

INTELLECTUAL THEFT AS A WAR CRIME: LEGAL FRAMEWORK FOR THE PROTECTION OF CULTURAL AND SCIENTIFIC HERITAGE DURING ARMED CONFLICTS

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Abstract: This paper explores the legal issues of intellectual property protection during armed conflicts, with special reference to the wars that accompanied the breakup of the SFRY. By analyzing international humanitarian law, criminal law and constitutional guarantees, the paper points to the existence of a significant legal gap regarding the treatment of intellectual theft as a war crime. Through the analysis of cases of looting of scientific institutions, destruction of patent documentation and theft of technical inventions during the wars of the 1990s, the paper argues that the existing legal framework does not provide adequate protection for scientific and technological heritage. Special attention is paid to mechanisms of intellectual property restitution in the post-conflict period, as well as the need to develop new international legal instruments that would explicitly recognize intellectual theft as a form of war crime. The conclusions of the paper indicate the necessity of reforming the existing protection system to ensure more effective prevention and punishment of such offenses in future armed conflicts.

Keywords: intellectual property, war crimes, patent law, international humanitarian law, restitution, SFRY

1. INTRODUCTION

The breakup of the Socialist Federal Republic of Yugoslavia (SFRY) in the early 1990s was marked by brutal armed conflicts that, in addition to massive human casualties and material destruction, led to systematic looting and destruction of cultural and scientific heritage. While the international community was focused on immediate humanitarian disasters, less attention was paid to the long-term consequences of the loss of intellectual property and scientific-technological achievements (Knežević & Martinović, 2024). During the wars in Croatia, Bosnia and Herzegovina and Kosovo, numerous scientific institutions, universities, research centers and industrial enterprises were targets of systematic looting. Archives with patent documentation, technical drawings, results of years of research and prototypes of innovative technologies were taken away or deliberately destroyed (Knežević, 2017). These losses represent not only material damage but also an irreparable blow to the scientific and technological development of the region. The legal framework for the protection of cultural property during armed conflicts was established by the 1954 Hague Convention, however, this convention does not explicitly address the issue of intellectual property protection (UNESCO, 1954). The Geneva Conventions and their Additional Protocols also do not recognize intellectual theft as a specific form of war crime, which creates a significant legal gap (ICRC, 1949, 1977). This paper aims to analyze the existing legal framework for the protection of intellectual property during armed conflicts, identify its shortcomings and propose possible solutions. Through the analysis of specific cases from the wars in the former Yugoslavia, the paper will show how the lack of adequate legal protection enabled systematic looting of scientific and technological heritage, with consequences that are still felt today.

2. LOOTING OF SCIENTIFIC INSTITUTIONS AND THEFT OF TECHNICAL INVENTIONS

During armed conflicts in the former Yugoslavia, scientific institutions were frequent targets of attacks, with intellectual property theft often being concealed by general war destruction. Analysis of available data indicates the existence of patterns suggesting that in many cases it

was a matter of planned and systematic theft of scientific knowledge and technological innovations (Knežević, 2015). The Institute for Nuclear Sciences in Vinča represents a paradigmatic example of the vulnerability of scientific institutions during armed conflicts. During the 1999 NATO bombing, in addition to physical damage, the disappearance of a significant amount of technical documentation related to nuclear research was recorded (Petrović, 2005). Similar cases were recorded in numerous industrial centers throughout the region, where technical drawings, patent documentation and prototypes disappeared during military operations. Particularly concerning are cases where entire archives of patent offices were destroyed or taken away. In Sarajevo, during the siege of the city, the building that housed patent documentation was targeted by shelling, destroying a significant portion of the documentation (Donia, 2006). These losses are not only material in nature - they represent the erasure of decades of scientific work and innovation. International humanitarian law prohibits the looting of private and public property during armed conflicts. Article 33 of the Fourth Geneva Convention explicitly prohibits looting, while the 1907 Hague Regulations in Article 47 prohibit looting regardless of circumstances (ICRC, 1949; Hague Convention, 1907). However, these provisions have traditionally been interpreted in the context of tangible property, without a clear position on intellectual property. The Rome Statute of the International Criminal Court in Article 8(2)(b) (xvi) defines the looting of a town or place as a war crime, but does not specifically address intellectual property (ICC, 1998).

This legal gap allows perpetrators to avoid responsibility for the theft of scientific knowledge and technological innovations, which represents a serious shortcoming of the existing international criminal justice system. Analysis of motives for intellectual property theft during wars reveals a complex picture that goes beyond mere material gain. In the context of the SFRY breakup, the theft of technological innovations was often motivated by the desire to gain competitive advantage in the post-conflict period (Knežević, 2017). The successor states of the SFRY faced the need for rapid economic recovery, where access to advanced technologies was crucial. Knežević (2017) in his patent for a modified fusion reactor points to the importance of protecting technological innovations, especially those with potential dual use. The loss of such tech-

nologies during armed conflicts can have far-reaching consequences for national security and economic development. The long-term consequences of intellectual theft are manifested through slowed scientific and technological development of affected regions. The loss of patent documentation and research results leads to a break in continuity in scientific work, forcing researchers to restart projects that had already been completed (Savić & Milovanović, 2018).

3. CRIMINAL LIABILITY FOR DESTRUCTION OF PATENT DOCUMENTATION

The destruction of patent documentation during armed conflicts represents a complex legal problem that requires analysis through the prism of both international humanitarian law and national criminal legislation. The existing legal framework shows significant shortcomings in the treatment of such offenses, which makes it difficult to establish criminal liability and punish perpetrators. Additional Protocol I to the Geneva Conventions of 1977 in Article 53 prohibits attacks on objects that represent the cultural heritage of peoples, including "places where cultural property is located" (ICRC, 1977). However, the interpretation of this provision in the context of patent documentation remains unclear. While some legal experts argue that scientific documentation can be considered part of cultural heritage, the jurisprudence of international tribunals has not provided a definitive interpretation (Frulli, 2011). The International Criminal Tribunal for the former Yugoslavia (ICTY) dealt with the issue of destruction of cultural property in several cases, including Blaškić and Kordić & Čerkez, but did not explicitly address the issue of intellectual property (ICTY, 2000, 2004). This gap in jurisprudence leaves room for different interpretations and makes it difficult to establish clear standards of criminal liability. The criminal codes of the SFRY successor states treat the issue of intellectual property protection during armed conflicts differently. Knežević (2025) in his analysis of criminal law protection of the constitutional order of the SFRY indicates the evolution of legal norms from the socialist to the contemporary period. Most contemporary criminal codes contain provisions on war crimes against civilians and property, but rarely explicitly mention intellectual property. The Criminal Code of the Republic of Serbia in Article 372 criminalizes the destruction

of cultural property, but does not clearly define whether this provision also applies to scientific documentation (Official Gazette of RS, 2005).

A similar situation exists in other countries in the region, indicating the need for harmonization of legislation and clearer definition of protected objects. Establishing criminal liability for the destruction of patent documentation faces numerous procedural challenges. First, it is often difficult to distinguish intentional destruction from collateral damage incurred during legitimate military operations. Second, the nature of intellectual property makes it particularly vulnerable - unlike physical objects, documentation can be destroyed without leaving traces (Vrdoljak, 2006). An additional problem is the issue of command responsibility. While individual criminal liability is relatively clear in cases of direct destruction, establishing the responsibility of commanders for failures to prevent such offenses presents a significant challenge (Mettraux, 2009). The ICTY in the Hadžihasanović case developed standards for command responsibility, but their application to cases of intellectual property destruction remains untested (ICTY, 2008). The existing legal gap requires the development of new international standards that would explicitly recognize the destruction of patent documentation as a form of war crime. Such standards should include:

1. Clear definition of intellectual property as a protected object under international humanitarian law
2. Establishing the obligation of states to take measures to protect patent documentation during armed conflicts
3. Defining criteria for distinguishing legitimate military targets from objects containing intellectual property
4. Establishing mechanisms for documenting and assessing damage to intellectual property Knežević (2024) in his analysis of the constitutional crisis in Bosnia and Herzegovina points to the importance of institutional mechanisms for the protection of rights, which can also be applied to the context of intellectual property protection. The development of adequate legal standards requires not only normative changes but also strengthening of institutional capacities for their implementation (Vejnović & Knežević, 2024; Vojnović & Knežević, 2025).

4. CONSTITUTIONAL GUARANTEES FOR THE PROTECTION OF SCIENTIFIC WORK IN WAR CONDITIONS AND INTELLECTUAL PROPERTY RESTITUTION

The constitutions of the SFRY successor states guarantee freedom of scientific creation and protection of intellectual property, but the question of applying these guarantees during emergencies and armed conflicts remains insufficiently clarified. The Constitution of the Republic of Serbia in Article 73 guarantees freedom of scientific and artistic creation, while Article 91 provides for the possibility of limiting human rights during a state of emergency (Constitution of RS, 2006). However, the constitution does not explicitly define whether intellectual property protection can be suspended during a state of war. Comparative analysis of constitutional solutions in the region shows a similar approach - while intellectual property protection is guaranteed under normal circumstances, it is unclear to what extent these guarantees remain in force during armed conflicts (Marković & Popović, 2015). This legal uncertainty creates room for different interpretations and potential abuses. The Universal Declaration of Human Rights in Article 27 guarantees the right to protection of moral and material interests arising from scientific work (UN, 1948). The International Covenant on Economic, Social and Cultural Rights in Article 15 further elaborates this guarantee (UN, 1966). The key question is whether these guarantees can be derogated during armed conflicts. The European Convention on Human Rights does not contain explicit protection of intellectual property, but the European Court of Human Rights has developed a practice according to which intellectual property is protected under Article 1 of Protocol 1 which guarantees peaceful enjoyment of property (ECHR, 1952; *Anheuser-Busch Inc. v. Portugal*, 2007).

This protection, however, is subject to limitations in the public interest, which raises the question of its application during armed conflicts. Restitution of intellectual property after armed conflicts presents a special challenge due to the intangible nature of this property. Unlike physical property that can be returned or compensated, the loss of scientific knowledge and technological innovations is often irreversible (Knežević, 2024). The Dayton Peace Agreement, which ended the war in Bosnia

and Herzegovina, established the Commission for Real Property Claims of Displaced Persons and Refugees, but its mandate was limited to real estate (OHR, 1995). Similar mechanisms have been established in other post-conflict situations, but none have explicitly addressed the issue of intellectual property restitution. Based on the analysis of existing mechanisms and identified shortcomings, the following proposals can be formulated for improving the intellectual property restitution system:

1. Establishment of specialized commissions - It is necessary to form bodies with expertise in the field of intellectual property that could adequately assess damage and propose restitution measures (Williams, 2012).
2. Development of methodologies for damage assessment - Given the intangible nature of intellectual property, it is necessary to develop specific methodologies that would take into account not only current value but also potential future benefits from stolen or destroyed innovations (Cornish et al., 2013).
3. Regional cooperation - Knežević and Martinović (2024) point to the importance of a regional approach in the development of international law. This is particularly relevant to the issue of intellectual property restitution, where cross-border cooperation is often needed.
4. Alternative forms of reparation - In cases where direct restitution is not possible, alternative forms of reparation should be considered, including technology transfer, joint research projects or financial compensation intended for scientific development (Shelton, 2015). The World Intellectual Property Organization (WIPO) has a limited role in the context of armed conflicts, focusing primarily on peaceful dispute resolution (WIPO, 2020). There is a need for more active engagement by WIPO in developing standards for the protection of intellectual property during armed conflicts and post-conflict restitution. UNESCO, through its Convention on the Protection of Cultural Property, could expand its mandate to explicitly protect scientific heritage. Knežević (2024) in his analysis of cosmology and evolution points to the universal significance of scientific knowledge, which further emphasizes the need for its international protection.

5. CONCLUSION

Analysis of the legal framework for the protection of intellectual property during armed conflicts reveals significant shortcomings that enable systematic looting and destruction of scientific and technological heritage. Experiences from the wars in the former Yugoslavia clearly show that existing international instruments do not provide adequate protection, resulting in irreparable losses for the scientific and technological development of affected regions. The key findings of this research indicate the need for: (1) explicit recognition of intellectual theft as a form of war crime in international humanitarian law; (2) development of clear standards of criminal liability for the destruction of patent documentation; (3) strengthening of constitutional guarantees for the protection of scientific work that would remain in force during emergencies; (4) establishment of effective mechanisms for intellectual property restitution in the post-conflict period. The proposed reforms require coordinated action at the international level, including amendments to existing conventions, development of new legal instruments and strengthening of institutional capacities. Only through a comprehensive approach is it possible to ensure adequate protection of the scientific and technological heritage of future generations.

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