Afghanistan, Iraq, i.e. countries that are culturally distant, even though they face the same problems — fleeing war, terror, violence, cruelty. It is not only a legal issue, but, above all, an educational one.

'Mothers feeding their children under a barrage of bullets suffer in the same way, regardless of their skin colour, religion, clothes, language, or latitude, and every child's pain and tears are the same', emphasises Magdalena Półtorak, PhD.

UNIVERSAL DOES NOT MEAN PERFECT

Since the inception of CEAS, which has evolved and is being modified on an ongoing basis, the needs of vulnerable persons have been recognised. The consensus is that being vulnerable means being particularly exposed to threats, as well as being easily hurt physically, mentally, or emotionally. Thus, people seeking international protection have been considered a kind of subcategory of vulnerable persons for some time now. This is an EU response of sorts to the universal (UN) standard. However, we should bear in mind that it has been developed primarily on the basis of soft law, i.e. the so-called soft documents issued, in this case, by the UNHCR, which are not legally binding.

Public international law is very comprehensive and, at the same time although it 'matures' slowly — solid and stable. Its effectiveness, however, relies primarily on the goodwill of the states that take seriously the principle stating that agreements must be kept (Latin: *pacta sunt servanda*). Similarly, there is no entity that can 'punish' states for failing to fulfil their obligations.

'The international human rights law is a perfect example of why it is much easier to make declarations than to abide by them. International standards are implemented only to the extent that the governments of individual countries and the "climate" surrounding certain phenomena allow', the lawyer states.

At the same time, it should be stressed that despite its sustainability, the system needs adjustments every now and then, especially on the basis of regional (EU) solutions. When the guarantees of international protection were created decades ago, neither the border storm nor the four million migrants 'at the doorstep' in four months could have been predicted. Given the pace of the events, it poses a major challenge, especially for lawyers, to flesh out the legal details that necessarily could not have been included in the existing international documents. At the same time, we must make note of the fact that the countries under the so-called migration pressure will have a different perspective from the rest. In this case, complete solidarity is rather wishful thinking.

'Human rights are undoubtedly a topic which will never be definitively settled. After all, their effective protection requires permanent measures to prevent the lowering of (quite good) international standards and a whole lot of goodwill', concludes Magdalena Półtorak, PhD.

T Tomasz Płosa

Dominika Iwan-Sojka, PhD Institute of Law Faculty of Law and Administration University of Silesia dominika.iwan@us.edu.pl Everything that has been happening in Ukraine since 24 February 2022 fills us with horror, compassion, and moral objection. There is no doubt that Putin, his closest associates, the commanders of the Russian army, and its regular soldiers are responsible for the evil that is taking place in our neighbour's territory. The tragedy of the Ukrainian people demands justice and just punishment for the culprits. However, let us try to disconnect emotionally and analyse the current situation in Ukraine in the context of international law. Contrary to some media reports, Putin cannot be held accountable before the International Court of Justice in The Hague (ICJ), as it settles disputes between states, not individuals.

'Nevertheless, Ukraine has already initiated proceedings against Russia with the ICJ', says Dominika Iwan-Sojka, PhD, from the Faculty of Law and Administration of the University of Silesia, who specialises in international responsibility law. 'Ukraine is requesting an investigation into two issues: whether the Russian Federation had the right to launch a "special military operation" (as Putin calls it) because of the alleged crimes of genocide against Russian-speaking inhabitants of Ukraine, and whether Russia is motivated by the intention to exterminate Ukrainians in the occupied territories. The institution with jurisdiction to settle disputes in this respect is the ICJ'.

The Hague is also home to the International Criminal Court (ICC). The ICC's jurisdiction covers four categories of international crimes: genocide, crimes against humanity, war crimes, and the crimes of aggression. However, this last category cannot be considered in the context of the armed conflict in Ukraine. This is due to Ukraine's declaration from 2015, which recognised the ICC's jurisdiction over war crimes and crimes against humanity in relation to the armed conflict taking place since 2014. In addition, the ICC Prosecutor has extended their jurisdiction to the crimes of genocide.

The delineation of the designated types of international crimes is often difficult. We associate genocide primarily with the tragic events of the World War II, although it had also occurred earlier (e.g. the extermination of the Armenian population by the Turks in 1915-1917). The concept was formulated by Rafał Lemkin, a Polish lawyer of Jewish origin, who nevertheless failed to introduce it into the Charter of the International Military Tribunal (trying Nazi criminals) and of the Far East (trying Japanese criminals) in Nuremberg. Genocide is defined as a crime of crimes and consists in deliberate and intentional destruction in whole or in part of nations, ethnic, religious, or racial groups, including through killing members of the group, preventing births in the group, imposing living conditions intended to destroy the group, or forcibly transferring children out of the group. These criminal acts, as well as, among others, torture or sexual offences, without the possibility of proving specific intent, but committed on a large scale, are counted as crimes against humanity, regardless of whether there is an ongoing armed conflict. However, if such acts occur during an armed conflict, they are usually referred to as war crimes.

'Everything points to the fact that what has been happening in Ukraine since February qualifies as war crimes. The Bucha massacre was a horrific tragedy, but it is not certain whether it meets the standards of genocide under international law, which is very difficult to prove. For the time being, all we know is that there is an armed conflict taking place, and many things will only come to light once the fog of war has cleared', explains the lawyer. What punishment should there be for the crime? Is there any hope that our sense of justice will be satisfied? Trials of Nazi criminals often dragged on for years, it was not possible to try all those responsible for crimes committed during World War II, and the sentences handed down to less involved individuals seem ridiculously low, while the arrest and trials of Radovan Karadžić and Ratko Mladić, i.e. those responsible for the massacre in Srebrenica and Potočari in July 1995, only became possible after the political change in present-day Serbia.

'It is highly unlikely that Putin, the people in his inner circle, or the generals of the Russian army will be brought to justice by the international community. If this were to happen, however, army representatives would probably be tried for crimes committed against civilians. This, by the way, could also apply to soldiers who are already in Ukrainian captivity. The reason I say "probably" is that, according to the law, everything has to be proven to a specific defendant. Commanders would be held responsible not only for giving orders to kill civilians or shell residential buildings, but also for failing to respond to the atrocities of their subordinates. They, in turn, are obliged by international law not to carry out orders that are contrary to the law, such as harming civilians. However, we must remember that although a civilian is protected under the law during an armed conflict, they lose this protection if they voluntarily join the fight, for example by throwing Molotov cocktails', the expert explains.

On the other hand, if we imagined the long arm of justice reaching Putin, he would most likely be charged with the crime of aggression because, as the formal commander of the Russian armed forces, he set the entire war machine in motion, thereby violating the prohibition on the use of armed forces — one of the peremptory (i.e. absolutely binding) norms of general international law.

'Of course, such a development is difficult to imagine; we realise that the main burden of a potential change lies with the Russian society. Whether it is ready for change is another topic altogether. Nevertheless, I think that the attitude of the international community is of great importance. Firstly, it can investigate all those suspected of being involved in crimes committed in Ukraine - both under universal jurisdiction and under the national legislation of individual states: the Polish Prosecutor General has, for example, launched pre-trial proceedings for crimes of aggression. Secondly, we should continue to put pressure on Russia through political and financial measures: sanctions against oligarchs or companies such as Gazprom, barring them from the SWIFT system, or excluding Russian athletes', argues Dominika Iwan-Sojka, PhD.



Agnieszka Niewdana

Rafał Cekiera, PhD Institute of Sociology Faculty of Social Sciences University of Silesia rafal.cekiera@us.edu.pl

MIGRANTS AND REFUGEES ON THE WAY TO PARTNERSHIP

The issue of migration is one of the most important research topics today, also among sociologists. For at least a few years now, we have been observing an increase in migration movements. What are their causes? What are the consequences? These questions have been addressed by Rafał Cekiera, PhD, from the Institute of Sociology of the University of Silesia in Katowice, who specialises in the sociology of migration, religion, and the analysis of contemporary cultural transformations.

Migrants, emigrants, immigrants, refugees — these terms appear more and more frequently in public discourse; especially now that the war instigated by Russia in Ukraine has been going on for several months. First of all, it is worth sorting out these terms. A *refugee* is a person who has been forced to leave the place where they used to live.

The terms *emigrant* and *immigrant* describe the same person, but they are used depending on the perspective taken — whether the country is a 'sending' or a 'receiving' country. Emigrants and immigrants can be further defined by their purpose of departure, adding, for example, the term *economic*.

'And here lies the issue consisting in the use of conceptual engineering, which is often exploited for political purposes. The intensified population movements in 2015 as a consequence of, among others, the war in Syria, are a case in point. At that time, a dispute began over how to define those arriving in Europe. Were they refugees or immigrants? People protested against calling them refugees, sometimes resorting to such absurd arguments as the fact that they owned designer clothes or smartphones. We faced a similar situation at the Polish-Belarusian border. Foreigners abused by the Belarusian regime were denied humane treatment, for example by not allowing their applications for international protection to be processed. Making arbitrary decisions on who is a "genuine refugee" and who is not clearly has its consequences. It makes it easier to absolve oneself of the responsibility for the tragic situation of these people', says Rafał Cekiera, PhD.

The definition of a refugee, enshrined in the 1951 Geneva Convention, is very rarely brought up in the public discourse. It was established after World War II as a manifestation of post-war reflection in the aftermath of the brutal wartime experiences. The Convention defines a refugee as someone who, due to a well-founded fear of being persecuted for reasons of race, religion, nationality, or belonging to a particular social group, but also due to their political opinions, is outside the borders of the state of which they are a national. Because of these fears, such a person is unable - or unwilling - to seek the protection of their own state. Importantly, the Geneva Convention also prohibits the deportation or return of refugees to countries where their life or freedom could be threatened.

In recent years, Poland has changed its status from an emigration country to an immigration country – more people are arriving in Poland than leaving.

'We are becoming an increasingly attractive place for immigrants seeking to improve their material status. The brutality of the wartime terror in Ukraine, forcing so many people to leave their homes and seek shelter abroad, adds an extra dramatic dimension to this phenomenon. All of this represents an important and urgent challenge in many different areas of our society. We must avoid seeing newly-arrived people solely in terms of cheap labour. Each of them has their own dignity, dreams, plans, expectations, and fears. Our job is to search for the ways to forge partnerships and manage them so that, without turning a blind eye to various potential problems, we make the most effective use of this intercultural encounter'. the researcher points out.

Another problem highlighted by the sociologist is the sense of temporariness experienced by some people outside their homeland.

'It often seems as if we are leaving only for a while and will return immediately, and that our previous place of residence will be waiting for us unchanged. This is an illusion. In one of his short stories, Bohumil Hrabal describes the return of a character from the Netherlands to his homeland. He enters a bar where, just as 20 years earlier, the same people are sitting around drinking beer. The next day he goes to the barber, who asks him if he wants the usual. Such literary imagery in reality can be a dangerous trap. Often, it is only after returning that one discovers that life in fact went on in their country of origin. Our friends made a life for themselves, they have families and homes, while we have returned from a place where we worked jobs below our qualifications or ambitions, and now find it difficult to start the career we once dreamed of', notes the sociologist.

Leaving the home country can also be a time of personal growth. Surveys among emigrants show that it is not uncommon for them to treat their stay abroad as a kind of school of life, which verifies resourcefulness, builds character, develops openness to others, and is a unique and empowering experience. An important context for this school of life is the attitude of host societies towards immigrants. Rafał Cekiera, PhD, emphasises the importance of mutual integration and its benefits for both those arriving and those already living in the area.

Integration issues are also extremely important in the current Polish context,



even if we are aware that a majority of Ukrainian refugees will probably want to return home as soon as it is possible. 'It would be a mistake to assume that since the refugees are with us only temporarily, integration efforts are pointless. The better we get to know each other, the easier it will be to live together. At the same time, the risk of various social tensions arising decreases. Integration measures are also a practical aspect of brotherhood.

Although integration must always be a two-way process, it is up to the host community to create the right conditions and social climate to foster it. Only a genuine openness to foreigners, based on a culture of solidarity, can make it possible to reliably communicate the rules of social coexistence, adherence to which we have the right to expect. We must remember that refugees and migrants will contribute to our society as much as opportunities we create for them allow. Lack of integration fosters social problems and those arriving are at risk of feeling marginalised.

We are currently undergoing an accelerated course in intercultural relations in Poland. There are also different attitudes towards integration.

We can distinguish two extremes. Some people believe an intercultural encounter to be dangerous, whereas others assume that only positive things can come from the meeting of cultures. Both attitudes are, in my opinion, wrong. Living in a culturally diverse environment has enormous potential. If managed well, it can lead to cultural enrichment that benefits both parties. However, the sociologist warns against a naively optimistic approach. Despite globalisation, cultural differences simply exist and crossing them is sometimes difficult or requires compromise. This sometimes touches on serious issues, such as women's rights, which are understood differently in different cultures. Honestly presenting the differences rather than denying their existence is the first step towards developing optimal forms of social life.

Nowadays, we face questions about the shape of states and the functioning of nations. What will they look like and how will they define themselves in times of significant migration movements? The process of globalisation and the unifying efforts undertaken by EU bodies must be considered, while glocalisation should also be noted as its counterbalance aimed at elevating the importance of locality, the specific character of regions and nation-states. 'Various nationalist movements can be seen as a twisted response to the current situation, and as attempts to express disagreement with the "blurring" of national identity. Their proponents perceive a real threat of the disintegration of structures that are familiar and acceptable; that are linked to a particular historical narrative and accepted traditions'.

above-mentioned integration The may be one antidote to extreme attitudes and radicalisation. After all, a society confident in itself, its norms and values, knowing and respecting its traditions, does not need to be afraid of encountering immigrants, offering hospitality to those in need, or following a humane migration policy. This is why education aimed at showing the diversity and non-uniformity of the world is so important. It also enhances intercultural competencies, which may include knowledge of one's own and other cultures, attitudes towards outsiders, and communication skills.

'An honest approach to refugees or migrants and their situation is essential. Many times throughout history, Poles have benefited and are still benefiting from other countries' hospitality. The migration experiences of so many of our fellow countrymen can now be extremely useful in recognising the needs of foreigners who come to us', concludes Rafał Cekiera, PhD.

War refugees, Irpin in Ukraine, 9 March 2022 / Photo: Mikhail Palinchak



Maciej Bernasiewicz, PhD, DLitt, Associate Professor from the Institute of Pedagogy of the University of Silesia in Katowice, is a specialist in the field of juvenile delinquency. According to his assessment, the source of problems affecting the upbringing and behaviour of minors lies within the family.

'The family environment has the greatest impact on a child's behaviour', says the specialist. 'I have been analysing the files of juveniles who have ended up in correctional facilities for many years. The results clearly point to family dysfunction'. The harm suffered by the child from their parents is predominantly physical, psychological, and even sexual violence.

When I look through the files of young people in juvenile detention, I come across scenarios that tell frightening stories of sexual abuse committed by one of the parents or a family member. There are also cases of parents trafficking their own children. In addition, there are many cases of alcoholism and physical violence, as well as parents being imprisoned. Such children often become copies of their parents and live in an equally pathological way. Most of the offences they commit involve vandalism, destruction of property, fights, and theft. Their sexual initiation and descent into substance abuse occur earlier', says the researcher.

Many juveniles, i.e. people who are under 17 years of age at the time of committing the offence, but 13 years of age or older and sentenced to stay in a correctional institution, are commonly considered destined to fail in life. Meanwhile, the researcher explains just what the rehabilitation of adolescents in this type of centre is all about.

The juvenile correctional work programme is very extensive. It ranges from basic activities associated with housekeeping and normal daily life to sporting activities such as rock climbing, aerial acrobatics on a kitesurfing board, hippotherapy, and skiing. All activities, especially extracurricular ones, are designed to illustrate what freedom really is. It is important to remember that a majority of young people in correctional institutions lack such knowledge.

'How is someone supposed to love freedom when they have never experienced it?', asks Prof. Maciej Bernasiewicz. 'People who are slaves to addictions, stimulants, or even the internet, but also to evil and violence, need to be shown what freedom is, taught how to live in freedom, and given the chance to cultivate a sense of freedom so that they will not want to give up on it again'.

Prof. Maciej Bernasiewicz points to another important phenomenon that parents are very often unaware of.

'Nowadays, upbringing consists in giving the child a smartphone and leaving them alone. Children today are abandoned, including those who come from the so-called good homes. Soon, behavioural addictions will become the scourge of our civilisation', the researcher predicts.

In South Korea, one of the most advanced countries in terms of technological development, teenagers' huge dependence on computers and other electronic devices is already visible. It is estimated that 25–30% of young people use them in a harmful way and display withdrawal symptoms when they are deprived of access to them. These include irritability, restlessness, anxiety, inability to relax, irritability, insomnia, and feeling of loneliness. They have problems with establishing and maintaining social relationships, showing empathy and compassion, and one day these young people will be fathers,

JUVENILE OFFENDER'S PROFILE



Crime is a phenomenon that cannot be completely eradicated. Society's traditions and culture, as well as the level of its economic development, are very important in maintaining the optimal happiness levels of its people. In spite of the efforts of educators and parents, who are sometimes overly preoccupied with ensuring a prosperous life for their children, they are unable to protect them from the danger of going down the road of crime.

> mothers, husbands, and wives. A lack of interest in one's own child renders them unhappy because they are not given the much needed affection. Indifference is worse for the child than an authoritarian, controlling, and even violent attitude, such as shouting or physical punishment (which of course I do not approve of). Nothing is more beneficial to a child's proper development than an attentive presence in their life. The lack of an authentic bond with the child makes them increasingly sad, angry, and aggressive because internally they refuse to accept a loveless and joyless life. An attitude that manifests itself in providing only material goods for the child will not shape a young person properly. Only participation of those closest to them in their upbringing, care, and closeness will offer them real support in their lives and assist them in solving problems.

> In Poland, statistics show that about 50% of those who leave correctional facilities end up reoffending, but the rest successfully readjust to society. Any rehabilitation brings progress, if only with the awareness of committing criminal offences. It will not stop all evil in the world, but hopefully it will help to straighten the life paths of those who have failed to do so themselves.

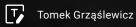
> 'It is also worth noting that based on the current data, juvenile delinquency in Poland (with a similar trend in the US) is not increasing, but decreasing', stresses the specialist.

T Katarzyna Stołpiec

Maciej Bernasiewicz, PhD, DLitt, Associate Professor Institute of Pedagogy Faculty of Social Sciences University of Silesia maciej.bernasiewicz@us.edu.pl



Photo: Das

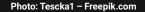


 \sum_{\bullet}

Karolina Wojtasik, PhD Institute of Sociology Faculty of Social Sciences University of Silesia karolina.wojtasik@us.edu.pl

HOMEMADE TERRORISM

The driver of a bus on route 145 could not get through to the switchboard. When the vehicle stopped at a traffic light, he checked the contents of the bag and removed the suspicious package at the nearest stop. A moment later, the bomb, constructed and planted by a 22-year-old Pole, a student at the Wrocław University of Technology, exploded. Had it not been for the alertness of one of the passengers and the effective, though non-regulation, actions of the driver, many people could have been killed inside the bus in Wrocław on 19 May 2016. The research on terrorism conducted by Karolina Wojtasik, PhD, shows that danger may be much closer to us than we think.



'We often associate danger with something that comes from outside, in the form of a bearded man who speaks a language we don't understand', says Karolina Wojtasik, PhD. 'We forget that terrorism is a method of action, and that the radicalisation which may lead to violence is not necessarily linked to Islam or its ideology'. And while Islamist terrorist organisations such as Al-Qa'ida or ISIS are responsible for most of the attacks we hear about in the media, the 2011 attacks in Norway were carried out by a right-wing extremist Anders Breivik, a blond-haired and blue-eyed man.

One of Karolina Wojtasik's main areas of research is the analysis of the motivations and behaviours of the perpetrators of terrorist attacks.

'Breivik chose the youth of the Norwegian Labour Party – the children of politicians and entrepreneurs who would be meeting in the hallways of major companies and ministries in a dozen years' time — as the main target of his attack in a very deliberate way. He shot not so much at the youth but at a symbol of Norway's future', the researcher believes.

Similar thoughts were shared by the perpetrators of the 9/11 attacks, who chose as their targets the symbols of US financial, political, and military power. This was an event that not only changed the course of modern history, but it was also a turning point for the history of terrorism. Passenger aircraft and hostages were used as tools in the attack, and the scale and number of casualties were shocking.

Terrorists most often strike in crowded places. Explosives at the finish line of the Boston Marathon (2013), a series of explosions and shootings in Paris (2015), coordinated bombings in Brussels (2016), and pedestrians rammed by a truck in Nice (2016) are just a few examples. The last case shows that the attackers' methods are subject to trends. 'Terrorist organisations encouraged the use of large, heavy vehicles in attacks on civilians from around 2010. It was only a matter of time before such a tool would be used in Europe. The Nice attack was soon followed by similar incidents in Berlin and Barcelona', the researcher points out.

It is easy to notice that most of the above-mentioned attacks happened in the mid-2010s, when ISIS entered the international arena. The organisation is well aware of the importance of propaganda spread using new technologies and social media.

'Between 2014 and 2015, the internet was quite literally flooded with their creations, including music, videos, films, and jihadist press', lists Karolina Wojtasik, PhD, who researches Islamist publications. 'Until around 2018, they could be found online in gigantic quantities; nowadays, they tend to be rather in the areas of the internet which an ordinary person would not normally visit. Accessing these materials is more difficult now, as they are subject to censorship, and ISIS has far fewer resources to produce them than it once did'.

In jihadist newspapers, a militant can find tips on how to organise attacks. 'A few years ago, a newspaper for terrorists advertised its instructions for making improvised explosive devices under the following title: *Make a bomb in your mother's kitchen*', says Wojtasik, PhD. According to ISIS guidelines, a jihadist should hold the hostages until the television crew arrives and shows what is happening to the entire world. They are also expected to be visible: write a manifesto and send it to the media. If they ram people with a car, then it would be good to have an ISIS flag on it. We'll admit to it, we'll offer you the franchise, we'll spread the word, there won't be a slightest doubt about who did it - this is the Islamic State's mindset. The approach to dealing with hostages has also changed, with the terrorists once treating them as an exchange currency and presenting their list of demands. Nowadays, they often pretend to negotiate, stalling for time until the media arrives. The attackers did engage in negotiations at the Bataclan theatre and at the club in Orlando, but their demands, such as stopping coalition airstrikes on ISIS positions in Syria, were impossible to meet. Their only goal was to extend the duration of the attack and increase its reach.

ISIS thoroughly analyses attacks carried out by its members or on its behalf. After the 2016 attack in Orlando, in which the attacker killed 50 and injured 53 people during a Latino night at a gay club, they concluded that the target chosen by the attacker was not great, because he could be accused of carrying out the attack due to his hatred of the LGBT and Latino communities instead of jihad.

What is the security situation in Poland? Following Russia's attack on Ukraine, in February 2022, the second-level BRAVO alert was introduced due to the increased threat of a terrorist-type incident and an even higher, third-level CHARLIE-CRP alert, addressing the high probability of a terrorist attack in cyberspace. What should we do?

'Live as usual, only pay more attention to what is happening around us, especially in public spaces', advises Karolina Wojtasik, PhD.

She also emphasises that too little attention in discussions on terrorism is paid to critical infrastructure.

'We rarely associate security with the fact that we have electricity, water, and

gas. Meanwhile, all it takes is a successful attack on a local power station, sewage treatment plant, or waterworks. Just imagine the chaos that would ensue in Kraków or Warsaw if a hacker broke into the systems in water treatment plants and prevented them from operating properly', says the researcher, who is trying to raise public awareness of terrorist threats, among others, through her YouTube channel called *Anatomia zamachu* [Anatomy of a terrorist attack].

In fact, it isn't even necessary to pollute or poison the water at all – a rumour is all it takes. Skilful disinformation on social media that the water in our taps is toxic posted by a thousand trolls on local media forums will momentarily cause panic: shops stormed and looted, people trampled. Those with somatic illnesses, nervous system disorders, cardiac diseases would be affected immediately. Ambulances, hospitals, and clinics wouldn't keep up. Confidence in the authorities would drop. Telephone lines would be jammed. The direct and indirect consequences of such an action could be severe.

Fortunately, not all incidents go as the attackers intended. The researcher analyses the mistakes and unforeseen issues capable of thwarting the most precisely planned attacks. In Brussels, five assailants were supposed to carry out the attacks at the same time, but the taxi company made a mistake and provided a vehicle that was too small, with enough room for only three of them. This mistake most likely saved many lives. Anders Breivik, after nine years of preparation, simply overslept. In addition, he had problems with his internet connection, whereas part of his plan was to post a 1,000-plus page manifesto on the internet and send it to several people. The attack took place on a Friday: when Breivik arrived outside the government buildings to detonate the bomb placed in a truck, many people had already finished their week's work, thanks to which there were fewer casualties.

'Sometimes one event or another is decided by chance, but our security is not just a matter of blind chance', emphasises the researcher. 'Most bombings that occurred in Europe and the US involved someone leaving a package with an improvised explosive device in public space. When such an item was spotted in time and the relevant services were notified, the attack was usually prevented.

In the Wrocław incident described at the beginning, the key factor was the intervention of a passenger who noticed that the bag might contain something dangerous. So if you see a piece of abandoned luggage in public space, call 112. Although in 99% of cases it will probably be nothing serious, in some situations you might just save someone's life.

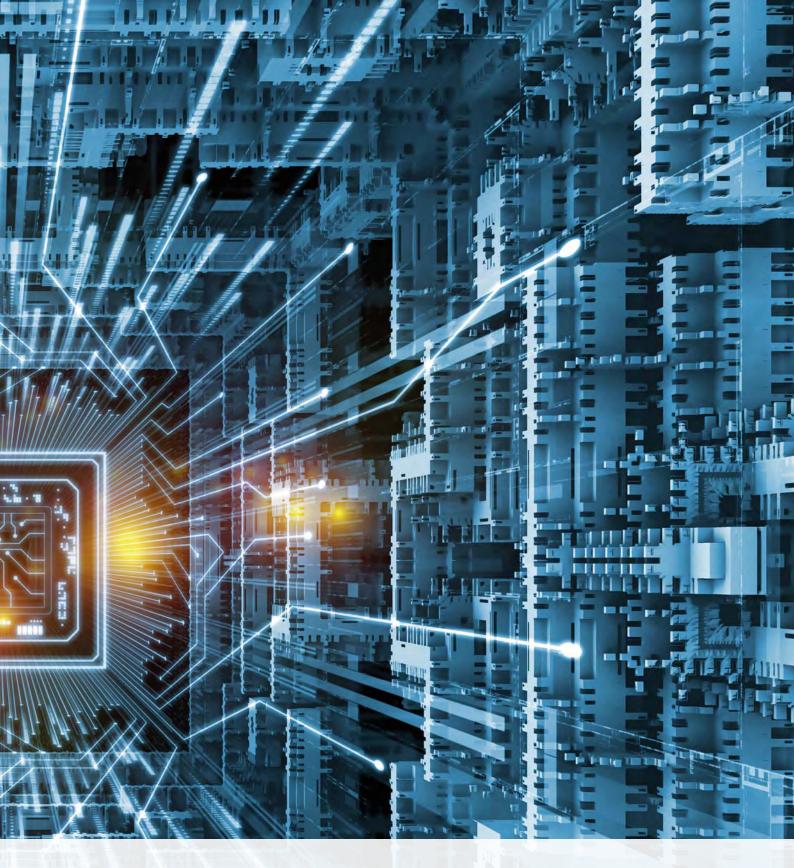




QUANTUM ATTACKS ON CL

Graphic: Andrew Ostrovsky





It started as a thought experiment in 1970, when physicist Stephen Wiesner came up with the idea of replacing classical banknote security features with quantum ones. However, the novel idea had to be put on the back burner for a few decades before it could be experimentally tested.

Instead of having unique serial numbers printed on the banknotes and visible to the naked eye, S. Wiesner wanted to use the properties of elementary particles, such as polarisation and spin, for quantum money. Then, it would only be possible to read the printed code with a suitably constructed apparatus. Such money would also be impossible to counterfeit. However, this elegant solution was beyond the capabilities of the technology available at that time.

Nevertheless, the experiments undertaken back then offered some hope that the idea could be put into practice. In the 1980s, the use of single qubits in quantum cryptography was considered (in quantum computing, a qubit is equivalent to a bit in classical computing; unlike a bit, which only takes the value of 1 or 0, a qubit can be in a superposition of two quantum states, which are, in simple terms, 1 and 0 at the same time), and in 1991 Polish scientist Artur Ekert proposed using their entangled states for this purpose. The experiments carried out four years later by a team including Anton Zeilinger - a world authority on quantum information – proved that indeed it could be done. However, before we move on to cryptography, we need to take a closer look at quantum computers themselves.

0

0

....

.

. . .

THE POWER OF QUANTUM COMPUTER

Hardly a day goes by without us coming across a flashy headline while browsing through various websites, proclaiming: Groundbreaking development in quantum computing! When asked how much truth there is in the hype generated by the media, Prof. Jerzy Dajka, a physicist from the University of Silesia, replies: 'We are still a long way from achieving something practical. We are not very good at dealing with decoherence, i.e. the loss of information due to the system's interaction with the environment. We still don't have enough cubits. The experiments that we are aware of seem to prove that the quantum advantage has been established for some relatively simple issues. However, the size issue remains. We are indeed able to do some simple things with a qubit faster than with bits, but if there is an issue requiring us to encode something with tens of thousands of classical bits, we don't yet have enough qubits to contend with that. We are still at a preliminary and more of a theoretical stage when it comes to quantum computing'.

At the moment, the American companies IBM (Quantum) and Google (Quantum AI), as well as Canada's D-Wave Systems, can boast having quantum computers under constant development. However, it should be noted that the last of these three companies spe-

.

0

.

0 0

. .

0 0

. .

cialises in a certain class of algorithms, capable of solving a rather narrow range of problems.

'Although D-Wave seems to be the most advanced in terms of technology, it paradoxically poses the least threat to classical cryptography', asserts the scientist. — And what exactly is this threat about?

UNCOVERING INFORMATION

Let us recall the previously mentioned idea of quantum money by S. Wiesner. After all, we use all sorts of codes and encryptions to protect our data in many different areas. Be it a bank account, a patient's profile in healthcare information systems, or military or economic secrets - everywhere the security of information is ensured by various types of algorithms used in classical cryptography. We are frequently not sure whether such codes or encryptions cannot be broken. What we do know is that we cannot do it within a period of time shorter than the lifetime of the Universe. Unless someone trying to break through such an algorithm uses a quantum computer.

'Such a person would be able to break the encryption instantly. The world would become unilaterally transparent, that is, a person with a quantum computer would be able to see all the data encrypted by classical methods, but the other side would not be able to access the data secured by quantum cryptosystems', explains Prof. Jerzy Dajka.

0



 \mathbf{M}

Prof. Jerzy Dajka Institute of Physics Faculty of Science and Technology University of Silesia jerzy.dajka@us.edu.pl

A glance at Ukraine ravaged by war is all it takes to realise the huge importance of information. After invading their neighbour, among the first things that Russians destroyed was communications infrastructure, to prevent the enemy from communicating, but also to cut them off from news from the front and stop them from sending their own messages to the outside world.

'The presence of Elon Musk's Starlink in Ukraine is a non-trivial factor. By making his communications satellite system available to the invaded country, the visionary businessman has ensured that Ukraine's military and administration is no longer in any way dependent on Russian interventions for communication', explains the physicist.

It is thus not hard to guess that the first country to develop a quantum computer capable of performing such calculations would have a dangerous weapon at its disposal. This would entail global domination, comparable only to what occurred after the Americans developed the atomic bomb. It lasted until the bomb showed up also on the other side of the Iron Curtain.

POST-QUANTUM ARMOUR

Such a scenario sounds rather threatening, but we already have effective protection against quantum attacks on classical cryptosystems, which does not require a quantum computer! Post-quantum protocols, which is what we are talking about here, are based on classical infrastructure and have been recommended by the US National Security Agency (NSA) since 2015 as a way of combating potential attacks launched with quantum computers. Such solutions are, in fact, already in use (e.g. for 'mining' bitcoin), and they are highly effective.

In classical cryptography, a certain group of algorithms is based on the factorisation of numbers, i.e. decomposing them into prime factors - even if we know that a number is the product of two prime numbers, we cannot easily identify them in the case of sufficiently large numbers. The established approaches tend to be akin to the trial-and-error method. However, given a sufficiently large number of approaches, we will eventually find the correct answer. In complex cases, it could take millions or billions of years to find the right solution using the classical method. A quantum computer can solve a similar problem in the blink of an eye, so another security measure had to be found. Currently, one quantum algorithm (and its modifications) is recognised as a threat to classical cryptosystems: the Shor algorithm, designed to factorise numbers. Using a classical cryptosystem that does not rely on number factorisation will therefore make it possible to push back the problem into the future, if not solve it altogether. And this is the role of post-quantum cryptography, at least until another algorithm emerges.

HARNESSING THE LAWS OF NATURE

There are also some ideas on how to get around the threat posed by quantum computers. One option is to send a secret key for encryption and decryption using quantum methods and quantum communication channels. We already have considerable achievements in this area; the method itself works brilliantly and is extremely secure.

It seems to have an advantage over the classical method for two particular reasons, both of which draw on fundamental laws of nature. The first is the quantum system issue, which always changes when a measurement is made. This means that with the right tools we would be able to detect someone tampering with the information. The second is that quantum information cannot be copied.

While many publicists are keen on fearmongering with quantum computers as a challenge to data security, we are by no means helpless in the face of this threat. Mathematicians and computer scientists continue to improve the currently used classical cryptosystems, while physicists are working on new quantum solutions. Thus, we should look at quantum computers the way we look at our smartphones or laptops — they are simply tools that can be used for various purposes, both good and bad.

INFORMATIONWARFARE

AS A FOREIGN POLICY TOOL OF THE RUSSIAN FEDERATION

In international relations, information is seen as a resource of strategic significance. As a consequence, it can be used in a harmful way, including information warfare. When compiling the most comprehensive definitions of this concept found in Western science, we may assume that it is an organised activity which consists in modifying or destroying communication systems with the intention to achieve political, military, or economic goals.

Russians adopt a different definition. According to them, information warfare is the influence exerted on public opinion in the course of a rivalry between civilisational systems, which is their reference to the Cold War period. The objectives pursued by information warfare are the same as those of conventional warfare, thus Russians mix the military and non-military spheres.

The Russian Federation is often perceived as a backward state unfit for the ongoing technological revolution in the digital world, but this is an incorrect assumption. The changes taking place were not incomprehensible in the USSR, and neither are they in the present-day Russia. Information warfare has occupied a special place in the Kremlin's foreign policy for decades, but never before has it been carried out on such a massive scale and with so many resources. This has resulted in the creation of a tool that enables information influence campaigns on a global scale.

The cornerstone of democratic states is the pluralism of social life, which implies that each side should have the right to speak and be heard. In the context of Russia's activities, this value also comes under threat. According to Russians, granting a voice to all participants of social life is a shortcoming of the democratic system, which should be skilfully exploited by introducing propaganda messages into the national or global information space in order to produce the intended effects. These activities boil down to, for instance, making use of Facebook, Twitter, and Telegram, but also to the creation of networks of news portals that produce and disseminate fabricated content.

The most effective propaganda techniques are the ones we are unaware of, a fact that Russians understand very well. Without deep diving into individual typologies, we can assume that the general aim of their use is to manipulate the recipient by misleading them as to the real events in the international arena or the situation in a given country. The recipient must believe the presented assessment of the situation, and preferably make a particular determination on their own, which is obviously illusory, as it has already been included in the message crafted by the propaganda disseminator. Moreover, the propaganda techniques used do not have to be sophisticated — sometimes using a single word is enough to shape specific views over time. Russia's information influence campaigns have a large-scale character, which boils down, among others, to their presence in the





media space of information portals whose aim, in addition to creating fabricated content, is also to disseminate it. The objective is to make the recipient believe that since a piece of information appears in many sources, it surely must be true and does not require verification; in reality, each source has the same author. Importantly, Russian news portals often use a certain kind of camouflage, which consists in publishing — as a general rule — neutral or even objective content. It is only when there is tension in Russia's relations with another country that these portals launch a massive information campaign, presenting the Kremlin's view as the only right and true one. Consequently, the manipulated viewer becomes convinced that the Kremlin is the one with the most accurate and proper understanding of the ongoing events.

An illustrative example of the Kremlin's operation is the Russian-Ukrainian war (2022), accompanied by massive information campaigns aimed at justifying Russia's invasion on the grounds of combating the 'pro-Nazi Ukrainian government'. Also, of significance is the fact that these actions started as early as 2014, when the annexation of the Crimean Peninsula took place, and the paralysed international community was unable to effectively oppose the Kremlin, partly due to Russian-led efforts in the information space. Another example is the interference in the US presidential election (2016) with the aim of supporting Donald Trump on social media. In turn, there have already been efforts since 2014 to detect vulnerabilities in US voting systems in order to exploit them and undermine public confidence in the electoral system. The Russian Federation is also waging an information war against Poland, aimed at interfering in domestic politics by stoking conflicts, antagonising all sides, and creating a negative image of Poland in the international arena.

Russia actively uses methods of information influence to advance its own interests. It is developing capabilities enabling it to manipulate individuals and communities, seeking to confront the West in the global information space. It follows a doctrine aimed at strengthening media coverage and presenting its point of view to the largest possible audience. As a result, any one of us can unknowingly become a part of the activities carrying out the Kremlin's policy. It is therefore necessary to take countermeasures, first and foremost by raising public awareness of this issue. The issue of migration is one of the most important research topics today, also among sociologists. For at least a few years now, we have been observing an increase in migration movements. What are their causes? What are the consequences?

→ p. 18





www.us.edu.pl/en/nolimits

+48 32 359 19 64 www.facebook.com/UniwersytetSlaski