

SUSTAINABILITY FIELDS

Mónika Rajcsányi-Molnár-István András-István Péter Németh (Eds.)

ORSÓLYA FALUS-KRISTÓF CZUKOR

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Week of Science, 2020

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Charity in the great abrahamic religions: heqdes, piaae causae and waqf

Abstract: The social problems of the 21st century go beyond the performance of governments. There is thus an urgent need for charity and the work of charitable foundations. Religion had always been and still is a fundamental part of creating charity law, even in the face of increasing numbers of atheists and religious critics worldwide. Charity, as a humanitarian act, means voluntary assistance and support to those in need. The most popular Abrahamic religions: Judaism, Christianity and Islam, all created their own forms of charity. The paper aims at presenting the similarities, differences and potential legal – historical interactions among the Christian “piaae causae foundation”, the Hebrew “heqdes” and the Islamic “waqf”, and also provides an overview to the special Anglo-Saxon “trust”.

Keywords: Charity; Abrahamic religions; piaae causae foundation; heqdes; waqf.

Összefoglalás: A 21. század társadalmi problémái túlmutatnak a kormányok teljesítőképességén. Sürgős szükség van ezért jótékonyagra és a jótékonyági alapítványok munkájára. A vallás mindig is alapvető szerepet játszott a jótékonyág jogi szabályozásának kialakításában, még akkor is, ha világszerte növekszik az ateisták és a valláskritikusok száma. A jótékonyág, mint humanitárius cselekedet, önkéntes segítséget és támogatást jelent a rászorulóknak számára. A legnépszerűbb „ábrahámi vallások”: a zsidó vallás, a kereszténység és az iszlám, mind létrehozták saját jótékonyági formáikat. A tanulmány célja a keresztény „piaae causae alapítvány”, a héber „heqdes” és az iszlám „waqf” közötti hasonlóságok, különbségek és lehetséges jogtörténeti interakciók bemutatása, valamint betekintést enged az angolszász „trust” jogintézményébe is.

Kulcsszavak: Ábrahámi vallások; piaae causae alapítvány; heqdes; waqf.

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[1] Johnson, M. Todd–Grim, J. Brian (2013): *The World's Religions in Figures: An Introduction to International Religious Demography*. Chichester: Wiley–Blackwell. Pp. 93–108.

[2] Bishara, Hakim (2020): Adjaye Associates Is Building a Mosque, a Church, and a Synagogue in Abu Dhabi. *Hyperallergic*. 6 January, 2020. <https://hyperallergic.com/535763/adjaye-associates-mosque-church-synagogue-abu-dhabi/> (Accessed: 13-10-2020)

[3] Vatican Radio (09/11/2020 17:30): *Document on Human Fraternity for world peace and living together: Full text*.

Introduction: the Abrahamic Family House

The Abrahamic religions also referred to collectively as Abrahamism, are a group of Semitic-originated religions that claim descent from the Judaism of the ancient Israelites and the worship of the God of Abraham. According to the biblical account, patriarch Abraham is thus the father of the three great monotheistic religions: Judaism; Christianity; and Islam. As estimates classified 55.5% – 3.8 billion people – of the world's population are adherents of an Abrahamic religion. [1]

Amid rising sectarian tensions and religious animosities in the region, one year ago Abu Dhabi has unveiled plans for an expansive interfaith complex, the “Abrahamic Family House”, that bundles together a mosque, a church, and a synagogue. The complex is designed by Adjaye Associates, which was established by the renowned architect Sir David Adjaye. The Abrahamic Family House will be located on Saadiyat Island in the United Arab Emirates' capital city, not far from the new Louvre Abu Dhabi. According to the plans, the centre will include a museum and an education centre in addition to the three temples, which will be connected by a garden. The three temples share a similar silhouette to symbolize unity but vary in their facades and interiors: colonnades for the church; screens for the synagogue; and vaults for the mosque. The construction has already begun and it is expected to be completed in 2022. [2]

The decision to build the complex was set in motion by a meeting between Pope Francis and the Grand Imam of al-Azhar, Ahmed el-Tayeb, during the pontiff's historic visit to the Abu Dhabi on 4 February of 2019. The two religious leaders signed a “Document on Human Fraternity for World Peace and Living Together” [3] which urged politicians and decision-makers “to work strenuously to spread the culture of tolerance and of living together in peace,” and “to intervene at the earliest opportunity to stop the shedding of innocent blood and bring an end to wars, conflicts, environmental decay and the moral and cultural decline that the world is presently experiencing.”

Illustration 1. Rendering of the Abrahamic Family House in Abu Dhabi with the Louvre Abu Dhabi, designed by Jean Nouvel, visible in the back left. All images courtesy of Adjaye Associates. [2]



Religion and Charity

Religion had always been and still is a fundamental part of charity law, even in the face of increasing numbers of atheists and religious critics worldwide.

[4] Charity means assistance and voluntary support to those in need. It is a humanitarian act, often associated with the notion of religion. The word „charity” is originated from the Old English and means: a „Christian love of one’s fellows”. [5]

Aside from this original meaning, charity is etymologically linked to Christianity, with the word originally entering into the English language through the Old French word „charité”, which was derived from the Latin „Caritas”, a word commonly used in the Vulgate New Testament to translate the Greek word agape (ἀγάπη), a distinct form of „love”. [6]

[4] Morris, Debra (2017): *Elasticity of the Boundaries in England and Wales: What Is (And Isn’t) Charitable?* An Opportunity Lost (or Not Yet Fully Embraced)? National Center on Philanthropy and the Law, Conference Proceedings, Social Welfare Organizations: Better Alternatives to Charities? <https://ncpl.law.nyu.edu/wp-content/uploads/2016/08/Tab-G-Morris-paper.pdf> (Accessed: 04-24-2020)

[5] Stevenson, Angus (Ed.) (2010): *Oxford Dictionary of English*. (3rd ed.) Oxford: Oxford University Press. P. 293.

[6] Harper, Douglas et al. (Eds.) (2000): *Online Etymology Dictionary*. <https://www.etymonline.com/word/charity> (Accessed: 29-04-2020)

[7] Smith, Jonathan Z. (1998): Religion, Religions, Religious In: Taylor, Mark C. (Ed.): *Critical Terms for Religious Studies*. Chicago: University of Chicago Press. Pp. 269–284.

[8] Donin, Hayim Halevy (1972): *To Be A Jew*. New York: Basic Books. P. 48.

[9] Panico, Paolo (2016): Private foundations and trusts: just the same but different? *Trusts & Trustees*, 22. (1.) Pp. 132–139.

[10] Brodman, J. W. (2009): *Charity and Religion in Medieval Europe*. Washington: The Catholic University of America Press. P. 1.

[11] Davis, Adam J. (2014): The Social and Religious Meanings of Charity in Medieval Europe. *History Compass*. 12. (12.) Pp. 935–950.

[12] Falus, Orsolya (2016): Islamic Waqfs in Education. *PEDACTA*. 6. (2.) Pp. 51–59.

The most popular “Abrahamic” religions – Judaism, Christianity and Islam – all created their own forms of charity, which, however, resemble each other. [7] The spirit of giving, whether of time, money, or resources, becomes a focal point of activity during their holiday seasons.

Charity in the Abrahamic religions

In Judaism, “tzedakah” appears as a Hebrew term meaning righteousness but commonly used to signify charity. As, however, it is an act which is commanded by the Torah and so ecclesiastically not voluntary, the practice is not technically an act of charity. Jews give tzedakah, which can take the form of money, time and resources to the needy, out of „righteousness” and „justice” rather than voluntary benevolence, generosity, or charitableness. The Torah requires that 10 per cent of a Jew’s income be given to righteous deeds or causes, regardless if the receiving party is rich or poor. [8]

The recognition of the Christian Church by Constantine was a gradual recognition of the Church as a legal person and thus Church property. Churches, as legal personalities could so be instituted as heirs and receive donations under a will. Justinian admitted also monasteries and foundations (piae causae) for charitable purposes to property, with which these (legal) institutions also acquired legal personality. The establishment of foundations as legal persons in Mediaeval Europe allowed wealthy gentlemen with fear of God to endow monasteries and other organizations pursuing religious or charitable purposes (piae causae) with land and properties, possibly in perpetuity. [9] In medieval Europe during the 12th and 13th centuries, Latin Christendom underwent a charitable revolution. [10] Rich patrons founded many leprosaria and hospitals for the sick and poor. New confraternities and religious orders emerged with the primary mission of engaging in intensive charitable work. The medieval charity was primarily a way to elevate one’s social status and affirm existing hierarchies of power. [11]

The voluntary sector plays an incomparably more important role in Muslim societies. Islam, as a religion, lays considerable stress on pious deeds. Islam, as a way of life, however, spells out the basic principles of the

legal institutions of charity such as zakah, sadaqah and waqf, as well, in order to reach the well-being of the „ummah”. „Ummah” is a common Arabic word meaning „nation.” The term takes on religious connotations in the Qur’an where God is said to have sent to each ummah its own messenger. The messengers given special prominence as recipients of scripture and founders of an ummah are Moses, Jesus, and Muhammad. [12] As the concept of ummah corresponds to our understanding of “nation”, it does not exactly have the same meaning. “Nation is a strictly political concept; it may be defined as a community of peoples possessing a given territory with their own government; while membership in the ummah involves a commitment to a particular religion. To the Muslim way of thinking, “ummah” represents a universal world order, ruled by an Islamic government in accordance with the “Shari’ah”, the Islamic religious law. For example, the basis of the Islamic banking system and Islamic financial products is Saría law, this is why the aforementioned transactions and products are called Saría compatibl. [13] The word “Shari’ah” literally means “the clear path to follow”. [14]

Charity in Muslim states takes different forms, as zakah and sadaqah. Paying zakah – also as the third of the five pillars of Islam – is an obligation for a Muslim when possessing assets that cover a specific amount (“Nisab”) and reaches the time period of a year (“hol”). Since zakah can be compared as a welfare fund or rather a source of funds that will help other Muslims in the society for a better life, therefore, people who possess enough assets can help people who are poor or have less. Technically, zakah is a fixed proportion collected from the surplus wealth and earnings of Muslims. [15] It is then distributed to prescribed beneficiaries and for the welfare as well as the infrastructure of Muslim societies in general. It is paid on the net balance after a Muslim has spent on basic necessities, family expenses, due credits, donations and taxes. [16] In many modern societies, nisab is considered equivalent to a governmentally determined poverty threshold. This is the format that is hardly observed in other religions apart from Islam.

[13] Varga, József–Cseh, Balázs (2018): *The operation of islamic banks on the basis of an EU example*. Köztes Európa: Társadalomtudományi folyóirat: A Vitek Közleményei 10: 1 / 23. Pp. 125–134.

[14] Bakar, Osman (2014): *Islamic Civilisation and The Modern World: Thematic Essays*. Brunei Darussalam: UBD Press. Pp. 51–53.

[15] Varga József (2018): A zakát működése az iszlám pénzügyekben (Mechanism of the Zakat in the Islamic Finance). In: Kovács Tamás–Szóka Károly (Szerk.): XII. Soproni Pénzügyi Napok: „Az áfa elmélete és gyakorlati alkalmazása”: pénzügyi, adózási és számviteli konferencia (XII. Sopron Financial Days: “Theory and Practical Application of VAT”: Financial, Taxation and Accounting Conference): Konferenciakötet (Proceedings). Sopron: Soproni Felsőoktatásért Alapítvány. Pp. 90–95.

[16] Cseh Balázs (2018): Egy vallási adó működésének elmélete a bankrendszerben (The Theory of the Mechanism of a Religious Tax in Banking) In: Kovács Tamás–Szóka Károly (Szerk.): XII. Soproni Pénzügyi Napok: „Az áfa elmélete és gyakorlati alkalmazása”: pénzügyi, adózási és számviteli konferencia (XII. Sopron Financial Days: “Theory and Practical Application of VAT”: Financial, Taxation and Accounting Conference): Konferenciakötet (Proceedings). Sopron: Soproni Felsőoktatásért Alapítvány. Pp. 29–37.

[17] Houtsma, Martinj Theodoor (Ed.) (1913): *The Encyclopaedia of Islam*. Vol. IX. Leiden: Brill. Pp. 59–99.

[18] Ariff, Mohamed (1991): *The Islamic Voluntary Sector in Southeast Asia*. Singapore: Institute of Southeast Asian Studies. Pp. 118–119.

[19] Hennigan, Peter C. (2004): *The Formation of the Waqf in Third-Century A. H. Hanafi Legal Discourse*. Leiden: Brill. Pp. 51–59.

The Muslim institution for a voluntary donation, which literally means “charity” is “sadaqah”, and can be given to people of any religion.

The potential of “waqf” as Islamic foundation [17] can be discerned by the consistent insistence on the non-transferability of the ownership rights of the property. Once a piece of property is donated for a charitable purpose, the owner ceases to have any claims over it, because in Islam all property is said to belong to no one only to Allah. The trustee in the form as a single person or a group of individuals will have to manage the property for the generation of income which is distributed as specified by the donor. [18]

We can see, that philanthropy is a universal anthropological phenomenon, as we find help for those in need in all major cultures, religions and languages. In Arabic, there is “zakah” for obligatory alms, and “sadaqah”, which means charity and philanthropy. In Hebrew “zedakah” equals a traditional, Jewish community-oriented practice of philanthropy. It is the support of the poor to become self-sustaining. In this meaning, it is very close to the Islamic notion where begging is a sin.

Interreligious Similarities among Heqdesch, Piae Causae Foundation and Waqf

The institutions of the hekdesch, piae causae foundation and waqf show remarkable similarities. [19] There are five basic conformities among the abovementioned legal institutions:

1. All were founded through the relinquishing of property by an individual who dedicated these properties to a particular purpose, e.g. religious, public services, education, etc.
2. With the act of the donation, the owner gives up the control over the institution that he created.
3. The institution created was put under the administration of a trustee selected by the donor.
4. Only the proceeds of the transferred property were to be used to realize the mission of the institution, but the principle capital (foundation assets) had to remain untouched.
5. These institutions were dedicated to God and envisioned as surviving the death of the founder.

The waqf and the piae causae foundation, however, shared a further remarkable similarity as well: both provided the opportunity to limit the circle of beneficiaries to the descendants of the donor. Waqfs and foundations developed in two main forms. The former legal institution could be established as a “waqf khairi”, a charitable foundation for the benefit of everybody; or as a “waqf ahli”, the family foundation for supporting the descendants of the donor. The pious foundation could also be founded for the benefit of the public, as a “charitable foundation”, or as a “fidei commissum”, where the creator secured the transfer of the property from one generation to subsequent ones. [20]

***Illustration 2. Similar legal features of heqdesh, piae causae foundation and waqf
(edited by the author)***

	HEQDESH	PIAE CAUSAE FOUNDATION	WAQF
THE DONATION OF A PROPERTY FOR A PARTICULAR PURPOSE	+	+	+
THE DONOR GIVES UP THE CONTROL OVER THE INSTITUTION	+	+	+
THE INSTITUTION IS ADMINISTERED BY A TRUSTEE	+	+	+
THE PRINCIPLE CAPITAL REMAINS UNTOUCHED	+	+	+
CREATED “IN PERPETUAM”, DEDICATED TO GOD	+	+	+
CAN BE CREATED FOR THE BENEFIT OF THE FAMILY/DESCENDANTS OF THE DONOR	–	+	+

Since waqf shared many characteristics with piae causae foundation and heqdesh, some scholars [19] suggest that it was started developing based on the former ones.

[20] Adam, Thomas (2017): *Interreligious and Intercultural Transfers of the Tradition of Philanthropy*. In: Liebermann, Julia –Rozbicki, Michal Jan (Eds): *Charity in Jewish, Christian, and Islamic Traditions*. Lanham: Lexington Books. Pp. 45–65.

[21] Walker, Tanya (2016): *Shari'a councils and Muslim women in Britain: rethinking the role of power and authority*. London: Brill. P. 208.

[22] Devichand, Mukul (2018): *Is English law related to Muslim law*. http://news.bbc.co.uk/2/mobile/uk_news/magazine/7631388.stm (Accessed: 09-08-2019)

[23] Cattán, Henry (1955): *The Law of Waqf*. In: Khadduri, Majid–Liebesny, Herbert J. (Eds.): *Law in the Middle East, vol. I., Origin and Development of Islamic Law*. Washington DC: Middle East Institute. Pp. 203–220.

[24] Gaudiosi, M. M. (1988): *The Influence of the Islamic Law of Waqf on the Development of the Trust in England: The Case of Merton College*. *University of Pennsylvania Law Review*. 136. (4.) Pp. 1231–1261.

[25] Çizakça, Murat (2000): *A History of Philanthropic Foundations: The Islamic World from the Seventh Century to the Present*. Istanbul: Boğaziçi University Press. Pp. 11–13.

The Middle East Repercussions: Trusts

The interaction, however, is also true backwards in legal history. Some law historians argue [21], that a historical connection to Islam is a „missing link” that explains why English common law is so different from classical Roman legal systems that hold sway across much of the rest of Europe. [22] In 1955 Henry Cattán [23] also noted, that the English trust is remarkably similar to and probably derived from the earlier Islamic institution of waqf.

Having lost all contact with Rome, Medieval Europe had to become acquainted with philanthropic endowments through the Islamic waqf system. This is attested to by Monica Gaudiosi, who has initiated an inquiry regarding the origins of English trusts. [24] Gaudiosi first puts to test the conventional wisdom prevailing among the European scholarship that the origin of the English trust rests with the Roman or Germanic laws. She challenges this view by arguing that the trusts developed from a medieval English device for holding land known as the use. Furthermore, considering the Roman fidei commissum first, she reminds us that the linkage between this institution and the English trusts had already been dismissed by the nineteenth century on the grounds that not only were the similarities between the two institutions merely superficial but also, whereas the Roman device was purely testamentary, the early English use seldom arose by will.

The legal institution of a trust established in medieval England has taken a special path, first, the common law countries took over and applied it and then the other states of the British Commonwealth. In contrast, in countries regulated by a civil or mixed legal system, the institution of the trust is primarily artificially introduced due to economic demands. The defining characteristic of a trust is that the settler transfers property (ownership, right) to the trustee and the latter is obliged to manage it for the benefit of the beneficiary specified by the trustee. The property of the trust property belongs to the trustee, but it is obliged to manage it separately from its own property, as the beneficiary also has a right of ownership, but from a civil point of view, at least a right close to the right of ownership. It follows from the construction of the trust that in Anglo-Saxon law this is not a contract, as the trustee acts as a fiduciary and the beneficiary may also take action against

third parties in case of misconduct or unpaid disposal of the trust. In summary, the beneficiary has a contractual claim against the trustee and has a claim in rem in respect of the assets. In the course of the analysis of the trust, it must also be taken into account that, compared to the Anglo-Saxon regulations, other legal institutions and legal constructions corresponding to the functions of the trust have also been established in the mixed and civil law systems. From a functional point of view, in the broadest sense, the legal institutions corresponding to a trust are primarily required to implement asset segregation, to treat the position of the trustee not merely as a contracting party, but as an official position. The beneficiary, however, must also have the legal possibility to take action against third parties in case of misconduct or free disposal of the assets. If a legal relationship satisfies these conditions, it shows significant similarity to the legal construction of the Anglo-Saxon trust.

The basic points of Gaudiosi and Catan's arguments are as follows:

Whereas the separation of ownership from usufruct was not a new legal concept, the settlement of the usufruct of the endowed property on successive generations in perpetuity for a charitable purpose was an institution, which was created by the classical Muslim jurists of the first three centuries of Islam. There is no evidence that such a complex system of appropriating the usufruct to varying and successive beneficiaries existed prior to Islam. [23] The emergence of the trust coincides with a period of increased contact between Europe and the Muslim world. Indeed, the Franciscan Friars who are believed to have introduced the use in England were active in the Middle East. Saint Francis, himself, spent the years 1219 and 1220 in Islamic territory.

Jerusalem was a particularly significant point of contact between England and the Muslim world because of the presence there of the Orders of the Templars or the Hospitalers. Since it is well known that these orders had been influential in the development of the Inns of Court in fourteenth-century England, the transmission of legal institutions from the Islamic world to England has already been demonstrated.

More importantly, the similarity between Islamic waqfs and English trusts is striking. Under both systems, the property is reserved and the usufruct is appropriated for the benefits of specific individuals or a general charitable purpose. The corpus becomes inalienable; estates for life in favour of successive beneficiaries can be created at the will of a founder without regard to the law of inheritance or the rights of the heirs and continuity is secured by successive appointments of trustees.

It has been argued that a major difference between the two systems exists: whereas in the English case, the trustee is considered to be the owner of the trust, as opposed to the Islamic waqf where the trustee (mutawalli) acts rather like a manager. In reality, the trustee is no more the owner of a trust than the mutawalli could be the owner of a waqf. The main function of both is to administer the property for the benefit not of themselves but for the beneficiaries as specified by the trust or waqf. [25] Another alleged difference pertains to the duration: the waqf must be perpetual, while a trust, except a charitable one,

[23] Cattán, Henry (1955): *The Law of Waqf*. In: Khadduri, Majid–Liebesny, Herbert J. (Eds.): *Law in the Middle East, vol. I., Origin and Development of Islamic Law*. Washington DC: Middle East Institute. Pp. 203–220.

[25] Çizakça, Murat (2000): *A History of Philanthropic Foundations: The Islamic World from the Seventh Century to the Present*. Istanbul: Boğaziçi University Press. Pp. 11–13.

cannot be perpetual. It must be remembered, however, that in England the trusts could originally be made in perpetuity until the rule against perpetuities came into force. It has been argued, however, that there is one very important difference: the purpose of the waqf or the trust. A trust may be made for any lawful objective, a waqf, by contrast, must be charitable. Charitability is a “conditio sine qua non” for all waqfs including the family endowments as well. [23]

Illustration 3. Comparative table of waqf and trust
(edited by the author based on Çizakça, 2000) [25]

	WAQF	TRUST
motive	religious	no religious motive needed
founder as beneficiary	impossible, only under Hanafi law	possible
objective	for the benefit of the ummah	for any lawful object
property is entrusted to	Allah	the trustee
managers’ legal position	the mutawalli is only a manager	the trustee has a right close to that of the owner’s
termination	“in perpetuum”(cannot be terminated under any circumstances)	can be terminated as stipulated in the trust deed
revocability	irrevocable	revocable
corpus	immobilised	immobilised
usufruct	used for the benefit of the ummah	used for the objective stated in the deed

Conclusion

The social problems of the 21st century go beyond the performance of governments. There is an urgent need for charity and the work of charitable foundations. As a result of globalization, problems have also become globalized – so can only be solved by united action. In addition to the migration crisis, which has so far been treated as a global problem, the COVID-19 pandemic also emerged in 2020, which is now affecting the entire population of the planet.

For the suggestion of Pope Francis and at the initiative of the Human Brotherhood Committee, the Pontifical Council for Interreligious Dialogue declared a day of prayer for the cessation of the pandemic on Thursday, May 14, 2020. The Higher Committee of Human Fraternity addressed the “brothers” who believe in the Creator God in thirteen languages. This high-level organization called on all people to make May 14 a day of prayer, fasting, and supplication for humanity. It is important that the Abrahamic religions, which set the moral standards of the majority of mankind pray together and cooperate in charity during the epidemic.

Coordinated work is needed for common charity. To do this, however, we must first get to know each other’s legal culture and legal practice. Therefore, analytical-comparative research in legal theory and legal history seems to be particularly useful.

The informal, non-formal and technological education of refugee children in camps as effective provision of the universal right to education: a study on gadgets production

Abstract: The protection of the refugee child and the need for production of educational strategies in contexts of forced displacement and mobility go towards the reports produced by UNHCR on the fact that, in 2016 alone, 3,5 million refugee children did not go to school. Granting children with full access and effectiveness to the universal right to education means they will gain more knowledge about their own development and rights, meaning also that they can contribute more with the reality they live in. Children, in this tender age gap between birth and the age of 18, need to be granted full access to educational support, meaning that this will enhance their development and promote full access to all the axis of rights granted in the 1989 Declaration of the Rights of the Child. In this sense, the present study aims to focus on the informal education of refugee children, and how the creation of an easy, accessible and affordable gadget, such as a tablet, combining technology, innovation and education, as means to achieve the best possible education in the situation of camps, in which the formal education is also important, but so is the engagement of the community in the learning process, as means of integration, which is going to be better explained further.

Keywords: Education; refugee Children; refugee camps; technology; innovation.

Összefoglalás: A menekült gyermek védelme, valamint az erőszakos elköltöztetés és a mobilitás összefüggésében kidolgozandó oktatási stratégiák szükségessége az UNHCR által készített jelentésekhez vezet, amelyek szerint csak 2016-ban 3,5 millió menekült gyermek nem járt iskolába. A gyermekek számára az oktatáshoz való egyetemes emberi jog teljes hozzáférése és hatékonyságának biztosítása azt jelenti, hogy több ismeretet fognak szerezni saját fejlődésükről és jogaikról, ami azt is jelenti, hogy többel tudnak hozzájárulni a környezethez, amelyben élnek. A születés és a 18. életév közötti védtelen

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[1] UNITED NATIONS. Declaração Universal dos Direitos Humanos. 1948. Available from: <http://www.ohchr.org/EN/UDHR/Documents/UDHR_Translations/por.pdf> Access on December 09.

[2] UNITED NATIONS. *Declaração dos Direitos da Criança*. 1959. Available from: <<https://www.unicef.org/malaysia/1959-Declaration-of-the-Rights-of-the-Child.pdf>> Access on December 09.

[3] OHCHR. *Convention on the Rights of the Child*. Available from: <<https://www.ohchr.org/en/professionalinterest/pages/crc.aspx>> Access on December 09.

[4] OHCHR. *Protocol to Prevent, Suppress and Punish Trafficking in Persons Especially Women and Children, supplementing the United Nations Convention against Transnational Organized Crime*. Available from: <<https://www.ohchr.org/en/professionalinterest/pages/protocol-traffickinginpersons.aspx>> Access on December 09.

[5] SIMMONS, Beth A. (2009): *Mobilizing for human rights: international law in domestic politics*. Cambridge: Cambridge University Press. P. 309.

[6] HAPPOLD, M. (2009): *Child Soldiers in International Law*. Manchester: Manchester University Press.

életkorban levő gyermekek részére biztosítani kell az oktatási támogatásokat, ami azt jelenti, hogy elő kell segíteni a fejlődésüket, és lehetővé kell tenni a számukra a gyermekek jogairól szóló 1989-es egyezményben biztosított valamennyi joghoz való teljes körű hozzáférést. Ebben az értelemben a jelen tanulmány a menekült gyermekek informális oktatására összpontosít, valamint arra, hogy hogyan lehet egy olyan könnyű, hozzáférhető és megfizethető eszközt, például tablettét létrehozni, amely ötvözi a technológiát, az innovációt és az oktatást, a lehető legjobb oktatás elérésének eszközeként a menekülttáborokban, ahol a formális oktatás is fontos, de ugyanúgy fontos a közösség bevonása a tanulási folyamatba, mint az integráció eszköze, amellyel a későbbiekben részletesebben is foglalkozunk majd.

Kulcsszavak: Oktatás; menekült gyermekek; menekülttáborok; technológia; innováció.

Introduction

The protection of migrant children – one of the biggest challenges of mass migration – brings us to the development of conventions to protect the rights of any children, as they shall be prioritized in all processes that concern them, since the discussions surfaced, in 1948, with the Universal Declaration of Human Rights [1] and 1959 [2], with the first Declaration of the Rights of the Child. [3] Though the present protection seems to be consistent, as we now protect children (especially refugee children) under the 1989 Convention on the Rights of the Child and the Palermo Protocol [4] on the prevention of trafficking of women and children, it was not always so – in the Nineteenth century, still, children were not at the center of families, that resembled much more small working-units. [5]

It was not until the middle of the Twentieth century that the State became the main protector of infants well-being. As Matthew Happold would address, children were not the average holders of rights for there was firm and general belief that, if they could not fend for themselves,

out of their incapacity to do so, they were also not entitled to hold rights [6] – a reality that has changed dramatically over the course of the past century.

In this sense, also, it is noted that children are not normally – though they sometimes are – volunteer and active actors in the process of migrating [7], following the family’s will to leave their place of origin. Also, involuntarily, they fall victims to the perils of the escaping routes, being more exposed to child trafficking, child slavery and sexual abuse [8], and also to the colonial consequences of the standardization of childhood as a happy, tender moment of life [9], that pictures children in need, in humanitarian emergencies and from underdeveloped countries as the infantilized face of a world where the development of globalization has never arrived. The colonial process of trade, conquering, and opening to another cultures, inasmuch as globalization promotes more interaction, it also enables new dynamics of power and authority, beyond borders. [10]

There is a gap between the children in international legislation and commissions and the wide-eyed, malnourished children in humanitarian propaganda, very unlikely to be an innocent pick of iconography. The subjectivity these children are exposed to in images is political, where the historical actor in charge is “the adult viewer”. [11]

Furthermore, globalization marks a new era of deepening of challenges, like extreme poverty, child soldiering, child labor and climate change, for globalization also means the dispersion of power, where States are only one part of the problem. [12] In what Boaventura de Sousa Santos would call as Social Fascism, sacrificing the rights of given minorities is such a stretch to the idea of Democracy, that it would not even render it to be incompatible, for these days, Democracy itself is “trivialized”. [13]

And by sacrificing the rights of minorities, the treatment of the so-called aliens at borders shall be considered, for this

[7] Araujo, N. M. (2015): “Migrantes indocumentados: histórias e aporias” In: Galindo, G. B. (Ed.). *Migrações, deslocamentos e direitos humanos*. Brasília: Instituto Brasileiro de Direito Civil, Grupo de Pesquisa Crítica e Direito Internacional. Pp. 25–34.

[8] UNITED NATIONS OFFICE ON DRUGS AND CRIME (UNODC). *Global Report in Trafficking in Persons 2018*. Available from: <https://www.unodc.org/documents/data-and-analysis/glotip/2018/GLOTiP_2018_BOOK_web_small.pdf> Access on December 05.

[9] Dubinsky, Karen (2012): Children, ideology, and iconography: How babies rule the world. *The Journal of the History of Childhood and Youth*, v. 5. n. 1. Pp. 5–13.

[10] Kaufman, Natalie Hevener–Rizinni, Irene (2002): *Globalization and children: exploring potentials for enhancing opportunities in the lives of children and youth*. New York: Kluwer Academic/Plenum Publishers. P. 4.

[11] Dubinsky, Karen (2012): Children, ideology, and iconography: How babies rule the world. *The Journal of the History of Childhood and Youth*, v. 5. n. 1. Pp. 5–13.

[12] UNICEF: *Children’s Rights in a Globalized World: from principles to practice – Final Report*. Available from: <http://www.hr4dev.be/documents/2008-ICCR_final-report.pdf> Access on December 10.

[13] Santos, Boaventura de Sousa (2007): Para além do pensamento abissal: das linhas globais a uma ecologia de saberes. *Revista crítica de ciências sociais*, n. 78. Pp. 3–46.

[14] Basilien-Gainche, Marie-Laure (2017): L'Union et les réfugiés. Une Europe sans qualités? *Revue de l'Union Européenne*, n. 613. Pp. 598–601.

[15] Basilien-Gainche, Marie-Laure. Les frontières européennes-Quand le migrant incarne la limite. *Revue du marché commun et de l'Union Européenne*, n. 609. Pp. 335–341. 2017.

[16] Sassen, Saskia. *Guests and Aliens*. New York: The New Press, 1999. Pp.1–6.

[17] UNHCR. Left Behind: Refugee Education in Crisis. Disponível em: <<http://www.unhcr.org/59b696f44.pdf>> Acesso em: 15. apr. 2020.

[18] Idem.

[19] “The literature pertaining to refugee children generally does not take into account the separate stages of growth and development.” In: WILLIAMS, Holly. *Families in refugee camps*. Human Organization, v. 49. (2.) Pp. 100–109. 1990.

[20] Ariés, P. *História Social da Criança e da Família*. Rio de Janeiro: Livros Técnicos e Científicos Editora Ltda., 1981.

purpose. The migrant becomes the personification of the border. The border creates the migrant, not the other way around. And the reality appears as relativizing basic rights that were once promoted by the same countries that nowadays close borders to its outsiders [14], in States that would rather meet their migrants dead than to welcome them [14] – a crossroad of the legal hierarchization of visas that can be seen on articles 78 and 79 from the Treaty of Lisbon, from the European Union, that labels foreigners differently based on their migration status – a paradox of free movement, for goods and services are freely offered, but human beings are not granted the same rights, in a political configuration of frontier. [15]

This brings us back to the previously mentioned idea of how colonialism influences how we view migrant children and migrant adults, in general. As Saskia Sassen would state in *Guests and Aliens* [16], migrants “are not simply the outcome of individuals in search of better conditions”, but are the results of several economic, geographic and historic processes.

In this sense, *the protection of the refugee child* and the need for production of educational strategies in contexts of forced displacement and mobility go towards the reports produced by UNHCR on the fact that, in 2016 alone, 3,5 million refugee children did not go to school. [17] Granting children with full access and effectiveness to the universal right to education means they will gain more knowledge about their own development and rights, meaning also that they can contribute more with the reality they live in. [18]

A lot is said in academia on migration and refuge about the adult refugee. The child, twice as vulnerable – by displacement and by their age, which exposes them to much more abuses while fleeing conflict – is frequently forgotten, while this child is deprived of its legal face and singularity, seen as a mere family appendix [19], an extension of the adult (or a miniature) [20], not a protagonist of integration processes. Outside of school and without access to knowledge, this child's future is uncertain.

And when studies about the education of child in migration [21] and refuge are considered, the literature becomes even more scarce, especially considering that not all children are at a fixed location or are still living in protracted situations, such as prolonged permanence in refugee camps, being unable to be fully inserted in a fixed educational system at the host community – a condition that should not widen the gap between learning and time lost, confronting the language of International Law, which confers education with universal essentiality.

Because children, in this tender age gap between birth and the age of 18, need to be granted full access to educational support, meaning that this will enhance their development and promote full access to all the axis of rights granted in the 1989 Declaration of the Rights of the Child. In this sense, the present study aims to focus on the informal education of refugee children, as means to achieve the best possible education in the situation of camps, in which the formal education is also important, but so is the engagement of the community in the learning process, as means of integration, which is going to be better explained further.

Considering that, the purpose of the present research is to develop an educational app with low cost and high efficiency, aimed at children in alphabetizing age in English, Portuguese or Arabic, in the refugee camps, through the production of a low cost gadget to support an educational app for children between the ages of 4 and 6 years old, and the app shall be aimed to help teachers and families in war torn areas and refugee camps to better educate children; It must access the specificities of learning in war torn regions; The app must be available without internet connection; The gadget that is going to be used to hold the app must have long lasting battery (solar battery, if possible).

For the hypothesis here considered, informal education, as a mechanism for access to the education by refugee children, is a potential solution, embodied in the growing popularization of informal education mechanisms in the private and organizational sectors, in order to confer different dialogues to educational processes [22], in the midst of an increasingly technological and integrated world. Through the analysis of data, the interviews and literature, is it possible to develop an integrated system of education in a low cost gadget to support the education of children in refugee camps?

[21] Migliarini, Valentina (2010): *The Education of Refugee Children: A study on human rights enactment and educational policy discourses in Italy and the UK*. Germany: Lambert Academic Publishing.

[22] To Hannah Arendt, “Education is the point at which we decide whether we love the world enough to assume responsibility for it and by the same token save it from the ruin which, except for renewal, except for the coming of the new and the Young, would be inevitable. And education, too, is where we decide whether we Love our children enough not to expel them from our world and leave them to their own devices, nor to strike from their hands their chance of undertaking something new, something unforeseen by us, but to prepare them in advance for the task of renewing a common world”. In: Arendt, Hannah (1972): *A crise na educação: III e IV. Entre o passado e o futuro*. São Paulo: Perspectiva. P. 247.

[23] UNHCR. *Global Trends: Forced Displacement in 2016*. Disponível em: <<http://www.unhcr.org/globaltrends2016/>> Acesso em: 29. mai. 2020.

[24] SAVE THE CHILDREN. *What is a refugee?* Available at: <<https://www.savethechildren.org/us/what-we-do/emergency-response/refugee-children-crisis/what-is-refugee>> Access on: 17. jun. 2020.

[25] UNHCR. *Refugee Children: Guidelines for Protection and Care*. Disponível em: <<https://www.unhcr.org/protection/children/3b84c6c67/refugee-children-guidelines-protection-care.html>> Acesso em: 29. mai. 2020.

[26] CAMPOS MONACO. Gustavo F. A. (2005): *Proteção da Criança no Cenário Internacional*. Belo Horizonte: Del Rey Editora.

[27] Vigotski. L. S. (2018): *Imaginação e Criatividade na Infância*. São Paulo: Martins Fontes.

[28] Erikson, E. H. (1977): *Childhood and Society*. London: Paladin Grafton Books.

Refugee Children and Education

Through the 1951 Convention Relating to the Status of Refugee, the informative center of the protection of refugee is granted due to the need to abandon one's place of origin due to the well-founded fear of persecution, due to political opinion, race, ethnicity, religion, in which the individual cannot or does not want to return to the home of origin, or, according to the conceptual expansions of the Organization of African Unity, in 1969, and the Cartagena Declaration, in 1984 (this last one, in the context of Latin American dictatorial regimes in the second half of the 20th century), the concept is also attributed to those fleeing serious and massive human rights violations.

Above all, they are individuals who, involuntarily, have to abandon their places of origin because of the protection of their own lives, one of the pillars of international protection of human rights. However, in addition to the legal concept, they are human beings. And, for the age group proposed here, they are children.

Regarding the protection of children, especially refugee children, there is no mention of this age specificity in the main international refugee protection documents, even though children represent 51% of the total number of refugees in the world. [23]

According to data from the International Organization Save the Children, founded by Eglantyne Jebb, the creator of the original text of the 1924 Declaration on the Rights of the Child, only until 2018 [24], 2 out of 3 refugees in the world were on forced displacement for at least 5 years, with 3 million refugees, in terms of total numbers, having been refugees for more than 38 years.

The numbers are alarming, when we consider the condition of double vulnerability of the child in situations of forced displacement: due to exposure to the common risks of the journey and the fact of being a child, and being even more vulnerable to malnutrition, diseases, abuse, violence and exploitation. [25] This is especially serious for young women and girls.

Considering all this, and parting from the international legal framework of Law protecting children [26], the mental development of Children as in Vigotski [27] and Erikson [28], the need for psychosocial recovery and

the importance of education in Machel [29], the research is invested in the purpose of figuring out best practices of education for refugee children in protracted displacement and refugee camps, as it is now being experienced in Brazil, with Venezuelan refugees in our northern borders, and would much appreciate learning more about long-established successful experiences of education provision in camps, meaning the purpose of the proposed research would be to interview educational staff, from a whole range of institutions, at the camp, to figure out what are the best practices of education, and whether informal education is the best way to deliver educational provisions to children in such situations.

The hypothesis of the present work is that informal education strategies, at least at first, are more effective in guaranteeing the right to education for refugee children in protracted situations of displacement, allocated in refugee camps, since the re-establishment (or the establishment, in the case of children who have already been born in this context) of the educational routine in a community and family context can help in building that child's confidence and assist in their right to development.

The experience of other institutions in research with children and their education, specifically on the psychosocial aspects of the education in childhood, bearing in mind that the ethical approval of research is also important, meaning that having a partner in the field would enhance the possibility of keeping the confidentiality of the names.

As to emphasize the hypothesis here, it must be noted that the present research is going to be developed throughout the interviews, given that these children are both inside or outside of formal educational structures. In this sense, providing informal means of education, encompassing non-institutionalized transmission of knowledge, with the support of the families, with the support of the communities, is the best way to provide the universal access to education.

This will be constructed with the support of literature on informal education and the education of children, founded on the fact that they must be granted the right to be children [30], to be further developed.

[29] Machel, Graça (2001): *The Impact of War on Children*. London: Hurst.

[30] Dallari, Dalmo de A-Korczak, Janusz (1986): *O Direito da Criança ao Respeito*. São Paulo: Summus Editorial.

[31] Creswell, J. W–Creswell, J. D. (2018): *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. London: SAGE Publications.

[32] Brandão, Carlos R.–Streck, Danilo R. (2006): *Pesquisa Participante: A partilha do saber*. Aparecida: Editora Ideias & Letras.

[33] Silverman, David (2014): *Interpreting Qualitative Data*. London: SAGE Publications.

Methodology and Research Aims

The choice of methodology, an approach of mixed methods [31], but opting for Participant Research [32] as the main one, with the analysis of qualitative information [33], being besides being the one which is believed to bring the best results to the hypothesis proposed, but bearing another reason: bringing out an approach from the global south to international research, bringing out the voice of those interviewed, and not merely repeating data. [32] In order to do so, the research aims are:

- To create a material, based on the interviews, of best practices on the informal education of children in camps;
- To offer international organizations a full prospect on what are the best options for offering education for children in camps;
- To enrich the information on the education of refugee children in academia;
- Specially, the academia in Law, in which the theme is scarce.

The main source of information is going to be presented as the interview of the education professors in the camp, when it comes to looking after the work of the UNHCR, the UNRWA, and NGOs that support the educational system in camps and settlements, in a way that the best practices on informal education can be traced in the best way possible.

The idea is to promote a bond between the interviewer and the interviewed, essentially bringing out the idea of community in the results, with the adoption of Moderate Participation, meaning that none of us is actually a refugee or a teacher, and could not completely comprehend their experience, though observing.

This is intended to be a really personal experience, which would also mean that the research does not meet a near end, but it is lively and long-term evolving, with the purpose to learn from countries where successful experiences have been implemented and to deliver in Brazil the best practices in the education of refugee children in camps. As participant research, the results would also include observation from the researchers and those interviewed, with the care to not consciously diverge from the results gathered in the field.

If possible, as to prevent this intercurrence, a triangulation of results, sending them frequently to the interviewed, so they could confirm the information, would be an important asset (Member-Checking).

On the ethics of the collection of data, the questionnaire, to be developed, needs to be accepted by the parties involved and to go through each countries ethics department of research.

The age gap of children in educational process is going to be between 4 and 9 years old – a period in which the child starts perceiving surrounding realities. If possible, but this is not part of the interviews, to have access to drawings children make when it comes to their connection with education, it would be of extreme importance to the research. The only question addressed to children: how do you feel about school? And then, then would draw the experience, as they please. No intention to develop any kind of psychological analysis on that, just to give them the chance to self express during the process.

In order to better address the theme of the present work, the methodological choice was made after a long analysis of ethnographic research methods, although they are more used in studies in the area of Anthropology. Ethnographic studies are scarce in law - an additional reason for the difficulty of research and the need to specify the methodological approach in detail. Other details not included in this section will be covered during the research.

The objective of choosing an ethnographic method starts from the need to describe reality, based on the interaction between the researcher and the researched community, as a mechanism to rescue the oral history of the observed ones, since observing means understanding the cultural and social dimensions of the studied group, subtracting information, but trying to the maximum not to distort what is seen, the fieldwork being central to the analysis of the proposed theme, when this method is chosen, and the researcher is also a research instrument.

Understanding the complexity of the place of speech in the observation of reality, taking into account that the refugee situation, especially in childhood, is very specific to the people who live it, it should also be considered that, in the hypothesis of the children themselves describing their own reality, however, due to the necessary data collection to conclude a research work that adopts social research, the researcher must assume the posture of narrating what he sees, from the inductive method, of subjective participation, analyzing the events that occur, but also from objective observation, for the collection of information necessary to the hypothesis, but allowing itself to be guided by the induction of the field itself, of the observation itself.

It is also based on a security aspect: the school is one of the main targets in situations of armed conflict. It is a space for politicization and congregation of community members, which exposes them to the risk of attacks. In this sense, informal education also helps, secondarily, in protection.

The clarity of the qualitative results depends, however, on the bibliographic survey on the topic, as social research is based on the operationalization of concepts that, although pre-existing, can provide new results, for new hypotheses, not yet worked on.

What is an additional complicating factor: research on refugee children and their educational aspects is scant, and in law, virtually nonexistent.

Thus, the bibliographic cut must start from a care so that the researcher does not substitute the researched one – again, taking into account the place of speech – so that a colonizing posture is not assumed, which obstructs the observation of its autonomy and singularity.

For this reason, in addition to the commitment to participant observation, a stage of interviews was included in this research, in order to triangulate the results observed with the statements of the observed ones - professionals in early childhood education in refugee camps and they, the protagonists, the children themselves, to enrich the result of qualitative research.

With this information considered, gathering information from all the interviews, and bibliographic research, the team is going to center the experiences in creating a gadget and app to fulfill the educational necessities, the presence of connection, the extension of electricity in the settlement, the possibility of solar based energy provision, presented in each different type of scenario, selecting the target platform, building the algorithms as well as the engine, as to improve the quality of education provision in the camps and settlements.

From fascination with new technologies to media addiction (analysis of the phenomenon in relation to different age groups and media education as a form counteracting media addiction)

Abstract: Media addictions, understood as compulsive use of the internet, reaching for computer games or spending many hours in front of a smartphone or TV screen have recently become a huge problem. It was aggravated by the prolonged pandemic. This issue particularly applies to the internet, in everyday language referred to as a boon on the one hand and a curse on the other. The internet facilitates contact between people who are on a daily basis even on two corners of the world, it serves education or work in times of a pandemic, when face-to-face contacts are limited to the necessary minimum. Unfortunately, this has negative side effects in the form of the disappearance of the culture of conversation or escape into the virtual world at the expense of direct interpersonal contacts. This article deals with media addictions and their causes in relation to various age groups. Its aim is also to indicate examples of good practices in the field of media education, which can serve to sensitize young people to the proper reception of media content, not only on the Internet, as well as in other spheres, such as language education.

Keywords: Addiction; internet; pandemic; age groups; media education.

Összefoglalás: A közelmúltban óriási problémává vált a médiafüggőség, amelyet az internet kényszeres használatának, számítógépes játékok elérésének vagy sok órák okostelefon-használat vagy tévéképernyő előtt ülés idéz elő. Ezt súlyosbította a hosszan tartó világjárvány is. Ez a kérdés különösen az internetre vonatkozik, amelyet a mindennapi nyelvben egyrészt áldásnak, másrészt átoknak neveznek. Az internet elősegíti az akár napi szintű kapcsolatot is a világ két különböző szegletében tartózkodó emberek között, oktatást vagy munkát tesz lehetővé egy pandémia idején, amikor a személyes kapcsolat a szükséges minimumra korlátozódik. Sajnos ennek negatív mellékhatásai vannak a beszélgetés kultúrájának eltűnése formájában, és egyesek a közvetlen

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interperszonális kapcsolatok rovására menekülnek a virtuális világba. Ez a cikk a médiafüggőségekkel és azok okaival foglalkozik a különböző korcsoportok vonatkozásában. Célja továbbá a médiaoktatás terén bevált gyakorlatok példáinak bemutatása, amelyek a fiatalok érzékenyítését szolgálhatják a médiatartalmak megfelelő befogadására, nemcsak az interneten, hanem más szférákban is, például a nyelvtanításban.

Kulcsszavak: Függőség; internet; világjárvány; korcsoportok; médiaoktatás.

The media and their positive and negative impact on people and interpersonal relations

REASONS WHY PEOPLE USE MEDIA SPACES A LOT

Every 10 Polish teenagers suffer from nettoholism. Over 38% feel more online than in direct interpersonal contacts. There is a significant relationship between media addictions and family life and among close friends. It is worth paying attention to the research carried out in Great Britain in 2006–2007 – a group of parents agreed that TV sets and computers should not be used in their homes for a limited period of time. Their behavior has changed radically, habits of everyday life have changed (there was no television watching before going to school or spending Saturdays in front of the TV). Parents began spending more time with their children, mainly on various types of games and physical exercises. Children had a greater opportunity to play with their siblings (spending time together increased communication, ended quarrels and fights over TV remote control). Children, despite longing for television and computer games, showed great interest on other forms of spending time. Parents noticed changes in personality of their children (children were more cheerful). It turned out that children can calm down themselves and do not need additional external factors, such as a TV playing in the background. The educational results of pupils who showed earlier difficulties in school improved (more willingness to learn, greater level of concentration on the lesson and while doing homework). Relations between family members have changed – they started to spend more time together.

The media can draw the attention of audiences of all ages, both young children and adults, even those who think that they are not susceptible to media messages. This happens through persuasion and manipulation. While persuasion, understood as the art of convincing someone to something, manipulation is a form of exerting influence on people in such a way that they unknowingly execute the manipulator's instructions.

The reasons for frequent use of media spaces, in particular the Internet, in individual age groups are slightly different. Children and adolescents, belonging to generation Y, digital natives, practically do not

know a world in which there was no free access to the Internet. In the case of young people (children and adolescents) it is often referred to as blurring the border between the real and the virtual world. Young people often adhere to the principle: "What is not reflected online simply does not exist."

The Internet is often used by middle-aged people both as a work tool and a source of entertainment. Thanks to the Internet people can also meet with long-lost friends (from school years) or maintain contacts with family members living on the other side of the world. Both in this age group and among the elderly, there is a fascination with new technologies.

Here is the proof, which appeared in a local weekly in Poland, entitled Panorama Leszczyńska: a statement by a retired professional firefighter, whose passion is collecting fireman's badges from various regions of the world. Presenting his passion and a large collection of patches, he told a journalist representing the periodical that his passion developed when he set up a profile on the Facebook social network. Thanks to this, he made friends among the Polish community in America. Michał Zubaczyk, a retired firefighter from the small town of Święciechowa in the south of Greater Poland, in an article published in the Panorama Leszczyńska weekly, says:

They are kind people. All I need to do is write a letter or an email asking for two or three patches. After two weeks, an envelope usually comes with many more. [about a couple living in Brooklyn, met thanks to Facebook;] I asked them to ask if the fire department could send me some patches. I was given an envelope filled with emblems, along with a heartfelt letter. [...] I also wrote to 52 Polish embassies all over the world. Out of 22 I got answers, of course with patches, from all over the world. [1]

Thanks to the Internet, the man found out that he is not the only one who collects patches on firefighting suits. Both this and many other examples from everyday life show that the Internet offers many opportunities, facilitates establishing contacts, but also opens the way to threats. These undoubtedly include, among others, the Internet itself or dependence on its specific content (for example, the frequent use of social media).

Generally, we can talk about various reasons for media addiction. We distinguish among them:

– genetic predisposition;

[1] Maćkowiak, A. (2018): He has an original passion – he collects fireman's badges. *Panorama Leszczyńska*. 12. P. 29.

- social isolation;
- physical or intellectual disability;
- intensification of stressful life situations;
- mood, personality or development disorders;
- fascination with new technologies.

Sometimes addictions overlap, and some become a driving force for others, for example internet dependence and purchase.

We should also pay attention to the stages of addiction:

- 1) Getting to know the medium and mechanisms of its functioning.
- 2) Specialization in addiction.
- 3) Domination of addiction.
- 4) Trap of the addictive cycle, symptoms (anxiety, obsessive thinking about the medium/network, irritability, trouble concentrating, aggression towards people who try to limit the use of the medium on which a person has become addicted).

Various studies show that when it comes to surfing the web, which today is the most used media space, people most often use smartphones (some studies say up to 90 percent of users). This is not a negative phenomenon, unless the user shows symptoms of media addiction. We are talking about situations in which drivers write text messages while driving, and pedestrians while crossing the road, which in extreme cases even leads to traffic accidents.

MEDIOTYZM

The concept of mediotism is related to media addiction. We understand them as:

- the way of moving in the media world, related to the almost uncritical acceptance of the content we find in the media and acceptance of all these contents in the sense that this diversity testifies to the richness of media content;
- indifference to negative phenomena appearing in relation to contact with the media (addictions, cardiovascular diseases, mental disorders, vision defects, intellectual infantilism, etc.).

We can say a step further about the existence of the mediotic paradox: leaving or distorting important matters in such a way that the recipient sometimes does not even realize that such things has been done.

HOW TO FIGHT MEDIA ADDICTION

How to fight media addiction? We must show positive examples in the media to children, adolescents and adults. We must also explain to people what manipulation techniques are and that the media make frequent use of them. It is also important to make recipients of media content aware that it is not always a faithful reflection of reality.

Among the positive examples, I would like to highlight three, related to the film sphere. The first one is the movie entitled *Everest*, based on facts. In 1996, there was a trip to the highest mountain in the world, which has taken an unexpected turn. This film shows people who want something more from life, who set high goals. On the other hand, this film production shows that certain projects are not for everyone.

Another example relates to a person Nicholas James Vujicic – born 4 December 1982, motivational speaker suffering from birth defect characterized by the absence of arms and legs. It is worth reading for the movie *The butterfly circus*, in which Nick Vujicic as a media figure shows his life, also functioning in the media, that there is no out of order situation. The film with his participation is a perfect example of a media image that can have a positive effect on another human being. It contains elements of persuasion, but it does not manipulate another human being.

The film affects the emotional sphere, shaping it. It helps to reveal hidden emotions, which is sometimes very important in the therapeutic process, guaranteeing its success. By watching movies, people can identify with the characters presented on the screen, but also evaluate their behavior. The child learns what is right and what is wrong. The cognitive aspect in relation to various fields of knowledge is also important, as well as shaping the sphere of linguistic richness (provided, of course, the film material is characterized by linguistic richness).

Social campaigns play a huge role in fighting media addiction, many of which can be found online, but are also carried out in public space. An example is the campaign with the slogan “Leave your smartphone and live”, which can be found near pedestrian crossings. Leszno, a town with a population of 64,000 in Greater Poland, decided to organize such a social campaign. Its aim is to persuade people who often use smartphones, also when moving around the city, to give up this activity when crossing the road. Such behavior can lead to accidents.

[2] Ogonowska, A.–
Ptaszek, G. (2016):
*Media education in the
era of contemporary
cultural, social and
technological changes.*
Krakow: Impuls. P. 8.

The role of media education in the modern world

AT THE SOURCE OF MEDIA EDUCATION

Both in the context of combating media addiction and shaping appropriate attitudes towards media content, media education is important. Although the beginnings of media education date back to the 1930s, when the United States and the United Kingdom began to instruct children and young people in the proper reception of film images that were becoming increasingly popular at the time, it is now necessary to provide young people with tips on how to properly read media content. It is not about indoctrination, but helping to navigate through the maze of various messages. This state of affairs of course applies to the greatest extent to Internet content, although one should not forget about other mass media, including printed periodicals, which will be devoted to more space in this text, and their role. Especially since nowadays most newspapers and magazines also “live” online. As emphasized by Agnieszka Ogonowska and Grzegorz Ptaszek, *at the beginning of the 21st century, along with the dynamic development of the Internet, which initiated media convergence, interactive content consumption, the development of creativity and network cooperation, there was a transition from the mass media communication model to the multimedia communication model (multimedia communication) [2].* Nowadays, the recipient not only has universal access to media content, but also becomes part and co-creator of it in his own way.

Media education is not a separate school subject, nevertheless its elements should and are very often used in school activities, both in the field of humanities and mathematics and natural sciences. Many teachers reach for issues in the field of media education, not fully realizing it. Hence, there is a need to constantly popularize this field among future educators, as well as people already working in educational institutions. It is worth considering issues related to media education in several aspects, paying attention to the functioning of the media in local, national and global terms, as well as positive aspects related to the use of media.

THE ROLE OF THE PRINTED PRESS IN THE LOCAL COMMUNITY

It is important, especially in the context of printed work, to pay attention to the reach of the media, with a special division into local and national media. Both press experts and journalists emphasize more and more often that while nationwide periodicals have recently lost many readers who either prefer e-editions or focus on internet news, not resorting to more extensive journalistic forms published in the printed press, in the case of local periodicals do not experience such a large drop in readership.

Why exactly local media (not only in the field of printed press, but also radio, television and the Internet) should play a significant role in media education? They operate closest to the local community and – as has already been emphasized in relation to the press – largely shape the local public opinion. Among the tasks of local media, press experts distinguish, among others, such as: informing about local events and problems, education on various levels of knowledge, promotion of the “little homeland”, entertainment or marketing function. As for the last of the aforementioned areas, despite the fact that advertising campaigns have largely been transferred to the level of proprietary websites and social networks, most economic entities to a greater or lesser extent still use advertising in printed media, especially local ones. Taking these aspects into account, there is no doubt that it is worth using the content taken from local periodicals while implementing elements of media education. Moreover, many press materials are a valuable source of linguistic manipulations, including persuasive or even manipulative. This thesis is confirmed, inter alia, by the analysis of the editions of the Panorama Leszczyńska weekly, which has been published for over forty years in the Leszno subregion (the former Leszczyński province). The periodical is a valuable source material due to the fact that it is one of the longest-published local publications in Poland, and certainly the longest in the Leszno region. Navigating the linguistic and graphic examples taken from Panorama Leszczyńska, which can be used as part of media education, does not require browsing a series of paper. All (including the latest) editions of Panorama Leszczyńska can be accessed free of charge via the Internet as part of the Stanisław Grochowiak of the Leszno Digital Library. [3]

[3] The Digital Library in Leszno was created thanks to funding from the Ministry of Culture and National Heritage. It provides access to over 8,000 objects, including editions of the Panorama Leszczyńska weekly.

[4] Fura, M. (2005):
The art of seasoning.
Press. 7. P. 58.

[5] Wojtak, M. (2008):
Analysis of press genres.
Lublin: UMCS. P. 18.

GAME WITH A PRESS TITLE AND THE POSSIBILITY OF ITS USE IN MEDIA EDUCATION

Walery Pisarek calls the press title the display window for a printed statement, and Michał Fura admits that *with a good title, lead or title for the text is like with dishes: if they are poorly seasoned, no one will touch them. [...] They give the text flavor and character.*[4] Currently, among the nominative, descriptive and pragmatic functions fulfilling the title by the title, the latter definitely dominates. Hence, it is worth using titles in the educational space to shape the ability of children and adolescents to critically perceive media content. This is also evidenced by the fact that the modern reader more and more often confines himself to only reading the title, without delving into the content of the article. If he misread the linguistic procedure contained in it or is not aware that the title is playing with the reader, his consciousness will remain distorted (by the text's display window) image of reality or – what is definitely worse – the belief that the image created by the media reflects reality. Language and text games appearing in press titles should be subjected to a deeper analysis as part of media education. In this context, the following titles that are surprising in their form, distinguished by Maria Wojtak, can be cited:

- graphic, in which the modifications consist in the use of a parenthesis, giving the title the form of a double message, isolating an abbreviation from the composition of the letters of another word, ironic or satirical reinterpretation of an abbreviation;
- phonic, using the alliteration or rhyme procedure;
- syntactic, related to the use of broken sentences, appellative or expressive structures, syntactic parallelism, as well as inverse order of components;
- lexical, introducing occasional or regionalism, phraseological allusion, innovation, flow, metaphor;
- styling. [5]

When it comes to the popularity of journalistic material, title ambiguity is an essential key to success. On the one hand, readers expect short and precise information, and on the other, paradoxically, they want a game played with the title. Sometimes the recipient likes to be led by the nose at the beginning, sometimes – colloquially speaking – lowered into the proverbial raspberries, and only then led in the right interpretive direction. The problem begins when such treatments begin to exceed the limits of good taste. One of the tasks of media education is to sensitize

young people to solutions that should arouse social opposition. So that young people would be able to self-reflect, for example with a title such as *The Time of the Gliding Harvest*. [6] It relates to the world gliding championships organized at the airport in Strzyżewice near Leszno. But the question is why the “glider harvest”. In fact, it is not about sports rivalry at all, but a topic not directly related to competition. The title proves the thesis that thanks to such events as the above-mentioned local restaurateurs and hoteliers have a chance to earn more. It is worth considering whether such a title does not exceed the rules of good taste.

LINGUISTIC SOLUTIONS USED IN THE LOCAL PRESS

The analysis of media titles in terms of the language measures used in them can diversify the educational space. Moreover, the inclusion of such elements in the school sphere helps to properly sensitize students to the phenomena occurring in the media and supports their proper reception. Let us pay attention to selected language solutions and their functions.

Phonic solutions

The role of phonics can only be fully discovered when reading a text out loud. In press titles, the most frequently used are vocal instrumentation and its variation, alliteration. Bożena Ostromecka-Frączak aptly draws attention to the fact that the use of vocal instrumentation, which is a peculiar mechanism of the sound organization of a text, characteristic of the poetic language, in press headlines makes them stand out from other texts written in prose. The aim is to arouse readers’ interest by surprising the recipient with a certain distinctiveness of the sound form. [7]

Among the phonic procedures, the rhyme is the most rarely used in itself, perhaps because it is treated more as a domain of uncomplicated rhymed texts. It happens, however, that journalists introduce them into their articles to give the titles a mnemonic character. In some press titles you can find paronomasia, polysndetone, poliptoton, etymological and pseudo-etymological figures, which usually become a tool that builds a pun or a play on words. A title constructed in this way will probably have a multifaceted impact on the reader and when analyzing it, one must

[6] *Panorama Leszczyńska*. 31. (2014). P. 1.

[7] Ostromecka-Frączak, B. (2004): Language sales in the headlines of “Gazeta Wyborcza” In: Wojtak, M.–Rzeszutko, M. (Eds): *In a circle of faithful speech*. Lublin: UMCS. P. 116.

[5] Wojtak, M. (2008):
*Analysis of press
 genres*. Lublin: UMCS.
 P. 18.

undoubtedly agree with the statement of Maria Wojtak, who emphasizes that this multifaceted impact includes: *capturing the recipient's attention, encouraging to read (and therefore perhaps also to buy a newspaper), conviction to the title and / or text of judgments and opinions, amusement, intrigue, an invitation to solve a communicative puzzle or even to evoke admiration for the beauty and unusual expression*. [5]

Graphic solutions

Compared to other linguistic solutions, the graphic treatments in press titles remain in the minority. When taking up the topic of media education, one cannot ignore such solutions, if only because of their peculiarity. We can observe graphic solutions at various levels, including titles built on the basis of contamination, specific graphic hybrids whose “image” imposes the direction of interpretation. On the other hand, graphic techniques used in press titles, often imposing very divergent interpretative paths, involve the use of parentheses. Properly applied, the titles become ambiguous and their proper reading will depend on reading the text, or at least its key fragments. The graphic(literally) plays also a special role in the titles where the word and iconic elements are combined.

Lexical solutions

In the lexical procedures used in press titles, we can very often see a metaphor that is often recalled during Polish language classes. In the media, however, it is usually introduced to such an extent as to, on the one hand, play a kind of game with the reader, but ultimately not to discourage him in his attempts to understand its meaning. To put it simply: media imagery is easier to perceive and understand. Thanks to this, a conversation about examples taken from its range can be a good introduction to the analysis of more difficult metaphors from the field of literature. In the Panorama Leszczyńska weekly, which has already been mentioned, lexical procedures are built, among others, on the basis of military imagery, which serves to build terror, tension and at the same time understatement.

The lexical richness in press titles is also evidenced by the presence of such treatments as oxymorons, etymological figures, homonyms or neologisms. Colloquial

expressions are also noteworthy examples. Colloquiality in the headlines evokes emotions in the reader, and is often a source of evaluation, which is a specific interpretative hint for the recipient, relating to the issue presented in the article. This line of thinking is related to the hypothesis of the agenda, about which Tomasz Goban-Klas writes in his study on mass communication. *It claims that mass media exert a significant influence [also through the use of colloquial words or expressions at a given moment – ed. A. Maćkowiak] not so much on human opinions, but rather on the directions (ie scope and hierarchy) of thinking. Recipients receive from the media not only up-to-date information on domestic and foreign events, but also acquire convictions about the importance and value of particular problems, e.g. when they show a great political crisis, catastrophe (flood), or stock market crash. Even those who are not affected by it in any way become convinced of the importance of the problem, although they have their own opinion about it.* [8]

The gradation and emotional marking of the title, and thus the entire media message, is the result of journalists reaching for potholes. Commonness has undoubtedly the power of impact, which – acting on the emotions of the recipient and not remaining axiologically indifferent – hyperbolizes the problems that – even in the eyes of people initially uninterested in the subject – become important.

Intertextual solutions

In order to persuade the reader to read the text, journalists in the titles more and more often resort to intertextual treatments. Their commonness in journalistic practice is pointed out by Beata Grochala [9], who understands intertextuality both as a literal quotation and its modifications. After analyzing the material taken from *Gazeta Wyborcza*, he comes to the conclusion that journalists who edit this periodical often, when “processing” a quote from the journalist, reduce a part or replace components. Less frequently, however, they decide to expand the lexical composition of the source text or introduce changes to the grammatical forms of the words it contains. Beata Grochala notes *that the main function of press headlines is to synthetically capture the content of the article, informing the recipient about the most important events described in the article. The titles are primarily intended to interest the reader with the content of the message, catch his attention. Therefore, very often authors use language patterns established in the recipient’s consciousness (either*

[8] Goban-Klas, T. (2009): *Media and mass communication. Theories and analyzes of the press, radio, television and the Internet*. Warszawa: PWN. P. 267.

[9] Grochala, B. (2002): Intertextuality in the headlines of *Gazeta Wyborcza*. In: Michalewski, K. (Eds): *Text in the media*. Łódź: UŁ. P. 222.

[9] Grochala, B. (2002): Intertextuality in the headlines of Gazeta Wyborcza. In: Michalewski, K. (Eds): *Text in the media*. Łódź: UŁ. Pp. 222–229.

in an unchanged form or introducing some changes in them). These include the titles of literary works, movies, songs, as well as quotes from these works. Thus, it is possible to distinguish a group of headlines in which intertextuality is the basis of the construction. [9]

Titles built on the basis of intertextual measures are used, among others, in situations where the author – realizing that the topic presented is not the easiest one, has to find a way that will encourage the reader to read it. These include publications on economic or economic matters, which are of interest to specialists, but not necessarily to the general public. Attempts are then made to “familiarize” the recipient with a topic initially sounding not always friendly to him and to show him that one does not need to belong to the circle of specialists to understand certain issues and acquire some specialist and valuable knowledge. The closer to the present day, the more often the titles of journalistic texts are built on the basis of the principle of intertextuality. You can see the same tendency here as in the literature, which is even beginning to be called a culture supermarket.

Summary

The line between the fascination with new media and media addictions is very fluid. This phenomenon can be seen especially in relation to the Internet, which more and more people, from different age groups, use almost all the time. The desire to be in virtual contact or to be “up to date” with the content posted on the Internet is so strong that sometimes it begins to dominate the common sense approach to life. There is nothing wrong with the fact that the Internet is becoming a window to the world, a tool helpful in education, work or the sphere of contacts with people from all over the world. However, it cannot dominate face-to-face interpersonal contacts.

At this point, a huge role belongs to educators, especially those who deal with issues related to media pedagogy on a daily basis. Their role is to sensitize young people as well as adults to what the proper reception of press materials should look like. In educational activities, the local press comes to the rescue, which – as emphasized – provides many valuable materials worth using during lessons. Such materials include titles of press texts.

The pursuit of originality of titles (some publishing houses even employ people whose only task is to come up with attractive titles) can lead to abuse, especially

when there are no attractive topics and the so-called “cucumber season” is approaching in the journalistic world. Then, even in a short title, there is a high probability of a situation similar to what Sławomir Mrożek described somewhat ironically and caricaturally in his column entitled Information, published in Gazeta Wyborcza of April 17, 1997, in which we read:

Original text:

„Niemiec zabił” – taki tytuł między innymi zobaczyłem w codziennej gazecie i przeczytałem, o co poszło. Mianowicie o to, że na jednej z tranzytowych dróg doszło do zderzenia między samochodem osobowym marki zachodniej i rejestracji niemieckiej oraz polskim fiatem 126p. Kierowcą samochodu niemieckiego był obywatel Republiki Federalnej Niemiec, a kierowcą fiata 126p obywatel polski. W wyniku zderzenia obywatel polski poniósł śmierć, zaś obywatel niemiecki obrażenia ciała. Z notatki nie wynikało, który kierowca ponosił winę za zdarzenie, być może żaden z nich. Być może winno było na przykład prosię, które wyskoczyło nagle z rowu na szosę. Być może nawet prosię było niewinne. Notatka była krótka, w kolumnie innych krótkich notatek, drobną czcionką. Tylko tytuł czcionką dużą, pogrubioną, dlatego zwróciłem na niego uwagę. Nasuwają się następujące pytania: Czy gdyby obywatel polski doznał obrażeń, a niemiecki zginął, czy wtedy tytuł notatki brzmiałby „Polak zabił”? Czy gdyby ten, który zginął, był w dalszym ciągu Polakiem, zaś tamten, który doznał tylko obrażeń, był Anglikiem, tytuł brzmiałby: „Anglik zabił”? [...] Dlaczego więc tytuł notatki brzmiał tylko „Niemiec zabił”, a nie „Niemiec zabił Polaka”? Otóż dlatego, że choć Niemiec szczególnie lubi zabijać Polaków, to – jak wiadomo – w zasadzie nie przebiera i zabija każdego, kto podleci. A więc w imię obiektywizmu i antyszowinizmu: Ale dlaczego „Niemiec zabił”? Dlaczego akurat taki tytuł, a nie inny, który by nie nasuwał powyższych pytań? Mam nadzieję, że tylko z głupoty i z zamiłowania do efektownych tytułów, tej manii, na którą chorują prawie wszystkie polskie gazety.

Translation:

“German Killed” – this is the title I saw in the daily newspaper and read what it was about. Namely, that on one of the transit roads there was a collision between a passenger car of the Western brand and German registration and the Polish Fiat 126p. The driver of the German car was a citizen of the Federal Republic of Germany, and the driver of the Fiat 126p was a Polish citizen. As a result of the collision, the Polish citizen died, and the German citizen – bodily injuries. The note did not indicate which driver was to blame for the incident, perhaps neither of them. Perhaps it was the piglet that suddenly jumped out of the ditch onto the road. Perhaps even the piglet was innocent. The note was short, in a column of other short notes, in fine print. Only the title in large, bold font, which is why I noticed it. The following questions arise: If a Polish citizen was injured and a German was killed, would the title of the note read “Pole killed”? If the one who died was still a Pole, and the one who only sustained injuries was English, would the title be: “The

Englishman Killed”? [...] So why was the title of the note only “German killed” and not “German killed a Pole”? Well, because although the German especially likes to kill Poles, as you know, he basically does not pick and will kill anyone who flies. So, in the name of objectivity and anti-chauvinism: But why did “the German kill”? Why such a title and not another one that would not raise the above questions? I hope it’s just stupidity and love for glamorous titles, that mania that almost all Polish newspapers suffer from.

Unfortunately, linguistic creations similar to the one described by Sławomir Mrożek appear too often in contemporary journalistic materials, which proves that sometimes the media – instead of focusing on describing and commenting on reality – try to create it by exceeding their competences. The title, as well as the whole text, can provoke, well when it combines such elements as brevity and attractiveness, but it is unacceptable for it to over-interpret the image of reality. For this reason, it is important to analyze press materials as part of media education. Educators cannot “take offense” at the media or assume that it is a sphere that should not be associated with the educational space. Education for the proper reception of media content and the proper use of media messages seems to be one of the priorities of education today.

Criminal liability (repressive) of legal persons as a method of fighting with psychoactive substances [1]

Abstract: Undoubtedly designer drugs are a major challenge of the 21st century. For more than ten years natural persons and their partnerships have applied new methods of introducing psychoactive substances on the market under false legal pretences. There is no need to convince anybody how dangerous designer drugs are and how huge profits (frequently illegal) are related to drug trafficking. Each country needs to seek various, new methods of combating this phenomenon. This article presents a general proposal to apply penalties and other punitive measures typical for repressive law (criminal law).

Keywords: Designer drugs; psychoactive; drug trafficking; repressive; criminal law.

Összefoglalás: A 21. század egyik legnagyobb kihívását kétségtelenül a dizájn drogok jelentik. A természetes személyek és partnereik több mint tíz éve alkalmaznak új módszereket a pszichoaktív szerek színlelt jogszerű piaci bevezetése ellen. Nem kell senkit meggyőzni arról, hogy a designer drogok mennyire veszélyesek, és hogy a hatalmas (gyakran illegális) nyereség milyen összefüggésben van a kábítószer-kereskedelemmel. Minden országnak különféle, új módszereket kell keresnie ennek a jelenségnek a leküzdésére. Ez a cikk általános javaslatot mutat be egy visszatartó erejű (büntetőjogi) szabályozásra, megfelelő büntetések és egyéb büntetőjogi intézkedések alkalmazására.

Kulcsszavak: Designer drogok; pszichoaktív szerek; kábítószer-kereskedelem; visszatartó erejű; büntetőjog.

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[1] To begin with I would like to say that with immense satisfaction I accepted Professor Orsolya Falus's invitation to give a speech and participate in the international conference which was held on 9th –10th November 2020 and which was organized by The Institute of Social Sciences of the University of Dunaújváros. Unfortunately, I was not able to participate in the conference itself, therefore it is an honour for me to have the possibility to publish an article in the post-conference materials. The article itself is a kind of 'thank you' for prof. Falus, the University authorities and the Institute for both invitations. The subject of the article was already touched upon during the conference which was held at the University of Dunaújváros last year. The problem of designer drugs occurs both in Poland and Hungary.

My home town, Leszno, which is a partner town for Dunaújváros, in recent years has been known for many actions aiming at counteracting legal highs. Thus, for both towns it is worth cooperating not only in the field of culture, sport or economy, but also in terms of exchanging experience related to various negative phenomena, including counteracting psychoactive substances.

[2] T. Srogosz, Prawo (2016): *Międzynarodowe i unijne wobec nielegalnego obrotu narkotykami*. Częstochowa. P. 25.

[3] Wilkins, C.–Sweetsur, P. (2010): Differences in harm from legal BZP/TFMPP party pills between North Island and South Island users in new Zealand: A case of effective industry self-regulation. „*International Journal of Drug Policy*”. 21. Pp. 86–90.

Psychoactive substances as a social challenge of the 21st century

The first mention of intoxicants dates back to the Middle Ages. In ancient times taking drugs was usually related to religious or healing ceremonies [2]. Drugs have been a huge problem in a lot of countries for many years.

Although the matter of fighting with drug addiction has not yet been definitively solved, and it is doubtful whether it will ever be – in the last several years each country has been struggling with the new phenomenon i.e. designer drugs. This problem has appeared practically in all European countries as well as in other parts of the world.

One of the factors that makes taking designer drugs attractive for their users is a low price and the fact that they are frequently legal, therefore taking them does not bear any legal consequences. Thus, they are a less costly and safer substitute of drugs. [3] Therefore, it should come as no surprise that this activity generates incredible amounts of money earned especially by those in charge of these often complicated and complex ‘pyramids’ and ‘chains’ among copartnerships, which deal psychoactive substances. Although the number of countries where trading designer drugs is a crime is increasing, still there are states where such activity does not bear any consequences, including especially criminal liability. In some countries selling designer drugs does not entail criminal liability, but only an administrative one imposed by public authorities (for instance the sanitary inspection), not by court.

In recent years a new term has been coined, namely ‘legal highs’, which refers to a huge number of substances, ‘from herbal mixtures to synthetic drugs’ and ‘party pills’ used in many different ways (smoked, inhaled, swallowed). In the majority of cases the distribution of such drugs is online, however they may also be found in the so-called *smart shops*. Moreover, new marketing strategies appear which aim at gaining the widest possible group of consumers. Frequently, the products are inappropriately labelled in order to avoid legal control, for instance by placing a warning ‘do not consume’.

The actual drug dealer is usually a person with no assets or possessions, addicted themselves, for whom possible imposed financial penalties are impossible to execute, which actually makes them illusory. Such a situation

especially occurs when the only punishment for the seller is the administrative fine imposed in administrative proceedings by public authorities, not by court in penal proceedings. Administrative penalties, unlike amercement adjudged in penal proceedings, cannot be changed for stricter punishment (for instance penalty of restricted liberty or imprisonment). If the pecuniary penalty cannot be executed from the culprit, practically such a person is unpunished.

There are also instances, in which copartnerships registered in a country different than the one where it deals drugs, compensated its employees any inconvenience connected to penalties imposed on them. The profits of such copartnerships from drug dealing are so huge that compensating penalty payments imposed on staff generates relatively low costs compared to incredible income from dealing drugs.

Frequently, copartnerships' business activity is seeming and deceptive since they sell psychoactive substances under the pretext of a different business activity (for example selling barbecue lightwood or collector's items). It is usually a challenge to prove such a misleading business activity, yet even if it happens, only individuals can be liable.

Obviously, legal highs constitute a significant challenge of the 21st century. Each country has its own regulations and methods to combat designer drugs. Different countries have created their own solutions. Seldom is a discussion held on criminal liability of copartnerships which trade drugs, as an effective method of counteracting this phenomenon. Regardless of the fight with designer drugs, the matter of criminal liability of legal persons may, in itself, be a significant social and legal challenge of the 21st century. Therefore, this issue is analyzed in this article which refers to social challenges of this century.

Criminal liability of legal persons *sensu largo*

The issue of criminal liability of legal persons has been of interest in the law studies for years. Interestingly, this issue was researched both in Poland and Hungary by scholars dealing with criminal law already 100 years ago. One of the most prominent Polish professors of penal law, Juliusz Makarewicz [4], in his book written in German, included in the European criminal law canon, stated that it was possible, considering the contemporary regulations in Poland, to execute criminal liability

[4] Juliusz Makarewicz – born on 5th May 1872 in Sambor, died on 20th April 1955 in Lviv. He was a Polish lawyer, an experienced professor of criminal law of Lviv University, in 1925–1935 Polish senator. He was also the main author of codification of Polish criminal law, criminal code of 1932, often referred to as Makarewicz's code.

[5] J. Makarewicz (1906): *Einführung in die Philosophie des Strafrechts auf entwicklungsge-schichtlicher Grundlage*. Stuttgart. P. 452.

[6] Erwin Hacker – born in Bratislava on 23rd March 1888, died in Miskolc on 27th December 1945. He was one of the most prominent figures of Hungarian criminal and criminological literature, as well as an outstanding lawyer, criminologist and a teacher of law. He studied law at Practical Law Academy in Bratislava and at the Budapest University, where he did a PhD degree in law in 1909. He started publishing at a very young age. In many of his publications and books he dealt with various fields of criminal science, among others, criminal statistics, criminology and prison issues. As one of the first, he highlighted in Hungarian doctrine, even the Central European one, the issue of prosecuting legal persons. Moreover, he strove to present that criminal law was becoming international.

[7] Haver, E. (1922): *Az egyesületek büntetőjogi cselekvőképessége és felelőssége: tanulmány az anyagi büntetőjog köréből*. Pécs: Grill Károly Udvari Könyvkereskedése. P. 228.

of legal persons. [5] He also believed that such a liability should not be excluded by lawyers, since it is feasible to introduce it through particular legal regulations. In other words, there are no obstacles to introduce into the legal system of a particular country the criminal liability of legal persons.

Even more serious and critical studies into this area have been conducted in terms of the Hungarian penal law. As early as in 1922 prof. Ervin Hacker [6] published a book, whose title may be translated from Hungarian as: *„The associations capacity and criminal liability – Study within the substantive criminal law”*. [7] In the same year he also published a small brochure regarding the ability of associations to be subject to criminal liability. [8]

Nowadays, both in Poland and Hungary there are regulations which allow holding legal persons criminally liable. In both countries it has been regulated by separate acts. In Hungary the issue is regulated by an act on measures applicable to legal entities under criminal law from 2001 [9], but in Poland by the Act of 2002 on the Liability of Collective Entity for Prohibited Act under penalty of a fine. Interestingly, the Hungarian criminal code of 2012 mentions the criminal liability of legal persons, but the specifics are regulated in a separate act. Similar solutions also function in other European countries. [10]

In Poland and Hungary different regulations have been introduced than for example in France, where the issue of criminal liability of legal persons has been regulated in the criminal code since 1992.

Basically, both in Poland and Hungary it is not possible, or at least extremely challenging to bring to justice those legal entities that benefit from dealing designer drugs. It needs to be highlighted that this draft does not only refer to the Polish or Hungarian legislation, but aims at proposing particular, general solutions which may successfully be implemented – considering appropriate rules of law – in the majority of European legal systems.

Legal and penal measures which may facilitate fighting with psychoactive substances

Striving to create a new model of outlawing legal highs, it is worth implementing certain legal solutions, which may be regarded as examples of criminal liability of legal entities *sensu largo*. Within this kind of liability, in a broad meaning of this notion, there are all legal measures, which are not imposed in legal court proceedings, but which, due to their level of repression, resemble punishments and punitive measures prescribed in the criminal law, precisely in the criminal code.

Firstly, administrative penalties, which exist in the majority of legal systems in the world, need to be mentioned. Their main feature is the fact that they are not usually imposed by courts in criminal procedure, but by public administrative bodies in the administrative procedure. Frequently, in their severity they exceed penalties or punitive measures of the criminal code. For instance, pursuant to Art. 52a paragraph 1 of the Polish Act of 29 July 2005 on Counteracting Drug Addiction: ‘Anybody, who against regulations, produces and trades on the territory of Poland substitute substances, is subject to penalty of between PLN 20 000 (approximately 4400 euro) and PLN 1 000 000 (approximately 220000 euro)’. Financial penalty is imposed by the national sanitary inspector proper to the place of producing or dealing substitute substances. This decision requires immediate execution (Art. 52a paragraph. 2). While establishing the level of the financial penalty mentioned above, the national sanitary inspector takes into consideration especially the amount of manufactured or distributed substitute substances. Since in the Polish legislation system the word ‘Who’ is used, it may theoretically mean that those penalties may be imposed both on legal and natural persons. Practically, however, the penalties are imposed on natural persons, who personally deal, most frequently sell legal highs, not on copartnerships on behalf of which the dealers have been acting.

Frequently, the copartnerships trading designer drugs have a very low share capital [11], therefore executing the imposed penalties is impossible. Those copartnerships are usually registered in a country different from the one where they actually operate, which inhibits imposing on them the administrative penalties.

[8] Haver, E. (1922): *Az egyesületek büntetőjogi cselekvőképessége és büntet-hetősége*. Budapest. P. 15.

[9] Toth, D. (2019): The theories and regulation of criminal liability of legal persons in Hungary. *Journal of Eastern-European Criminal Law* no. 1. P. 178–188. Nagy, Z. A.: *Some problems of the criminal liability of legal entity in criminal dogmatics*. <https://www.law.muni.cz/sborniky/dp08/files/pdf/trest/nagy.pdf>

[10] See more about the verdict of TS of 12. 07. 2012. C-79/11, POSTĘPOWANIE KARNE PRZECIWKO MAURIZIOWI GIOVANARDIEMU I INNYM, ZOTSiS 2012, 7. I-448. Vermeulen, G.–De Bondt, W.–Ryckman, C. (2012): *Liability of legal persons for offences in the EU*. Antwerpen-Apeldoorn-Portland 2012.

[11] Most frequently it was PLN 5000 (approx. 1100 euro), since this is the minimum amount to establish a private limited company in Poland.

[12] Obviously there are rules and regulations which facilitate European administrative co-operation, but they are not so elaborate as the regulations describing criminal procedure and the co-operation in criminal cases among different countries. For instance, in the Polish administrative code the excerpt entitled 'European Administrative Co-operation' consists of only 7 articles.

European legislation offers a wide range of instruments facilitating prosecution of crimes committed abroad. The international co-operation among various law enforcement authorities functions quite well. It is worth listing institutions such as the European arrest warrant. Yet, there is still lack of such solutions in terms of executing administrative fines. [12]

Independently of described difficulties, it is worth highlighting that executing liability in forms of administrative penalties imposed on legal persons may occur to be an effective element of counteracting legal highs. It refers to all those situations when such copartnerships under false pretence of legal activity (for instance sell souvenirs or collector's items) in reality trade designer drugs. Administrative penalties may prove to be a more effective and faster way of executing liability then in case of criminal procedure. They allow imposing and executing financial penalties on legal persons who frequently reap high rewards from selling psychoactive substances.

Another interesting solution which may facilitate counteracting legal highs is the ban on running a certain type of business activity by a copartnership which is suspected of dealing legal highs. Frequently, the regulations of the Code of Criminal Procedure allow issuing a preventative measure in a form of a ban on business activity when the suspicion of committing a crime is justified. The institution eligible to issue such a measure is usually the public prosecutor, most often the prosecuting attorney, conducting the investigation or inquiry. In case of judicial proceedings the court is usually eligible to act this way.

Personally, I believe that in order to effectively counteract legal highs, it is worth granting such a statutory right to certain public administrative bodies. This strategy may prove effective for several reasons. Firstly, it is often very difficult to instantly prove that selling such substances is a crime, especially when this business is run under false pretence of other business activity. Furthermore, counteracting legal highs requires immediate actions.

It seems that public administration bodies, both government and local government ones, are able to take more immediate actions, and at the same time are more effective in this respect. Some doubts may concern the fact whether public administration institutions ought to have competence to make such decisions. It needs to be remembered that the freedom of business activity is one of the most significant values in every democratic country of the rule of law. In the majority of legal systems it is also the value guaranteed by the constitution of each state. For instance, pursuant to Art. 22 of the Constitution of Poland: 'Limiting the freedom of

business activity is allowed only pursuant to the Act and only due to significant public interest'. It seems, however, that the necessity to act quickly and the risk posed by legal highs on life and health means that the requirement referring to limiting the freedom of business activity and some constitutional rights and liberties shall be fulfilled. Enabling public administration bodies to fight with psychoactive substances may be perceived as 'significant public interest', which needs to occur for the freedom of business activity to be limited by an Act.

Similarly to the case of administrative penalties, the proposed measure ought to be applied by public administration bodies. This measure, however, can be called a punitive measure *sensu largo*, since in its repressiveness it resembles penalties or measures prescribed in criminal law *sensu stricto*. Probably, in the world there is no criminal code which would allow to punish a culprit by ruling a ban of business activity or performing the profession if the culprit has abused, while committing a crime, his position or profession or has shown that further holding his position or performing his profession may pose risk on significant goods protected by law.

Obviously, the opponents of introducing into particular legal systems such solutions could claim that they prescind from the assumption according to which in the country of the rule of law, the bodies eligible to impose such severe measures are only state courts. Such an accusation, however, is unjustified since introducing the proposed solution into legal regulations of a country should entail court supervision and monitoring of such decisions if issued by public administrative bodies. In each legal system there are solutions which mean that the state resigns from its rulership in terms of 'power to punish' and passes its competences to, other than courts, public administration institutions, but simultaneously limits to a great extent 'the discretion' of the institution issuing the decision, among others through introducing court control of decisions issued in this way.

The last measure which can facilitate counteracting legal highs, but entails applying legal sanctions by public administration bodies is related to the necessity of ensuring those bodies the right to destroy crops or plants which may be used to produce designer drugs or other psychoactive substances. Many plants used to produce drugs might also be grown for other, fully legal, purposes, for instance for textile, chemical, cellulose-paper or food industry as well as for cosmetics, pharmaceuticals, building materials or seed production. Therefore, some substances may be planted and grown under the supervision of some public institutions. Undoubtedly, some of these rationed crops are then used to produce psychoactive substances, which obviously is not compliant with their declared purpose. In such a situation, respective public administration agencies need to be eligible to act immediately and destroy such crops, so that they are not further used for purposes not compliant with the actual (declared) purpose. Crop destruction should also take place when certain plants are used to produce drugs, especially legal highs, and growing them is illegal (for instance hidden plantations).

Summary

Undoubtedly, fighting legal highs is a significant social and legal challenge of the 21st century. People involved in producing and trading psychoactive substances are constantly searching new methods of launching them into the market. Frequently, this activity generates huge amounts of money and profit. Copartnerships, often belonging to a chain creating a network of interconnected business entities, registered in foreign countries, are often responsible for bringing legal highs into the market. It is vital to create a situation in which each legal system has its own effective tools to counteract legal highs, with regard to both legal and natural persons. This article aims at pinpointing certain institutions which may prove effective in counteracting psychoactive substances, and which are applied to legal persons. Intrinsically, they have been presented in general, since the purpose was to outline crucial features of these institutions (punitive measures). It is obvious to state that each legal system has its own rules and regulations. It needs to be remembered that the proposed measures are of repressive character and resemble penalties and punitive measures listed in the criminal code. Therefore, to apply them certain guarantees resulting from the Constitution of the state or even from the European Human Rights Convention need to be granted. It ought to be born in mind that the European Tribunal of Human Rights applies a very wide understanding of the notion ‘criminal cases’ in which apart from applying penalties or punitive measures *sensu stricto* also includes cases in which sanctions, whose aim is repression, are applied. The character of such a case assigned in the national legal system does not matter. In other words, even cases considered civil or administrative in the state legal system may be considered by the Tribunal as criminal ones pursuant to Art. 6 of the European Human Rights Convention.

For that reason introducing any punitive measures in each legal system must be accompanied by some reflection from the legislator. The idea is for the measures to serve the right purpose of counteracting the negative and harmful phenomenon, among others legal highs, and not to turn into legal lawlessness.

Sustainable development in the view of artificial intelligence: perspectives in the EU

Abstract: Paper attempts to discuss the application of Artificial Intelligence in attaining sustainable development targets. AI is ready to improve the wave of digital transformation and firms are preparing themselves to gain momentum in productivity and efficiency with the help of it. The AI technology is widely been used in a wide range of different sectors including healthcare, education, automobiles, travel and tourism etc. The impact of automation and AI in different sectors became the topic of discussion in the near future among governments, policymakers and economist. It is believed that new developments of machine learning and AI will help the economies in solving cognitive problems and attaining sustainability. The paper focuses on the implementation of AI and big data analytics in achieving sustainable development goals along with creating social and environmental significance from a European perspective.

Keywords: Artificial intelligence; big data; sustainable development; sustainability; environment.

Összefoglalás: A tanulmány megkísérli megvitatni a mesterséges intelligencia alkalmazását a fenntartható fejlődési célok elérésében. A mesterséges intelligencia készen áll a digitális átalakulás hullámának javítására, és a cégek arra készülnek, hogy ennek segítségével lendületet vegyenek a termelékenységben és a hatékonyságban. A mesterséges intelligenciát széles körben használják különböző ágazatokban, ideértve az egészségügyet, az oktatást, a gépjárműgyártást, az utazást és az idegenforgalmat. Az automatizálás és a mesterséges intelligencia hatása a különböző ágazatokban a közeljövőben a kormányok, a politikai döntéshozók és a közgazdászok közötti vita tárgyává válhat. Úgy gondoljuk, hogy a gépi tanulás és a mesterséges intelligencia új fejlesztései segítik a gazdaságokat a kognitív problémák megoldásában és a fenntarthatóság elérésében. A tanulmány a mesterséges intelligencia és a Big Data-

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elemzés megvalósítására összpontosít a fenntartható fejlődési célok elérése mellett, társadalmi és környezeti jelentőségű európai perspektívában. **Kulcsszavak:** Mesterséges intelligencia; Big Data; fenntartható fejlődés; fenntarthatóság; környezet.

Introduction

The gradual increase in the population of the world has led to an increase in critical climate change and environmental degradation. Around the globe, these continuous rising of environmental issues created a need to save the earth's natural environment. For decades there has been a detrimental impact on the environment by the actions and habits of human beings which is threatening the safety of the biosphere and the generation of the future as well. These enduring situations generated the need for necessary actions taken towards efficient and coherent management of the available resources that will pose the least negative pressure on the environment. The concept of sustainable development involves accountable behaviour which aims to ensure the utilization of present resources without making it difficult for future generations to avail these resources. [1] The research and development have been accelerated in the area of environmental and societal marketing as a result of increased concerns of governments, citizens, consumers, and companies in the early 1990s. [2] In recent years, sustainable development has received huge attention from policymakers, businesses, and academicians, also the European Union, and the United Nations. [3] The theory of sustainable development has obtained various evolving phases since its beginning and with time confronted many criticisms and interpretations. However, it is accepted and recognized in many extents of businesses and human activities and the definition of sustainable development became the most cited definition in the literature. [1]

The policies of the European Union also highlight the alliance of sustainable development and smart technologies. The EU's present growth strategy of 10 years (Europe 2020) has the objective to foster inclusive, smart, and sustainable growth across Europe. [4] These smart enabling technologies have

attracted the attention of many policymakers and researchers. The growth and advancements of AI will facilitate financial and intellectual benefits to the countries of the EU. Furthermore, many countries are collaborating to give maximum emphasis on the sustainable development goals and to grow and develop together, by keeping in view about safeguarding the environment and ecosystem.

Artificial Intelligence is now growing very fast and making hold of every sector, for instance, commercial practices, government policies, and businesses. The backbone of this can be academic universities that play the role of a resource centre for sustainable development [5], [6]. The rapid growth of AI will create the development of the legal and regulatory framework and actions that are governed manually. [7] Hence, the development of AI will provide intellectual and financial benefits to several sectors and countries. The on-going development of technology such as computer vision, robotics, internet of things (IoT), big data, speech recognition, machine learning, etc., created concern among governments, policymakers, and scientists that automation and AI will replace Human beings and overtake the market or manufacturing. [8] Besides, it is also believed that AI and its rapid expansion and deployment will fulfil the requirements to achieve sustainable development goals. [5] However, it is necessary to calculate the effects of AI on sustainable development as it is having a rising impact on various sectors and across humanity. In a study conducted by Vinuesa et al. [9], it is reported that 128 targets of sustainable development goals are accomplished by AI out of 169 targets that are under the 2030 Agenda for sustainable development.

The advanced efficiency of AI and its intense predictive power is acquiring expertise and substituting humans around the globe. However, Harari [10] in his study explained that substituting all humans at once is not possible but we are getting involved in developed technology with time and are surrounded by robotics and advanced knowledge and learning. The cognitive problems related to human intelligence generally are now being resolved by robotics and machine intelligence. It is believed that the way we learn, live, communicate, and work will be transformed by the potential of AI. [6] AI is creating its presence and popularity in businesses and industries and is anticipated to bring transformation in regard to environmental consequences, productivity,

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and manufacturing. [11] It can be merged in various procedures into the goals of sustainable development by experimentation, leadership programs, and sustainable management. Also, the significance of AI for sustainable development because of its efficiency and innovative technologies is accepted by many organizations, policymakers, and scientists. [12]

In achieving growth and development in a sustainable manner, the implementation of AI can be a better enabler to do so. The current study discusses the European perspective of the application of AI and provides several case studies of different sectors in different countries of Europe. The first section of the paper discussed the theoretical background of the topic. In a later section, the problem formulation and problem solutions have been discussed along with the discussion of the practical applications through case studies.

Methodology and Problem statement

The present study is based on a narrative literature review and it is theoretical and cognitive in nature. For better insight and thorough interpretation of the topic, a meticulous literature review of multiple studies was used in this study. The study referred to the findings from different literature in a summarised structure which includes the content, data, and implementation of the studies based in Europe. The case studies and relevant studies of European countries were studied, analyzed, and elaborated in this paper, and it is taken into consideration that the study is based on the European perspective so the relevant studies that fulfil the requirements are included and analyzed for this purpose. The secondary data has been used generated from authentic sources to do the analysis and for the interpretation of the solutions to conquer the issues coming ahead of sustainable development in European countries.

The main objective of this study is to analyze the challenges faced by economies to achieve sustainable development goals, and what are problems which can be resolved using AI and to attain sustainable development. The optimum and best possible usage of resources in order to get maximum productivity without or least detrimental impact on the environment is the

concept involved in sustainability. Its main target is to fulfil the needs and wants of the present without risking the demands and needs of the future generation. It is about using and also preserving the resources for the development of the economy in a sustainable manner. This current study will elaborate and discuss the role of AI in resolving the issues and problems to achieve sustainable development without destroying the resources and environment.

Findings and Solutions

In a very short period of time, artificial intelligence has gained rapid advancement. The solutions to the problems that used artificial intelligence are more common. [13] Moreover, the fundamental expertise of AI is to develop machines for solving cognitive problems and that able to think like human beings. [14] The rapid advancement of AI also posed repercussions on the economy and society as well. The crucial deployment of innovation for productivity, manufacturing, and employment has influenced the societal system, characteristics, and production system. The process of innovation can also be altered by the potential of AI and it can further intensify the repercussions. However, it is believed that in resolving issues of classification and prediction the advancement of machine learning and AI had great potential to act as a research tool. [15] The organizational and technological transformation is possible because of the potential of innovations in diverse applications but it also corresponds to a considerable level of challenges to implementing it. These technological advancements have the capability to enhance the productivity and quality in several fields and sectors. [16], [17] In a study, it is reported that these innovations have transformed technological and organizational systems in different sectors like manufacturing, agriculture, medicine, retail, aviation, and construction, etc. [16]

AI has the capability to transform the way things are working in past, for instance, the way of living, communicating, learning, and thinking. It is currently pervasive and has abundant benefits for businesses and industries. Human beings have been outpaced by AI in many fields and grounds, and

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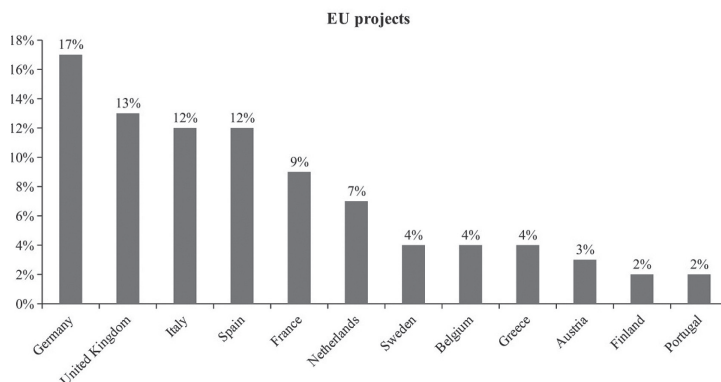
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among these fields problem-solving is one of them where AI is utilized. At present, it is considered that the solution for the complex cognitive problems is AI which will help in solving the issues of the sustainable development of technology, people, and society. [14] The solution of problems found with the help of AI means to find the solution among all potential choices available. Also, in just nanoseconds, AI can search billions of existing possible solutions to a problem. [18] AI also utilizes big data analytics to analyze and understand the trends and patterns difficult for human understanding to determine like AI has detected some cancers in the human body. [19], [20] In finance and banking as well, AI is used as a possible solution to assess and find out the frauds. In other areas where it is implemented involves the regulation of thousands of cargos at a time in logistics by shipping companies, in the mining industry to substitute humans with AI as they are dangerous sometimes for human beings, to enhance the quality of product according to the needs and wants of customers in order to attract and retain consumers. [21], [22]

The advancements of AI have contributed to various fields such as philosophy, psychology, neuroscience, cognitive science, machine designing, mechanical engineering, biology, mathematics, linguistics, computer science, geographical sciences, etc. [23] As far as the European Union is concerned, it is revealed by the report of the European Commission [24] that it is maintaining a specific position in the frontier research conducting in the field of AI. The research and companies of the European Union are contributing to thirty per cent of the submitted research papers in global conferences on AI. The European Union framework calibrated for research development supports scientific study activities in the field of AI in the European Union. It is helping to maintain the collaboration among EU countries to work and participate

in the field of AI and technological advancements. [25], [9] In the following figure, the distribution of EU countries is given that contributed to the research based on AI.



Source: Adapted from the study of Annoni et al., 2018. Artificial Intelligence: A European Perspective (No. JRC113826).

It reveals the involvement of the European countries in the field of AI and respective research. The companies and businesses of the European Union are ready to compete despite the challenges to create quality and respective projects in the scope of innovation. [26] The active participation of the European countries is seen in technological advancements and related research developments.

To minimize the detrimental environmental impact and to achieve sustainable development in given areas, these case studies will ascertain and describe the application of AI to overcome the challenges. The AI has been amalgamated in various forms to achieve sustainable development goals. It has been used in the form of IoT, robotics, etc., and these several case studies will prove the effectiveness of AI to fulfil the requirements and preserving the valuable resources for sustainable development.

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AI APPLICATION IN AGRICULTURE

The agriculture sector is a field that involves studies in engineering, science, and economic results. Currently, agriculture is facing major challenges regarding security and productivity. It is expected that by 2050 the worldwide population will increase to nine billion, and hence the world will require more agricultural produce. To meet these rising demands agricultural produce must grow by 70%. It is reported that unused land availability can comply with only 10% growth, however, 90% of it is required from the escalation of the current production in agriculture. [27], [28] Besides, agriculture is confronting a negative impact on available resources because of the increased rate of consumption, which also results in increased deforestation and increased carbon emission and global warming. New environmental requirements are needed to make an adaptation of the large areas that are presently not viable because of resource scarcity, also to solve the issue for developing nations regarding food insecurity. [29] Furthermore, there exist other factors that are posing a negative effect on agriculture such as, price volatility, financial crises, climate issues that affect farming activities, etc. [30]

In order to curb the negative impact on agriculture and to confront these challenges, many economic measures are implemented by authorities and scientists in order to escalate productivity with a detrimental impact on soil and the environment as a whole. To overcome these obstacles new technological measures including AI are gaining prominence among scientists and policymakers. [31] As the agriculture sector is also not overlooked by AI, there are abundant studies that are dedicated to it such as, McKinion and Lemmon [32] and Murase [33] did comprehensive reviews about the usage of deductive practices that are based on expert systems in agriculture fields.

In addition to this, other studies emphasized the application of decision support systems and expert systems for managing supply

operations and replication of processes. [34], [35] It is believed that the use of technology will be outdone these challenges and AI will replace human beings, or it is better to say that in the next 50 years AI will get merged with human beings leading to a new evolutionary phase. [28]

Several types of research have been conducted to test the optimum usage of technology in overcoming the challenges. A study conducted by Cruz et al. [36] in central Italy to detect the grapevine yellow symptoms using artificial intelligence in red grapes. The field surveys were conducted from July to October in the year 2017, in vineyards in Tuscany, Central Italy. In this research six neural network architectures were assessed involving: ResNet-50, Inception v3, AlexNet, GoogLeNet, SqueezeNet, and ResNet-101, and the healthy controls were gathered from the University of Pisa. Among these neural networks, ResNet-50 came out to be the greatest option for training cost and accuracy. The study concluded that it would increase the detection of green yellows in grapes by improving the detection speed and creating an effective disease response.

Another research was conducted to design, test, develop, and assess the automatic and robotic system of a new generation for efficient weed and pest control in the agriculture field. It aimed at reducing the use of chemical inputs in agriculture, enhancing the quality of crops, and to improve the safety and health of production operators. This research was conducted by Gonzalez-de-Santos et al. [37] in two agriculture fields located in Arganda del Rey, Madrid, Spain. In their project, they developed a fleet of heterogeneous aerial and ground robots that were equipped with inventive sensors, enhanced decision management algorithms, and improved end-effectors to assess a significant range of agricultural conditions. Their project was based on three main crops such as maize, olive trees, and wheat. It was concluded in the study that fulfils the aim a combination of sub-systems is required and it can be achieved by the integration of location and communication equipment, human-machine interface, safety system, and management of multi-robot algorithms.

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AI APPLICATION IN WATER MANAGEMENT

The activity of developing, planning, distributing, and managing the best possible use of water resources is termed water management. The impact of water management is manifold such as food production, human lives, sewage treatment, water consumption, purification, and irrigation, etc [38] The demand for water around the globe has increased rapidly and it is considered that it will not stop increasing in upcoming decades. Also, the main concern among researchers and agriculturists is the scarcity of water and it is reported that developing countries will have more scarcity of water than developed Western Europe. The on-going situation of increasing population leads to increasing demands of agricultural produce and water consumption, as a result, the concept of water security came into existence. Water security highlights the importance of water concurrently for national and local security and sustainability. It also includes community resistance to water-borne diseases and environmental impacts.

The project conducted by Slaný et al. [39] in the Czech Republic, focuses on designing, implementing, optimizing, and verifying the innovative solution of smart measurement of water consumption. It also focuses on crisis recognition which will lead to a smart water management system. This project used the system involving integrated internet of things (IoT) platform to analyze the current situation of distributing drinking water in the Czech Republic which is described by the weather conditions in extreme and frequently increasing phases of drought. The progress of IoT technologies made it easy to use smart and intelligent technologies for the purpose of water management. The project developed and deployed an IoT platform for the smart measurement of water consumption and it also detects the failures by the use of water leaks. This solution will help water companies to link multiple sensors for observing the flood sensors, ambient temperature and to safeguard the access to the shaft by using the magnetic detector, and it will provide an informative message regarding the access to the zone.

As far as water security regarding agriculture is concerned, the situation in southern Europe is a little stressed. There is an immediate need to act accordingly and find solutions involving ICT technology. This technology

will help to collect, aggregate, visualize and analyze the data to propel water services. It will also help in reducing revenue and water loss, increasing asset's operational capability, in reducing pollution by providing an integrated approach. [40] In regard to water management and water conservation, a project was conducted in Italy which was named as EcoLoop. The project was established by Rotondi et al. [40] to analyze and calculate the economic convenience of the reuse of water and sustainable use of agricultural produce. It also aims at generating an IT system to handle the wastewater and its reuse for activities like irrigation and fertilization. For this purpose, they established the sensors in the fields for measuring the parameters like the flow of water, temperature, and pH, etc. These sensors enable the optimized usage and control of water and fertilizer availability in the fields. Through this project, the water availability to farmers was managed and water is been available both as mixed water and well's water. This project used software infrastructure to support farmers and water distribution by collecting, processing, and analyzing data from the sensing devices. These projects involving AI in water management will bring a new wave in resolving issues related to water security and to provide sustainable water distribution and consumption.

AI APPLICATION IN SMART CITY

The two growth paradigms are represented by sustainable urban development and smart cities. This concept emerged as a result of the need of the cities to become more citizen responsive, that can offer respective conditions for promoting quality of life and to enhance and sustain effectiveness in a rapidly increasing globalized environment. The definition of a smart city focuses on the role of communication infrastructure and sometimes it can alternatively refer as a digital city, intelligent city, or sustainable city. [41] European Commission (EC) in 2012 [24] launched the European Innovative Partnership through smart cities, in which ICT industries, transport, and energy are encouraged to work together to address the needs of the cities. It was believed that this partnership will enable integrated, innovative,

[24] European Commission (2012): *Communication from the Commision: Smart Cities and Communities – European Innovation Partnership*. Brussels: European Commission.

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and effective technologies to overtake the market in a smooth manner in order to make cities an innovative node. [24], [41]

A conceptual urban development was represented by smart cities which were propelled by the innovations and technological advancements. In this area, technology is credited as the enabling force that pushed the emergence of collaboration and intelligence that collectively improve the problem-solving ability of the city. [4], [41] Currently, smart or intelligent buildings are linked closely with real-time and intelligent systems [42], Artificial Intelligence [43], big data to make it more sustainable. [44], [45] Hence, a city in which economy and governance are driven by innovation, creativity, and technology is referred to as a smart city. In this field of the smart city, an important challenge ahead is of zero vision, which refers to the usage of technology of smart city to attain zero negative effects on cities and to become totally sustainable. It offers a high quality of life to its citizens also includes zero carbon dioxide emission, zero traffic accidents, zero waste etc. [46], [41]

To reduce urban greenhouse emissions with the use of a challenge-based procurement approach a project is created which was named EU AI4Cities. In this project, the four big European cities were involved namely, Copenhagen, Paris, Amsterdam, and Helsinki. It is a 3-year project which is funded by the European Union. The main purpose of this project is to reduce greenhouse emissions and to fulfil the requirements of climate by bringing out these four cities together to find the solutions through AI. It will enhance the usage of AI, innovation, and technology in Europe to achieve sustainable development goals. Besides, it will challenge businesses and companies to build energy solutions and mobility with the use of the internet of things (IoT), AI, and other technologies. It will also provide practical solutions to sustainability issues through innovation and intelligence. [47] It is not easy to provide a precise number of smart city projects because of different approaches and definitions, but according

to a corporate market report, about 240 smart city projects are there in Europe with over 100,000 people. [48]

Conclusion

In the era of technological advancements achieving sustainable development, goals can be seen within the reach. A wide range of applications is presented by AI which can enable the economy to walk on the way towards sustainable development. AI-based projects from various countries and sectors facilitate the development of an economy through multiple actors in a more sustainable manner. Besides, big data analytics, innovations, IoT, robotics, and AI has been employed by many companies and businesses worldwide to attain sustainable development goals. It is revealed from the multiple case studies discussed above that AI can act as a robust enabler to propel economic development along with resolving issues sustainably. It will create an impact on consumption and production, a system of governance, wastage, and reuse, improving standards of living, providing sustainable solutions to everyday problems, attaining the increasing needs and wants, preserving the resources, and reducing the detrimental impact on the environment. In the development of AI, the innovators have made many advancements that enhanced the competence and efficiency of different sectors and industries. This research will benefit the businesses and companies to find optimum solutions by implementing AI to achieve sustainable growth. AI can accelerate the growth of a business or company in a sustainable manner without jeopardizing the needs of the consumers and putting damaging impacts on the environment. The innovations of AI improved the efficiency of sectors and industries, also it enables these industries to preserve non-renewable and valuable resources. It is believed that AI will help in bridging the global gaps regarding technology and resources and support global sustainability. The case studies mentioned in this paper justify the use of AI in weed and pest control in agriculture, waste-water management and consumption of water, creating a sustainable world through smart cities, in reducing urban greenhouse emissions, to detect the disease in plants and crops, and facilitating sustainable solutions to cognitive problems. Several challenges are being faced by the world at present including climate change, increasing population and food security, etc. These main

[47] Wray, S. (2020): 'Six European cities tap AI to cut carbon emissions.' [online]. [cit.2020-02-27]. Available at: <https://www.smartcities-world.net/news/news/six-european-cities-tap-ai-to-cut-carbon-emissions-4973>.

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challenges are creating the need for finding better and effective solutions to fulfil the needs and wants of the population and on the other safeguarding the environment, hence AI can enable scientists to create sustainable cities for giving better lifestyles and reducing greenhouse emissions and to lessen energy consumption. The paper was developed in the view of European countries, so in future research, the case studies of other nations and cities can be included to give it a broad worldwide perspective. The case studies of other sectors such as healthcare, education, tourism, engineering, and service sector, etc. can also be researched, studied, and discuss in future studies to debate the usage of AI and innovative technologies in creating a better future sustainably.

Local to International: The Inhibitive Elements in the Painful Process of Attaining Intercultural Status

Abstract: This paper chronicles the variety of impediments in the leadership process of attaining international standards of workplace relationships. As the world has moved to the predicted global village. Staying confined to the nuances of one's own monolithic culture is insufficient for today's expert. As such people who find themselves in fields transcending cultural boundaries must de-bug, unlearn, learn, and adapt to new cultures, to survive in the global village. Increased interactions with culturally diverse populations mean a daily encounter with people from different cultural backgrounds who may proffer solutions to problems differently from the familiar and express emotions differently from how we know it. Our cultures are programmed social systems with the intention to eliminate randomness in our social spaces and create predictability that produces in us the assumptions of expected behavior in most situations. These shapes our thoughts overtime, driving systems and actions; reaching a level of banality that presupposes static processes of actions. Interculturalism when it comes knocking places a demand on these comfortable social programming that we found ourselves. Demanding a debugging of our hitherto comfort zone and journeying through the painful stretch to becoming intercultural. This paper captures the highs and lows of the process of intercultural adaptation.

Keywords: Culture; mental programming; intercultural communication; social intelligence unlearning and action learning.

Összefoglalás: Ez a tanulmány a munkahelyi kapcsolatok nemzetközi normáinak elérése terén mutatkozó vezetési folyamat akadályainak sokféleségét mutatja be; ahogy a világ az előre jelzett globális faluba költözött. A saját monolitikus kultúrájának árnyalataihoz való korlátozás a mai szakember számára nem elegendő. Mint ilyen embereknek, akik olyan területeken találják magukat, amelyek túllépik a kulturális határokat, tanulniuk kell,

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[2] Morris, D. (1968): *The Naked Ape. A Zoologist study of the human animal*. New York: McGraw–Hill.

[3] Hofstede Geert, (2001): *Cultures Consequences: Comparing Values, Behaviours, Institutions and Organizations Across Nations*. Thousand Oaks–London: Sage Publications.

tanulniuk és alkalmazkodniuk kell az új kultúrákhoz, hogy életben maradjanak a globális faluban. A kulturálisan sokszínű népességgel való fokozott interakciók napi találkozást jelentenek a különböző kulturális háttérrel rendelkező emberekkel, akik a problémák megszokottól eltérő megoldásait nyújthatják, és másképp fejezhetik ki az érzelmeiket, mint ahogyan mi ismerjük. Kultúráink programozott társadalmi rendszerek, azzal a szándékkal, hogy kiküszöböljék a véletlenszerűséget a társadalmi terekben, és kiszámíthatóságot teremtsenek, amely a legtöbb helyzetben feltételezi a várható viselkedést. Ezek a viselkedések alakítják gondolatainkat a túlóra, a vezetési rendszerek és a cselekvések terén.

Az interkulturalizmus, igényt támaszt ezekre a kényelmes társadalmi programozásokra, amelyekre magunk találtunk. Ez a cikk az interkulturális alkalmazkodás folyamatának magas- és mélypontjait rögzíti.

Kulcsszavak: Kultúra; mentális programozás; interkulturális kommunikáció; társadalmi intelligencia elsajátítása és cselekvés-tanulás.

Introduction

The cultures into which we are born or belong to hands us the lenses by which we view the world. As has been discussed in several works of literature relating to the natural biological sciences we as humans possess basic universal levels of mental programming, which is common to all, a biological operating system which produces a range of expressive behaviors laughing, weeping, sleeping, associative and aggressive behaviors. [1], [2] The terming of these biological behaviors' as universal programming seems apt because it is common to all individuals regardless of location and stature. However, there is also the collective (group) programming of the mind in the literature [3] categorized as culture manifesting itself in collective and individual values, the purported display and spatial distribution of peoples, tribes and cultures [4] existing in superficial ways as symbols, heroes and rituals as well as more concrete endeavors shaping our social interactions within a group. Intercultural encounters demand highlighting culture-dependent differences in thinking and acting which is not always a welcome intervention. [3] Notwithstanding global capitalism in which local and larger spatial arenas experience transformation in undetermined direction

and unintended consequences which emanates from inventions such as colonial capitalism, with its dislocating effects on existing societies. [4] Communication challenges in sphere transcending national boundaries such as the aforementioned are best tackled through an awareness of the risk our cultural mental programming can portend in these spheres. Addressing the elements in our mental programming that supports our survival and ease of transaction in our cultural origins, unfortunately, these enablers for successful living are the main challenges that make this journey to interculturalism unwelcome.

Culture as a discourse, cuts across disciplines. Disciplines across the social sciences have varying definitions of culture; of the anthropologist school, Kluckhohn [5] defines culture as consisting of patterned ways of thinking, feeling and reacting, acquired and transmitted mainly by symbols, constituting the distinctive achievements of human groups, including their embodiment in artifacts; the essential core of culture consists of traditional (i.e. historically derived and selected) ideas, especially their attached values (p. 86). A cross-disciplinary perspective of culture by Kroeber and Parson [6] defined culture as transmitted and created content and patterns of values, ideas and other symbolic- meaningful systems as factors in the shaping of human behavior and the artifacts produced through behavior (p. 583). Hofstede [3], narrowing Kluckhohn [5] more extensive definition declares culture as a collective programming of the mind that distinguishes the members of one group or category of people from another. [3] Referring to the mind as comprising of the hand, head and heart, with the thinking head, heart -feeling and the hands for performing. Guilford [7] sees culture as a representative of a human collectivity what personality is to the individual. Notions of locality or community referring to both demarcated physical space and clusters of interaction fostering the emergence of common identities through the intersection of its involvement in a system of hierarchically organized spaces with its own cultural construction as a community or locality. [4] The interactive aggregate of common characteristics that influence human groups response to their environment. Culture is a shared learned behavior which is transmitted from one generation to another for the purpose of promoting individual and social survival, adaptation growth and development, having both internal- values, attitudes, beliefs, cognitive, affective sensory styles, conscious patterns and epistemologies and -external artifacts roles and institutions representation (Samovar and Porter 2001: 33 cited in Rochel and Roká 2008: 30).

[4] Gupta, A.-Ferguson, J. (1992): *Beyond "Culture" Space, identity and the politics of difference*. Pp. 6–23.

[5] Kluckhohn, C. (1951): The Study of Culture. In: Learner, D.-Lasswell, H. D. (Eds): *The policy sciences*. Stanford: Stanford University Press. Pp. 86–101.

[6] Kroeber, A. L.–Parson, T. (1958): The Concept of Culture and Social Systems. *American Sociological Review*, 23. Pp. 582–583.

[7] Guilford, R. (1959): *Personality*. New York: McGraw-Hill.

[3] Hofstede Geert, (2001): *Cultures Consequences: Comparing Values, Behaviours, Institutions and Organizations Across Nations*. Thousand Oaks–London: Sage.

[8] Beamer, L.–Varnier, I. (2001): *Intercultural communication in global workplace*. Boston: McGraw-Hill– Irwin.

[9] DeVito, J. A. (2007): *The Interpersonal Communication Book*. Boston: Pearson.

[10] Bourdieu, P. (1980): *Le sens Pratique*. Paris Editions De Minuit.

[11] Rokeach, M. (1973): *Beliefs, attitudes and values*. New York: Free Press.

Culture is the coherent, learned, shared view of a group of people about life's concerns that ranks what is important, furnishes attitudes about what things are appropriate and dictates behaviors. [8] A relatively specialized lifestyle of a group of people consisting of their values, beliefs artifacts and ways of behaving and communicating. [9]

Mental Programming: The Gift from the Family Tree

Mental programming is the progenitor of the social system's existence to eliminate randomness. Controlled at the neuro-physiological center of our brain, resulting from several pieces of information transferred and stored up in the brain. A social phenomenal transfer of collective programming the software of the mind collectively orchestrated without an actual conductor Bourdieu [10] cited in. [3] The criteria for qualification of this programming process are to be born into a group or find a place in the group by means of migration. Functioning effectively in that social environment requires a journey of programming by institutions, comprising the family, educational institutions, political institutions, the legislature and the society in general. These institutions collectively equip us for our life needs primarily to meet the demands of that society, just so people can dwell more effectively together. An enculturation process absorbed in the activity of learning one's culture beginning from infancy until these processes become internalized and habitual. Alongside culture which presupposes a collectivity [3] are values which can be held both individually and collectively, held both explicitly and implicitly distinctive of individual or group characteristics. Having a perennial belief that specific codes of conduct or end-state of existence are personally and socially preferred to alternative modes of conduct or end-states of existence. [11]

Cultures are collective norm of a social group, the mental software shared by the majority and values collectively and individually constructed supports mechanism for the maintenance of stability in societies, leading to the development and maintenance and of institutions in a society. These institutions further reinforce the social norms and ecological condition that birthed them in the first place. The collective reinforcements in form of values, symbols, heroes and rituals lead to national culture and national modes of perceiving and taking action which

becomes the lenses by which we see the world. These collective norms have positive implications for the society, nevertheless, when it clashes with other cultures our subjectivity becomes evident. Producing negative elements like culture shock, stereotypes, cultural relativism, ethnocentrism and possibly racism.

[4] Gupta, A.–Ferguson, J. (1992): *Beyond “Culture” Space, identity and the politics of difference*. Pp. 6–23.

From National Character to National Stereotypes

Inkeles and Levinson (1997) define national character as the relatively enduring personality characteristics and patterns that are modal among the adult members in a society. The description as modal is made possible due to common mental programming across populations in the society and regardless of individual values, cultural traits are relatively collective. We may want to apply caution in consenting to the description of national cultures as modal due to the several disputations proffered by scholars. Bateson (1942) argues that national character has gone redundant on the ground that historical and current condition of a nation can explain differences in behavior, citing undermining of learning as the reason for this disputation. Secondly, he attacks disputations on the ground of heterogeneity of nations as being the good reason for non-categorization of nations as having a national character, asserting that with polymorphous national populations, so long as their parts interact, they thus influence each other. Heterogeneity of populations becomes irrelevant in checking the pulse of the national character of a nation, due to the presence of common institutions which make interaction unavoidable and reinforcements of common behavior, the national character becomes inevitable, taken literally to mean the disposition built into the personality of individuals who make up a society such dispositional qualities across population which make up a nation. Inkeles and Levinson (1997; vii) contends that many would rather believe it does not exist or better still feel that discussing it runs the risk of racism. Gupta & Ferguson [4] points to external influence that brings about the industrial production of culture, such as entertainment, and leisure may seem to achieve something approaching global cultural distribution, which paradoxically, leads to the invention of new forms of cultural difference and new forms of imagining community. Inferring a transnational public sphere has rendered any strictly bounded sense of community or locality obsolete. Regardless of global cultural forms

that is evident across social spaces our former cultural programming of each society essentially takes the responsibility of how we perceive and act to life challenges which is the result of our programming. Inkeles and Levinson (1997) Convinced about its existence, asserts that this programming process produces in us the normative reasoning for viewing the world around us. This observation suffices for the statement below made by Hofstede:

When a person X makes a statement about the character of a population or population group Y his or her own or another, this statement always contains information about X but whether it contains valid information about Y remains to be proven.

Hofstede made the above claim from the statement made by English 18th century philosopher David Hulme (1742/1964).

“The Chinese have the greatest uniformity of character imaginable”. “The English of any people in the universe have the least of national character, unless this very singularity may pass for such”.

Hulme saw the Chinese from the lenses of the English to which he belonged. In the search for scientific validation about population or population groups (Y) Hofstede provides us with four criteria by which information about a population can be acceptable, otherwise, it will become mere stereotypes. Firstly, it should not be judgmental rather be descriptive, secondly, there should be validated across sources, it should apply to a statistical majority and finally, it should possess characteristics that distinguish it from other societies. Institutional cognitive programming in which we have been embedded takes us through an apprehensive process that shapes our behaviors beliefs and attitude leading us to unconscious biases by which we process unconscious attributes with social identities and influences how we view race, ethnicity, age, gender, sexual orientation, and weight

The Transition Inhibitors

Awareness about being in a mentally programmed state may never be visible unless we encounter other cultures. Engaging other cultures mean that we clash with the inhibitive elements which can be socially tortuous for the individual. The encounter tends to make false the programming that one has learnt from childhood. It attempts to take out our lenses and replace them with new ones. This is often met with resistance, that only conscious efforts stem from self and other awareness can be the deliverer from the damned.

We examine here the inhibitors and scholarly perspectives regarding them. **Culture Shock** commonly the first experience that comes with travelling out of one's comfort zone or habitual place of residence to live in another culture. Coined by Kelervo Oberg an anthropologist; descriptive of the effect associated with the

tensions and anxiety of entering into a new culture, fused with the sensation of loss, confusion, and powerlessness resulting from the forfeiture of the familiar cultural norm and social ritual. [12] This leads to certain reaction such as homesickness, antagonism towards the host culture, and the wider the gap in cultural differences from the host culture the greater the culture shock (Hochel and Roka 2008.) Persons who among their core values is diversity are more likely to be less affected by culture shock because they would have imbibed a skill of being less judgmental. (Ibid). **Ethnocentrism** is at the peak of the challenge of transition according to Hofstede it is similar to egocentrism descriptive of the period in a child's life before he can accept the point of view of another. Only the child's perspective is relevant, the period of NO! The name for the view of things in which one's own group is the center of everything and all others are scaled and rated in reference to it. [13] Ethnocentrism is typical of when one negatively judges the ways of other's culture by the standards of his/her own culture. The biggest barrier to overcoming culture shock (Hochel and Roka 2008: 18) the biggest barrier to effective cross-cultural communication believing their own culture is the right and natural ways and others are judged by this. (Ibid). Individuals are not the only ones guilty of this crime, once upon a time social science was guilty of this, even in the present day for disciplines with less cross-cultural contact there still exist elements of ethnocentrism. It is in disciplines like Anthropology that had early encounters with cross-cultural research that ethnocentric attitude in science research came to the fore. [14] Culture lenses teach its members that their way of life is natural and correct. They, therefore, develop a sense of cultural superiority that tend to see people from other culture who do things differently as wrong. [15] This can be worse for people who have remained embedded in their own cultural environment. Long time experiences thus produce negative emotional reactions to cultural differences that make people unwilling to understand disparate cultural beliefs and values. Hochel and Roka discuss degrees of ethnocentrism, ranging from mild- judging based on dressing tied to sanitation to as strong-as deserving of death because they have a different religious practice from the familiar. This leads to **prejudice**, which is a predisposition to feel, think, or act negatively towards members of another group. This prevents perceiving encounters as individuals, they are rather seen as members of a group that is abhorred. (Ibid). Prejudice is a strong inhibitor to intercultural communication, operating in conscious and unconscious ways that only self-awareness provided for in emotional intelligence can help to surmount. It operates unconsciously as making

[12] Neuliep, J.W. (2006) *Intercultural communication: An ontological approach*. Thousand Oaks: Sage.

[13] Summer, W. G. (1940): *Folkways*. Boston: Ginn.

[14] Faucheux, C. (1976): Cross Cultural research in experimental social psychology. *European journal of social psychology*, 6. Pp. 269–339.

[15] Lustig, M. W.–Kester, J. K. (1999): *Intercultural competence: Interpersonal communication across cultures*. New York: Longman.

[3] Hofstede Geert, (2001): *Cultures Consequences: Comparing Values, Behaviours, Institutions and Organizations Across Nations*. Thousand Oaks–London: Sage.

[16] Hall, B. (2005): *Among cultures: The challenge of communication*. Belmont: Thomson.

a Human resource manager decide against hiring a person, not based on the person's level of competence, but rather on a preconceived notion about the group the person belongs to, for which he already has a negative stereotype. Moving in the direction of tolerance, accepting and appreciating differences through learning about other cultures with an open mind [16] (Hochel and Roka 2008) is the antidote. **Cultural relativism** Judging a culture by its standard is cultural relativism. Here the value of the person(s) in case of deontological approach in the sphere of ethics, ideology or theology or value of the researcher in case of phenomenological research impacts the ways of perceiving, observing, describing, classification and predicting reality. [3] The only way out of it is being clear and explicit about one's value and exposing ones work to the work of other researchers with a different value system. Cultural relativism becomes apparent in the study of cultural differences among human groups and categories that feel, think, and act differently. (Ibid). Cultural relativism affirms that no culture has the absolute criteria for judging other culture as 'low' or 'noble' but can only reserve these forms of judgement to its own activities and group because its members play the roles of observers as well as actors (Levi Strauss and Éribon 1988: 229, cited in Hofstede 2001).

Cultural relativism may presuppose normlessness, in reality, it does not only call for caution against judgement when societies other than one's own are involved in the observation or scrutiny. It does not require us to abandon all judgements, rather for us to understand a culture as if we were insiders and then look at the behaviors of people from that point of view (Hochel and Roká 2008). Applying the norm of a giving group in judgement against another is an error, rather an information about the norm of the society being scrutinized, their roots and consequences as well as cultural differences between societies should precede judgment if we must judge. Gone are the days of the imposition of one's cultural norm by experts and development assistants to induce changes in societies of assignments. [3] Today's pathway to successful agreements is through compromise resulting from negotiation where differences in viewpoints are exposed and options with more merits can be applied in a given situation.

The complex nature of culture transcends geographical proximities and similarities in structural, a biological makeup of groups regardless of Caucasian skin color vanilla looking with straight hair across Europe differences still are apparent. Or the chocolaty kinky hairs in Africa presenting a picture of uniformity of people much more diversity exist in cultural differences as well as in Asia and the Middle East.

Hall [16] recommends the way out as transcending the limits of individual cultures by first recognizing and accepting the multiple hidden dimensions of unconscious cultures existing in every culture.

Social Intelligence and Intercultural Communication

Undermining intercultural challenges to communication can be at one's peril. [8] emphasizes the focus on the decoding process from the receiver end, which is subject to signals, social values and cultural variables do not present at the sender's end of the communication. Hochel and Roká (2008: 20) cites the success of the American Marshall plan which supported the rebuilding of Europe after the 2nd world war most probably as a result of similar cultures between both, America and Europe, however, other well-intended projects elsewhere in Asia and Africa were unsuccessful because cultural factors were not properly fathomed in the development plans. Citing poor training by the foreign service etched from anthropologist's macro-level aspects of culture such as family structure, economic and political systems, and undermining micro-level personal interactive skills much needed by participants. These failures led to the demand for and establishment of training courses in intercultural communication (Ibid).

Cultural theories and intercultural communication theories suffice in giving us direction on how to approach intercultural communication. Hochel and Roká (2008: 22–24) analysis various theories of intercultural communication. Beginning with the *face negotiation theory* which emphasis the image a person prefers to project and maintain in an interaction. Developed by Stella Ting-Toomey helps in explaining differences in behaviors between persons from individualistic (societies that emphasize individual goals and needs over group needs) society and those from collectivist society (one that emphasizes goals, needs of the group over the individual). In face negotiation theory those from individualistic societies are more concerned about their personal image, while those from collectivist usually stand up for the image of the group using indirect, avoiding or obliging conflict resolution style to preserve harmony in the group. (Ting-Toomey and Chung 2005) also discusses insights into management differences between members of the ingroup and those of both collective and individualistic situations. Anxiety management

[8] Beamer, L.–Varner, I. (2001): *Intercultural communication in global workplace*. Boston: McGraw-Hill–Irwin.

[17] Gudykunst, W. B. (2003): *Cross cultural and Intercultural Communication*. Thousand Oaks: Sage.

[18] Edgoose, J.–Quiogue, M.–Sidhar, K. (2019): How to identify, understand and unlearn implicit bias in patient care. *Fam Pract Manag.* 26. (4.) Pp. 29–33.

[19] Rank, O. (1932/1989): *Art and Artist: Creative Urge and Personality Development*. W.W. Norton.

[20] Revans, R. (1980): *Action learning: New techniques for management*. London: Blond & Briggs.

[21] Waddill, D. D.–Marquardt, M. (2003): Adult learning orientations and action learning. *Human Resource Development Review.* 2. (4.) Pp. 406–429.

style emphasizes skillful management of anxiety and uncertainty allows for effective communication. Presupposes that the major concern of group (in and out) when they meet is to reduce the level of anxiety and uncertainty and be able to predict the behavior of the outgroup members. While individualistic depend on themselves, collectivist depend on group roles to reduce uncertainties. [17]

Unlearning the Learned

If you are distressed by anything external or internal, the pain is not due to the thing itself, but to your estimate of it; and this you have the power to revoke at any moment”

Marcus Aurelius 167 A.C.E

Across disciplines are researches that present biases in spheres of engagement, with the recommendation to unlearning these biases that impede the objective communication and delivery of services. [18] Unlearning involves separation from one's self-concept, in which one has been culturally conditioned to conform to familial, group, occupational or organizational allegiances or breaking out of one's shell from the inside is a separation that is so hard not only because it involves persons and ideas that one reveres but because the victory is always at the bottom and in some form won over a part of one's ego. [19]

This definition of Rank is crucial to the task of unlearning process as it does not make light the process of unlearning by highlighting revered ideas and persons. Mental programming is not a light issue, as it could be all that we know from birth for some, but when exigency is placed on the individual to unlearn learned processes and lifestyles, conviction and commitment becomes new phrase for the persons involved. The originator of action learning Professor Reginald Revans discusses his encounters with a talented group of scientists several of whom had won Noble prizes, reflecting and expressing their ignorance sharing experiences of several ignorant actions and communally reflecting to learn. Revans [20] action learning gained grounded theoretical underpinnings in the work by [21] where they demonstrated the link between action learning and adult learning theory. Cross session of scholars across fields of sciences and organization and regions have written and applied action learning in fields of endeavor.

Notable among these is Kramer Robert [22], [23], [24] who pioneered the action learning in administrative processes in the US government and the European Commission in Brussels and Luxembourg, as well as other states in Europe. He applied Otto Rank's theory of artistic creativity and unlearning a therapeutic process of taking an individual through the process of learning more creative ways of thinking, feeling and being in the here and now and unlearning self-destructive ways of feeling in the here and now. Here and now becomes relevant to the transcendent spaces that are now the individuals most recent realities away from his/her local settings to more intercultural spaces where inhibitors have no place nor function. Otto Rank did compare unlearning to breaking out birth process, separating from internal mental objects, institutions beliefs and assumptions, restrictions of culture, social conformity and received wisdom. Unlearning would mean exposing oneself to critical inquiry and learn to emancipate from what we know and learn to unlearn.

Emotional intelligent theories can also be on hand to support unlearning impeding habits to intercultural communication. According to (Salovey and Mayer 1990) Emotional Intelligence – “is the ability to monitor one's own and other's emotions, to discriminate among them, and to use the information to guide one's thinking and actions. Freedman and others conceptualize it as a way of recognizing, understanding, and choosing how we think, feel, and act. It shapes our interactions with others and our understanding of ourselves. It defines how and what we learn; it allows us to set priorities; it determines most of our daily actions correctly. Research suggests it is responsible for as much as 80% of the “success” in our lives”. Goleman [25] encapsulates it in four element Self-awareness which is about recognizing when we are experiencing a feeling or an emotion, why you are experiencing the emotion, labelling the emotion and manage it and then choose how to behave: /other awareness and self-regard and other regard are processes of acquiring skills that bring active learning into organizational relations

With evidence today about neuroplasticity emerging research show that the brain can be trained, training influences brain structure and brain function however the choice is ours to either be a fly stuck un sundew leaves or a fluid mountain stream. [26]

[22] Kramer, R. (2007a.): Leading Change Through Action Learning. *The Public Manager*, 36. (3.) Pp. 38–44.

[23] Kramer, R. (2007b.): How Might Action Learning Be Used to Develop the Emotional Intelligence and Leadership Capacity of Public Administrators? *Journal of Public Affairs Education*, 13. (2.) Pp. 205–230.

[24] Kramer, R. (2008): Learning How to Learn: Action Learning for Leadership Development. In: Rick, Morse (Ed.): *Innovations in Public Leadership Development*. Washington DC: M.E. Sharpe and National Academy of Public Administration. Pp. 296–326.

[25] Goleman, D.– Boyatzis, R.–Mckee, A. (2002): *Primal Leadership. Learning to Lead with Emotional Intelligence*. Boston, Massachusetts: Harvard Business School Press.

[26] Goldin, P. (2008): *Neuroscience of Emotion*. [video] <https://www.youtube.com/>

[25] Goleman, D.–Boyatzis, R.–McKee, A. (2002): *Primal Leadership. Learning to Lead with Emotional Intelligence*. Boston: Harvard Business School Press.

[27] Beamer, L. (1992): Learning intercultural communication competences. *The Journal of Business Communication*.

Conclusion

Learning may be a difficult process but more challenging is unlearning in which we have to confront breaking out birth processes and roughing one's ego against which the alternative would be to stay in our comfort zones. Comforts are over-rated, supporting conformity that maintains the statuesque which can impede where we want to go in our career, communication, institutional development, educational institutions, social science research, workplace relationship and other intercultural pathways. However, keeping our eyes on goals to be achieved and the benefits there-off can bolster the journey to redemption. Intercultural communication is basically for the achievement of goals and objectives if goals must be attained then proper communication must be established, the end result of communication is how the receiver perceives it and until one becomes empathic enough to attempt to see how communication is perceived from the receiver's point of view, which presupposes different values and way of seeing and perceiving from the way we see it. We must be empathic enough to be willing to see through the eyes of others giving acknowledgment to the fact that all cultures are equally valid in the way they are organized and explain human experience. [27] This supports efforts to overcoming our natural biases to be able to achieve communication which itself is culture (Samovar et al 1981). The five-level learning process model by [27] which first acknowledges diversity organizing information according to stereotypes, posing questions to challenge the stereotypes, analyzing communications episodes and generating meaning in 'other culture' messages. This learning model supports encoding and decoding with the intent of achieving deductive meaning in message exchange in intercultural communication. Once this process has been experienced new cultural encounters are subjected to this scrutiny against one's biases till we get to the end product of generating in other cultures messages. Regardless of how difficult this may seem, because changing habits is of course hard work; creating a vision of oneself- where one would be with the new skill a few years down the line can support reversal of decades of habits that resides in heavily travelled highly reinforced neural circuitry built up over years of repetition of that habit. [25] Successful intercultural communication are achievable with the acknowledgement that it is process-oriented and a commitment to journeying through the process.

The level of financial literacy in Hungary compared to other countries

Abstract: The level of financial literacy in Hungary is similar to the average of the other countries according to the latest international survey conducted by the OECD. It seems to be sufficient but if we look the detailed results the picture becomes not so nice. Among the three components of the main index the financial attitude is the best exceeding the average level of the countries participating in the survey, while the financial knowledge is near to the average level. Unfortunately for the most important component, the financial behavior, Hungary is ranked almost in the last position. Moreover, the results indicate that even the best performing countries are just above an expected minimum level instead of a good one which means that the absolute level of the financial literacy of Hungary is quite low. In order to improve this it is necessary to enhance the financial knowledge of children and young people by specific education based on schools and by informative programs among adults.

Keywords: OECD survey; financial literacy; financial attitude; financial knowledge; financial behavior.

Összefoglalás: A tanulmány a pénzügyi műveltség szintjének felmérésére az OECD által szervezett, és 2019-ben lebonyolított nemzetközi kutatás eredményeit ismerteti a magyarországi adatokra fókuszálva. A magyar lakosság pénzügyi műveltsége összességében csak kevéssel marad el a nemzetközi átlagtól, ezen belül azonban az egyes komponensek tekintetében számottevő különbségek figyelhetők meg. A pénzügyi hozzáállás meglehetősen jónak minősíthető, a pénzügyi ismeretek szintje közepes, viszont a legfontosabb területen, a pénzügyi magatartásnál hazánk az utolsó előtti helyen végzett, a legutóbbi felméréshez hasonlóan. A tanulmány összeveti a 2019-es eredményeket a 2015-ös és 2010-es felmérések adataival, hogy megállapítsa, mely területeken tapasztalható fejlődés vagy éppen visszaesés. A pénzügyi műveltség

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[1] MNB (2008): *Együttműködési megállapodás a pénzügyi kultúra fejlesztéséről* (MNB és PSZÁF), Vol. 2012. Budapest: MNB, PSZÁF. <https://www.mnb.hu/>

[2] OECD-INFE (2011): *Measuring Financial Literacy: Questionnaire and Guidance Notes for Conducting an Internationally Comparable Survey of Financial Literacy*, <https://www.oecd.org/finance/financial-education/49319977.pdf>, downloaded: 25. 08. 2020.

[3] OECD (2020): *OECD/INFE 2020 International Survey of Adult Financial Literacy*. <https://www.oecd.org/financial/education/oecd-infe-2020-international-survey-of-adult-financial-literacy.pdf>, www.oecd.org/financial/education/launchoftheoecdinfeglobalfinancialliteracyreport.htm, downloaded: 21. 11. 2020.

szintje elsősorban a pénzügyi ismeretek bővítésével növelhető, amely részben az iskolarendszerű oktatáson, részben a felnőtt lakosságot célzó ismeretterjesztő programokon keresztül érhető el.

Kulcsszavak: Pénzügyi műveltség; pénzügyi hozzáállás; pénzügyi ismeretek; pénzügyi magatartás; OECD-felmérés.

Methodological description of the international survey

The most common domestic definition of the concept of financial literacy is as follows: „A level of financial knowledge and skills that enables individuals to identify the basic financial information needed to make informed and deliberate decisions, and then, after acquiring it, to interpret it and make a decision based on it, assessing potential future financial and other consequences of their decision.” [1] According to the approach of the OECD-INFE [2], it is „a combination of awareness, knowledge, skills, attitude and behavior needed to make informed financial decisions and thus ultimately achieve the financial well-being of individuals”. Thus, contrary to popular belief, financial literacy is not simply equal to financial knowledge, according to these two definitions. It indicates a complex “system” in which, with the appropriate attitude and approach assisted by financial knowledge, consumers act in such a way that they make financial decisions that best suit their needs, goals and opportunities.

The OECD has conducted an international survey for the third time [3] to assess the level of financial literacy, in which Hungary also participated in through the Pénziránytű Foundation. The survey was conducted in 2018/2019 in 26, mostly European countries and regions, as follows: Austria, Bulgaria, Colombia, Croatia, the Czech Republic, Estonia, France, Georgia, Germany, Hong Kong, Hungary, Indonesia, Italy, Malaysia, Malta, Moldova, Montenegro, North Macedonia, Peru, Poland, Portugal, Romania, Russia, Slovenia, South Korea, Thailand. Of these, France, Malta and Thailand did not ask all the questions or partly changed them, so when calculating the averages, not all 26 countries were taken into account at all times. The questions were asked from a sample of at least 1,000 people per country over the age of 18, with a total of more than 125,000 consumers participating in the survey. One of the

antecedents of the survey is the OECD pilot study of 14 countries in 2010/2011, which was repeated in 2014/2015 involving 30 countries. Hungary participated in all three surveys so far, in the last one with 2018 data. The results of the previous surveys in Hungary [4], [5], where available in a comparable way, are presented in this study to illustrate the changes that have taken place in the past decade. Hereinafter, for the sake of simplification, the present study refers to the first survey as the 2011 survey, the second as the 2015 survey, and the most recent as the 2019 survey.

The level of financial literacy was measured using three main and one additional component: financial attitude, financial knowledge, financial behavior, and prevalence of financial products and services, but the latter is not included in the overall result. The sum of the possible values of the main components in the survey was 21 points, i.e. this could be achieved if a country received the maximum score for everything (the theoretical maximum values of the individual components are not equal, they are described in the section on the given component). A further methodological note is that the scores achieved by each country were taken into account with the same weight in the calculation of the averages, regardless of the different number of respondents, and some of the questions changed compared to the 2011 and 2015 surveys, therefore directly comparable results are not available in all aspects.

Main findings of the OECD surveys

AGGREGATED RESULTS

Hong Kong achieved the best overall result with 14.8 points (which includes only 23 of the 26 countries due to the above reasons), corresponding to 71%, followed by Slovenia with 14.7 points (70%) and Austria with 14.4 points (69%). The average score was 12.7 points, or about 61%. Hungary finished in 14th place in the ranking with 12.3 points (59%), which is the same as in 2015 in terms of the score, but it is a setback compared to 2011, as we reached 67% that year. Going into further detail, Hungary achieved rather heterogeneous results for individual components: in the field of financial knowledge we finished in the middle, in 10th place, for financial attitude we finished in the relatively high 4th place, but in terms of financial behavior, we are only second to last.

[4] Atkinson, A. –Messy, F. (2012): “Measuring Financial Literacy: Results of the OECD / International Network on Financial Education (INFE) Pilot Study”, OECD Working Papers on Finance, Insurance and Private Pensions, No. 15. <http://dx.doi.org/10.1787/123456789012>. Paris: OECD Publishing.

[5] OECD (2016): *OECD/INFE International Survey of Adult Financial Literacy Competencies*. <http://www.oecd.org/finance/oecd-financial-literacy-study-finds-many-adults-struggle-with-money-matters.htm>, downloaded: 14. 11. 2020.

[1] MNB (2008): *Együttműködési megállapodás a pénzügyi kultúra fejlesztéséről* (MNB és PSZÁF), Vol. 2012. Budapest: MNB, PSZÁF. <https://www.mnb.hu/>

[4] Atkinson, A.–Messy, F. (2012): “Measuring Financial Literacy: Results of the OECD / International Network on Financial Education (INFE) Pilot Study”, OECD Working Papers on Finance, Insurance and Private Pensions, No. 15. <http://dx.doi.org>. Paris: OECD Publishing.

[5] OECD (2016): *OECD/INFE International Survey of Adult Financial Literacy Competencies*. <http://www.oecd.org/finance/oecd-financial-literacy-study-finds-many-adults-struggle-with-money-matters.htm>, downloaded: 14. 11. 2020.

[6] Hastings, J. S.–Madrian, B. C.–Skimmyhorn, W. L. (2013): Financial literacy, financial education and economic outcomes. *Annual Review of Economics*, 5. Pp. 347–373. <http://doi.org/10.1146/annurev-economics-082312-125807>, downloaded: 10. 11. 2020.

[7] Mahdzan, N. S.–Tabiani, S. (2013): The impact of financial literacy on individual saving, and exploratory study in the Malaysian contest. *Transformations in Business and Economics*, 12. (28.) Pp. 41–55.

It is important to note that according to the OECD, a maximum score in this survey still doesn't mean the country is outstanding, rather, it confirms the existence of a general basic knowledge and financial decisions that make common sense, i.e. even the best performing countries - who were able to reach about 70% of this basic level - would pass this basic exam with only a sufficient grade, while average performances of 60% would mean failing the exam.

The survey summaries [1], [4], [5] also show the proportion in each country of those who met at least the required minimum level for a given component (which is 71% for financial knowledge, 67% for financial behavior and 60% for financial attitude). In this comparison, Hungary differs from the average only in the area of financial behavior, but there it differs significantly: while elsewhere on average almost half of the consumers reached the minimum level, in Hungary only 30% (four years earlier this proportion was 25%, while in 2011 it was 38%).

FINANCIAL KNOWLEDGE

Financial knowledge is of great importance to financial literacy, as it enables consumers to make educated comparisons between different financial products and services and to make informed choices, thus helping them to control and manage their own finances in response to news and events affecting their financial well-being. As been proven in professional literature [6], [7], higher levels of financial knowledge are positively correlated with consumers emerging as investors in stock markets, generating retirement savings, and being less affected by debt accumulation.

In this part of the survey 7 questions had to be answered, which were sought to assess the existence of basic financial knowledge (time value of money, calculation of simple and compound interest, relationship between risk and return, principle of risk sharing). Hungary finished in the middle of the field with 66% – the world average was 63% – which is practically the same as in 2015, while in

2011 the 76% achieved at that time proved to be the best, however, changes in the multiple choice options in the Hungarian questionnaire to one of the most difficult questions may also have played a role in this. The minimum expected level (71%) was met by 53% of all respondents, compared to 56% in 2015. In the case of Hungary, the value of this indicator is slightly higher (56%), four years earlier it was 60%, i.e. in addition to the fact that the average performance did not change significantly, the proportion of those who were able to meet the minimum expected level decreased.

Respondents were also asked how they see their level of financial literacy: as a result of their self-assessment, 25% of Hungarian consumers considered it low, 56% medium, 17% high, and the remaining 2% could not determine it. The world average in this respect is 26%, 53%, 17% and 4%, respectively, so in the case of Hungary there is no significant difference compared to the average of other countries, and on the other hand this is in line with the fact that Hungarian consumers performed slightly better than average in knowledge assessment tasks.

FINANCIAL ATTITUDE

Another important factor in determining the level of financial literacy is financial attitude, since consumers might have sufficient knowledge of products and services and have the skills to make informed decisions to achieve material well-being, if, because of their attitude, they do not act upon it, they will have no use of them. The survey described in this study would therefore like to assess how consumers relate to money and longer-term planning. Respondents were asked to indicate their agreement with three statements on a five-point scale ranging from “strongly agree” to “strongly oppose”. The less someone agrees with the statements, the more favorable their attitude can be considered, as a result, the “strongly oppose” responses scored 5 points, i.e., the maximum of the scores for the three statements averaged 5 points, and the minimum expected level was determined at a score of at least 3 points.

The average score was 3 points (60%), with Hungary earning 3.3 points (66%), finishing in our best position (4th) regarding the rankings, while four years earlier reaching 70%, and in 2011 doing even slightly better with 72%. The situation is similar in terms of the proportion of those who meet the minimum required level of 60%. Compared to the average of 43% for all countries, this is 55%, but in 2015 it was 63% and in 2011 it was 69% among Hungarians.

FINANCIAL BEHAVIOR

In terms of consumers' financial situation and material well-being, financial behavior, i.e. the measures actually taken or not taken, has the greatest impact, which is why this area is very important. Taking this into account, OECD surveys have included a number of questions in related subjects, including household budgeting, prudent pre-purchase decision-making, due-date settlement of bills, savings creation, and loans to cover living costs. The evaluation of the results show that significant differences can be observed between countries in financial behavior, and also within each country in different sub-areas.

Building up savings

One of the most important characteristics of resilience to financial difficulties is whether consumers have any savings that, at least in the case of temporary financial problems, help avoid having to endure a significant drop in living standards or taking loans. In the surveys, an active saver was someone who had made some savings in the previous one year, not including deposits. Compared to the average of 70%, Hungary finished with 51% at the bottom of the mid-table, which represents a significant improvement both in terms of the proportion of savers and our position in the ranking, as we were last in both 2015 and 2011 with an indicator of 25%.

Consideration whether a particular product or service is financially affordable before buying

The average rate was 71% for the countries surveyed. Hungary scored at 66%, which is not significantly different from the average, but is significantly lower than the previous 75%, and even more lower compared to the result of the 2011 survey, when 86% of respondents were considered prudent.

Settlement of bills on time

In terms of payment discipline, we have no reason to be ashamed, the 82% achieved is somewhat higher than the 79% average, and after a hopefully temporary decline (77%) we managed to return to the level of 8 years earlier.

Paying attention to finances

On average, 67% of respondents agreed with the statement that they pay regular attention to their finances, including, for example, the preparation of the household budget, the avoidance of unnecessary expenses, and the recording of income and expenses. In the case of Hungary, however, this ratio was the lowest value with 47%. In the previous survey, we scored 56%, which was also one of the weakest at the time, while in 2011 it was 70%.

Setting long-term financial goals

Among the respondents, the setting of long-term financial goals and the pursuit of achieving them is true for an average of 49%, and for Hungarians this is only 35%, with a lower proportion measured in only three countries. The value of the indicator clearly indicates a decreasing trend in Hungary, as in 2015 43% gave a positive answer to the question, while in 2011 this ratio was 52%.

Insufficient coverage of costs

The question here was whether there had been a situation in the previous year where the respondent did not have sufficient income to pay his/her expenses. About a third of the respondents (35%) indicated this, covering a rather wide range (12–62%), in Hungary their ratio was 20%.

Dealing with financial difficulties

Those who answered yes to the previous question were also asked how they handled the situation the last time revenues proved insufficient. Several answers could be given here, and the results seem methodologically flawed, as 20% took out a loan officially, 43% informally (from relatives, friends, illegally operating lenders), that is, if all of them have applied for a loan either only formally or only informally, the proportion of those who have taken out a loan is still at least 43%. As a result, the proportion of those who did not take out a loan in any form could be maximum 57%, but 74% of those surveyed gave such an answer. The fourth option was late payment of bills or exceeding the existing credit line, which was indicated by 16%. In Hungary, 66% of the respondents did not take out a loan, 54% took out an official loan, 26% took out an informal loan, and 53% applied for late payment or overdraft.

Evaluation of the results of the financial behavior component

Based on financial behavior, the average score was 5.3 points (the maximum available was 9). Hungary finished in the penultimate position with 4.5 points. Unfortunately, the situation here is practically the same as on the previous two occasions: in 2015, we were last with 4.3 points, while 4 years earlier we were tied for the penultimate position with 4.9 points.

If we consider the minimum expected level, i.e. the proportion of those who reached at least 6 points, the average here was 49%; Hungary also ranks penultimate in this list with an indicator of barely 30%, which is only slightly better than the 25% achieved in the previous survey and clearly weaker than the 38% achieved in 2011.

PREVALENCE OF FINANCIAL PRODUCTS

The survey also tried to provide an answer to how many types of financial products and services consumers know and which ones they use. Although this component is only ancillary in nature, as its values are not included in the aggregate, it is worth addressing, whereas, in addition to the level of financial literacy, the prevalence of financial products and a well-designed consumer protection framework are essential for individuals to be able to make independent, prudent and informed financial decisions and contribute greatly to the stability of financial systems.

Knowledge of financial products

This question focused on how many products and services consumers can name. The minimum expected level was determined by knowing at least five types of products and services, with the average of those who met this requirement is 83%, with the Hungarians achieving a slightly better ratio of 84%. It is worth noting here that supply-side or even demand-side constraints might make it difficult for consumers to access the products most suitable for them, and the fact that someone has heard of a product does not necessarily mean that he or she is aware of its features and usability.

Use of financial products

The frequency of choosing financial products and services can be a good measure of the extent to which consumers monitor the products they have previously purchased, examine whether it is still suitable for

them, or whether it may be available on similar but more favorable terms as a different product on the market. If individuals do not address this, it can make it convenient for service providers, as they are not forced to compete for consumers, which can result in the latter having access to financial products at a higher cost.

Respondents had to answer whether they had used a financial product or service in the previous year. On average, 46% answered yes to this question, with Hungary having the second lowest value in this respect with 24%. The result of the previous survey can only be partially compared to the current one, as the question was asked regarding not a one-year period, but for a two-year period, although in regards of ranking position, our situation is practically the same, since we finished last.

Usage of financial products

Here, the proportion of consumers with different financial products was assessed, which was divided into four groups: products that function as a means of payment (e.g. checking account, debit card, mobile phone applications), credit products (including credit cards), insurance, and pension or other savings products. Looking at the average of the 23 countries examined, the prevalence of payment instruments is 70%, followed by savings with 50%, then credit products with 44% and insurance with 37%. In the case of Hungary, the prevalence of payment instruments is the same as in other countries, that of insurance is slightly above average (42%), while that of credit products (27%) and that of savings (25%) lags behind, with the latter accounting for only half the average.

The low level of savings is not entirely in line with the findings of the financial behavior survey, which found that half of the population was able to generate savings in the year preceding the survey. The significant difference between the two values can be partly explained by the fact that in the latter case the question was only whether the person had set aside money in the previous year, it was not a question of whether the savings thus generated were still available or if they were used in the meantime.

The survey also examined the results achieved by the respondents in the field of financial literacy, depending on the number of financial products and services they use. The average result was 46% for those who did not use financial products or services at all, 56% for those who used one type of financial product or service, and 66% for those who used multiple types of financial products or services. For some countries this trend was not fully realized, but the overall result can be considered quite clear. Of course, this isn't too surprising, as it is probable that one of the preconditions for using several products and services is to know them.

RESILIENCE TO FINANCIAL DIFFICULTIES

The survey examined how well individuals can be considered prepared for either sudden short-term or specifically long-term potential income cuts or expenditure increases. A good example of the former is a long-term illness, the loss of a job or the occurrence of damages due to natural forces for which no insurance has been taken out, while in the latter case, the most common occurrence is retirement. Six components of financial resilience have been identified, these are as follows.

Paying attention to finances

As detailed above, Hungary is considered to be the worst performer in this aspect, with only 47% of respondents stating that they closely monitor their finances, i.e. plan their expenditures and revenues, avoid unnecessary expenditures, and do not finance their living costs and the purchase of non-durable consumer goods by credit. The average for all countries was 67%.

Expenditure control

This aspect has also been mentioned before; our compatriots consider in a slightly lower than average proportion (67%) whether they really need the given product or service, or whether they can afford it. In terms of due-date settlement of bills, the 82% indicator is even slightly higher than the average, so we do not lag behind in this component.

Size of financial reserves

Consumers, even at their own discretion – e.g. continuing their studies, taking unpaid leave due to longer vacations –, or inadvertently may find themselves in a situation where their current source of income ceases and is not replaced by another. The survey aimed to determine how long existing financial reserves would allow the financing of past living costs without borrowing or moving to another property. 35% of Hungarians have enough reserves for up to 3 weeks, 28% have enough for 1–2 months, 16% have enough for 3–5 months and only 12% see it as being enough to be able to finance themselves for at least half a year, while 11% could not determine a duration. (Due to rounding up, the sum of the partial results is more than 100%.) These values are considered to be less favorable than the average for all countries, but the extent of

the difference is not significant. There are surprisingly large differences between countries: the proportion of those with sufficient reserves for at least six months is highest in Hong Kong (55%), followed by South Korea at 37% and Austria at 34%, all other countries are below 30%, with the lowest being Romania with 7%. On the opposite extreme, i.e. where the reserve is sufficient for up to 3 weeks, Hong Kong has the lowest rate not too surprisingly (6%), followed by Italy (10%) and Austria (12%), with Indonesia (46%), Georgia (50%) and Montenegro (52%) with the worst values. Interestingly, while virtually everyone in Hong Kong responded with a specific value, in Italy 44% of those surveyed were unable to determine how long their own financial reserves would be sufficient. This proportion is remarkably high, with the next highest in Romania, Malaysia and Indonesia, all with 22% respectively.

Insufficient coverage of expenses, financial stress

Here, on one hand, it was assessed whether respondents were in a situation where their income did not cover their expenses during the previous year: among Hungarians 20% answered yes, while the average value was 35%. On the other hand, three questions were asked to assess the financial stress felt, namely: „I’m used to worrying about paying my usual living expenses.”, „I’m afraid I don’t have enough money.”, „I’m just barely making it financially.” In Hungary, 24% of consumers agreed with at least one of the statements - with a minimum deviation for each statement - while the countries participating in the survey averaged 40%, so despite the fact that we are in a relatively favorable position compared to other countries, this is not a reassuring result.

Financial planning

This component includes the setting of long-term financial targets and the consistent creation of savings to achieve them. It has already been mentioned above that only 35% of Hungarians have a long-term savings plan, compared to the average of 49%, and the proportion of those who were able to save in the last year is also much lower (51%) than the average, which is 70%.

Becoming a victim of abuse

In this section, an attempt was made to assess the extent to which consumers have fallen victim to various types of financial abuse, e.g. pyramid schemes, phishing, and the extent to which they have faced situations

in which their claims have been rejected by financial institutions. Among the latter, there is a question which, in my view, does not make it clear whether the person's otherwise legitimate claim has not been satisfied or that the person has not fulfilled a condition laid down by law. Such an issue is e.g. whether the bank has rejected your account opening request for any reason. Nor can a clear conclusion be drawn about exposure to abuse based on as to whether someone has made a formal complaint about a financial service.

All in all, it can be stated that the rate of abuse is fortunately low both for the examined countries as a whole and for Hungary too, with the exception of a few countries (Colombia, Peru, Indonesia, Malaysia) where participation in pyramid schemes and personal financial information acquisition by deceptive telephones and emails is relatively common (10–20%).

Summary

Based on the results of international surveys conducted by the OECD, the level of financial literacy in Hungary is not too bad compared to other countries, we performed quite well in the area of financial attitude, but in financial behavior, which is the most important area, we finished in the penultimate place. One of the main reasons for this is probably the lack of a proper approach (e.g. lack of interest in tracking finances), which in practice is embodied in actual financial decisions. There is no significant change compared to the previous results in 2011 and 2015, however, we have achieved the weakest result in terms of attitude now.

If we look not primarily at our relative position compared to other countries, i.e. our position in the middle, but in terms of performance in the absolute sense, we get a much gloomier picture. The maximum 100% does not correspond to an outstanding level, but only to a basic level, of which 67% can be considered the minimum expected level, therefore the 59% achieved must be interpreted as meaning that Hungary could not even achieve the latter. This is supported by the fact that, looking at the three components separately, only 30, 55 and 56% of Hungarians were able to meet the minimum level.

In order to change this unfavorable situation, which has existed for years, more extensive and effective education and information programs are needed, especially with regard to the most important segment, financial behavior. The basis of this is, among other things, the level of reserves that can be used in the event of an unexpected loss of income, the lack of which can put whole families into difficult situations en masse. Unfortunately, there is a current example for this: restrictions imposed worldwide due to the COVID-19 epidemic in entire economic sectors, such as hospitality and accommodation, have resulted in workers being either made redundant or their earnings reduced significantly.

The most effective way to increase the level of financial literacy is to increase financial knowledge, as this also has a positive effect on behavior through attitude; school-based financial education, which should start in primary schools, can play a key role in this. In some key areas (e.g. retirement savings), targeted warnings to the adult population are also recommended, as there is a need for incentives in addition to prior knowledge transfer, even when the person already has an income, part of which can be used to create savings.

The evolution of Dunafer in the glasses of strategies

Abstract: The subject of this research is the strategic analysis of Dunafer. It was fundamentally influenced by my choice that the company, ISD Dunafer Zrt. located in Dunaújváros the area of my residence. We can follow the unique example of historical transformation, firstly because it is a large enterprise created as an investment in the socialist planned economy that carried all the features of an idealized organizational formation of the planned economy. Second, he was a “learner” of the historically unrepeatable system change that became a successful implementer and implementer of transformations and new management techniques.

Keywords: Strategy; development; evolution; ISD Dunafer; Dunaújváros; strategic management; organization; privatization.

Összefoglalás: A kutatásom tárgya a Dunafer stratégiai fejlődésének elemzése. A cikkre alapvető befolyással volt, hogy a választott vállalat, az ISD Dunafer Zrt. – korábbi nevén a Dunai Vasmű – lakóhelyem vonzáskörzetében, Dunaújvárosban tevékenykedik. A vállalatnak kiemelkedő befolyása van a régió lakosságára és hétköznapijaira. A témaválasztásomat meghatározta, hogy a szocialista nagyvállalat átalakulása piacvezérelt stratégiai konszernné egy kiemelkedő és hivatkozott példája volt az akkori kutatásoknak. A „Dunafer-metamorfózis” bekerült az egyetemek, főiskolák esettanulmányai közé, rengeteg konferencia foglalkozott átalakulásával és tanulságaival. A gazdasági rendszerváltás minden sikeres és kudarcos folyamata fölfedezhető a vállalatcsoporton.

Keywords: Stratégia; fejlődés; evolúció; ISD Dunafer; Dunaújváros; stratégiai menedzsment; szervezet; privatizáció.

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Introduction

The subject of this research is the strategic analysis of Dunafer. It was fundamentally influenced by my choice that the company, ISD Dunafer Zrt. located in Dunaújváros the area of my residence. We can follow the unique example of historical transformation, firstly because it is a large enterprise created as an investment in the socialist planned economy that carried all the features of an idealized organizational formation of the planned economy. Second, he was a “learner” of the historically unrepeatable system change that became a successful implementer and implementer of transformations and new management techniques.

In my dissertation will go through the studies and analyzes of the major domestic and international strategic management literature (including but not limited to: Ansoff, Barakonyi, Csath, Gavetti, Hamel, Levinthal, Mészáros, Mintzberg, Prahalad, Porter, Schumpeter and others). I analyze, interpret and discern these theoretical approaches, schools, and relationships with Dunafer. The central question of my dissertation is what were the key capabilities that enabled the company to successfully execute its strategies once it had been fully implemented.

The history of the industry, the steel industry and the company have fundamentally influenced the direction of the strategy, so I considered it essential to present them, as these external environmental factors give Dunafer a unique and determining characteristic. Along with sketching and interpreting the strategies, I present the transformation, achievements and development of the company, both at the strategic and organizational levels. The strategies I analyzed in chronological order and stacking are:

- Transformation strategy - formation of a concern (1991)
- The Reorganization Plans - A Survival Strategy (1993)
- Stabilization Strategy - Asset Management (1996)
- Growth strategy - preparation for privatization (1999)
- Privatization (2004)

Strategies have always been a response to the current market and environmental challenges. The company has been part of many unique and pioneering experiments that have been unprecedented in the country ever since. The decisive goal of this linear development was the full privatization of the company, which was successfully completed as stipulated in the privatization contract.

After analyzing the strategies, I summarize my main conclusions, identify the strategic schools and policies outlined earlier that can be found prominently in Dunafer's strategies, and identify the core capabilities of the company that successfully used the transition, survived the collapse of the Hungarian steel industry, through privatization, to the forefront of the global economic crisis. In the end, I outline

a possible development path that would bring the company's market and social role back into the region. Based on the pillars, the company could once again be successful in the right market environment in the near future.

The evolution of strategy

Strategy, strategic management is not a uniform, homogeneous research area. There are several approaches to researching this topic that may have different methodological and scientific roots: from economics, through game theory, through organizational psychology to anthropology. Research of different orientations differs in both questions and answers. They differ, for example, in examining the rational or behavioural aspects of corporate strategy, focusing on the content of the strategy or the process of its formation, and researching it at the micro or macro level. [1] It is not clear that different authors understand what is meant by strategy or strategic management to resolve this conceptual conflict.

Enhanced discourse on strategy issues dates back to the millennium. Managers have noticed that organizational performance and market demand are starting to diverge. Strategic planning has been conceived as a potential and appropriate solution to these problems, which requires that environmental opportunities and threats are compared to organizational strengths and weaknesses. According to Ansoff (1965), some organizations have the opportunity to choose their own relevant environment, which helps them to find sub-markets, niches where they can turn their backs. When setting goals, they must match organizational strengths and weaknesses to environmental opportunities and threats, so the company can maximize results. This idea is one of the key issues of strategic management. [2]

THE OPERATIONAL COSTING

The first planning activity, written and framed, involved allocating available financial resources and controlling their use. This period began around 1944–45 and lasted until the mid-50s. Companies need to have a 1–2 year foresight in financial areas and make their return on investment predictable. The cost plans developed for each

[1] Gavetti, G.–Levinthal, D. A. (2004): The Strategy Field from the Perspective of Management Science: Divergent Standards and Possible Integration. *Management Science*. 50. (10.) Pp. 1309–1318.

[2] Ansoff, H. I. (1965): *Corporate strategy*. New York: McGraw-Hill.

[3] Barakonyi K.– Lorange P. (1994): *Stratégiai Management*. Budapest: Közgazdasági és Jogi Könyvkiadó.

[4] Barakonyi Károly (1999): *Stratégiai tervezés*. Budapest: Nemzeti Tankönyvkiadó.

sub-area of the company operation mainly described financial optimal indicators with the help of financial indicators. The focus was on optimizing the distribution of resources and examining various control functions. The design was often based on past trends and ignored the possibility of technological advances. The representatives of operational cost planning addressed the issues of cost reduction and efficiency, which reflected a short-term approach. [3] It should be noted that the environment was more or less predictable, the market's absorption capacity could be reliably based, and the competition was not as critical as later. [3] The focus of the company has been on short-term financial equilibrium at the expense of strategy.

LONG TERM PLANNING

After the fifties, the focus and long-term planning based on them shifted towards forecasts. Factors influencing its development include technological, political and economic transformation. Here, as opposed to short-term goals, longer-term ideas emerge as the planning horizon widens. For the designers, the environmental changes were still very clear, based on the fact that the changes and trends of the past can be projected into the future. Based on these forecasts, the management made its decisions. Long-term planning is thus a much more comprehensive planning system, in which plans are based on forecasts. These plans include a financial plan, a production plan and a marketing plan. Their purpose is to enable the company to realize as much as possible of the market opportunities revealed by extrapolation. [4] The company's approach was that the focus of the design programs was to increase production. One of the disadvantages of long-term planning is that it does not work well in an increasingly competitive environment in a turbulent, rapidly changing environment. [4]

As the economic growth slowed down, the weaknesses of the method became more and more acute, and the company was forced to turn to the environment in a more focused and targeted manner, to become more familiar with the processes and dynamics there (external and internal environmental analysis). This led to the emergence of an era of strategic planning.

STRATEGIC PLANNING

Strategic planning began its journey in the United States in the 1960s and reached its peak in the 1980s. The emergence of the era of long-term planning is the result of slowing growth and accelerating change, replacing and increasing quantitative requirements with qualitative expectations. [5] Increased market competition and slowing demand are typical of this period. The size of the organizations reaches a critical level, where autonomous, separate “strategic business units” (SBUs) are formed due to the rational production structure. Portfolio management and segmentation are at the centre of the planning process. In this era, companies also had to deal with new interest groups (advocacy organizations, consumer protection, environmentalists, anti-trust movements), so shaping the future of the company could only be imagined through active interaction and dialogue with the environment.

Thus, the era of strategic planning was characterized by the pursuit of complex, system-based management of the external and internal environment, organization, and strategies. As a critic of era-specific solutions, Mintzberg notes that strategic planning is not the same as strategic thinking. In the latter, in addition to the necessary formalized elements, intuition, creativity in strategic thinking, and the ability to synthesize them are of great importance. [6] Thoughts indicate that, in addition to formalized, predetermined elements, a flexible, creative attitude that facilitates rapid adaptation to environmental situations plays a crucial role.

STRATEGIC MANAGEMENT

Environmental turbulence, political-social changes, technological advances have also demanded new responses from companies to new challenges. Strategic management is the defining and evolving response that continues today. It is characterized by a systemic approach, increasing efficiency while implementing plans and strategic thinking that synthesises them. An essential element is preparedness and readiness for continuous change. Strategic vision permeates the entire organization: Organizational members are involved in strategy development and goal setting at all levels of the organizational hierarchy. [7]

[5] Mészáros Tamás–Horváth István–Virág Miklós (2000): Sokszínűség a cégstratégiában. *Stratégiai menedzsment szöveggyűjtemény*. Budapest: Aula.

[6] Mintzberg, H. (1994): *The Rise and Fall of Strategic Planning*. London: Prentice Hall International Limited.

[7] Hax, A. C.–Majluf, N. S. (1984): *Strategic Management: An integrative perspective*. Prentice-Hall: Englewood Cliffs.

[8] Asplund, G. (1975): *Strategy formulation: An intervention study of a complex group decision-process*. Stockholm: LiberTryck.

[9] Marosán György (2006): *A 21. század stratégiai menedzsmentje*. Budapest: Műszaki.

[10] Csath Magdolna (2001): *Stratégiai változtatásmenedzsment*. Budapest: Aula.

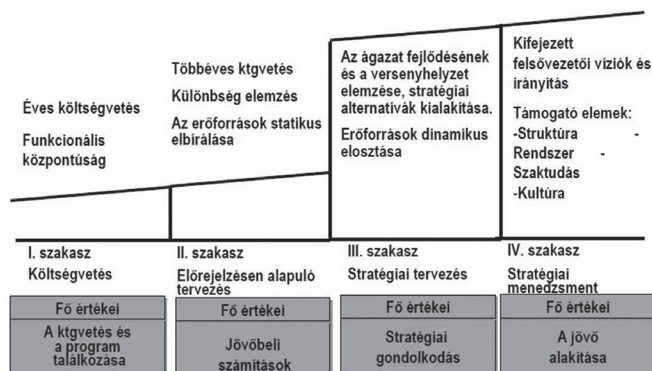
Therefore, in the strategic management phase, the organization as a whole is future-oriented and more market-oriented than in earlier phases. The focus of interest in strategy content and concept shifted from an action-oriented approach to a more vision-oriented or strategic approach. [8]

“Strategic management aims and aims to focus on the core tasks of the organization, its long-term future, the frameworks of organizational processes, organizational behaviour, and make a conscious change in resources, organizational structure and corporate culture. and to ensure the focus, flexibility and awareness of everyday activities”. [9]

An important element of the definition is that one of the central elements of strategic management is “conscious change in the organization” as a function of the changing environment. According to Magdolna Csath’s book “Stratégiai változásmenedzsment”, the change that characterizes economic and business life has a profound effect on the lives of individuals and organizations. The field of intentional changes in the life of companies is the creation of strategy and the implementation of the strategy. And the most important goal of strategy development is to secure a lasting competitive edge for the company. The prerequisite for this success is a continuous renewal, which requires decisions and strategic actions. [10]

The author mentioned above also illuminates the difference between change and change, which is relevant to the strategy. In the first case, we can identify events, primarily in the external environment, that the companies have no control over, while the second term refers to conscious decisions made as a result of these and the actions that follow them.

Figure 1. The evolution of planning (Source: Lecture by Mészáros T. Strategic Management)



We can read Magdolna Csath's book, *Strategic Planning and Leadership in the 21st Century*, for incorporating the theoretical approaches to strategic planning and leadership into schools and for systematizing the specifics of strategic orientation. In the next section, I will rely on this book. Possible approaches can be categorized as:

- Classical school,
- Development school,
- Procedural school,
- Systematic school approach.

According to the representatives of the *classical school*, the most important goal of the companies is profit maximization, and this can be best served by strategic planning. Planning must be top-down, goal-oriented, clear, and decide on resource use and actions to be undertaken, keeping in mind the principle of maximum efficiency. Representatives of the trend: *Ansoff, Ackoff, Porter*.

According to the *development school*, corporate success is less about conscious strategy-making, but more about how well the company fits into its environment. According to this theoretical approach, it is unnecessary for companies to spend too much money and energy on strategy development, it is much more useful to develop adaptability, to prepare the organization for quick reactions (dynamism). The best strategy is chosen and recognized by the market. Representatives: *Henderson, Alchian, Aldrich*.

Proponents of the *procedural school*, too, do not believe in strategic planning based on pure rationality and logic, but they also dispute the perfection of market mechanisms. In their hypothesis, the psychological

[11] Csath Magdolna (2004): *Stratégiai tervezés és vezetés a 21. században*. Budapest: Nemzeti Tankönyvkiadó.

approach played a central role, their hypothesis is that there is no perfectly rational leader, so strategic leadership can only be of limited rationality. Due to the conflict of interest between the people who make up the company, it is not possible to find the best practice, and consequently, the profit cannot be maximized. Representatives of the trend are *Cyert, March, Beckhard, Harris, Simon*.

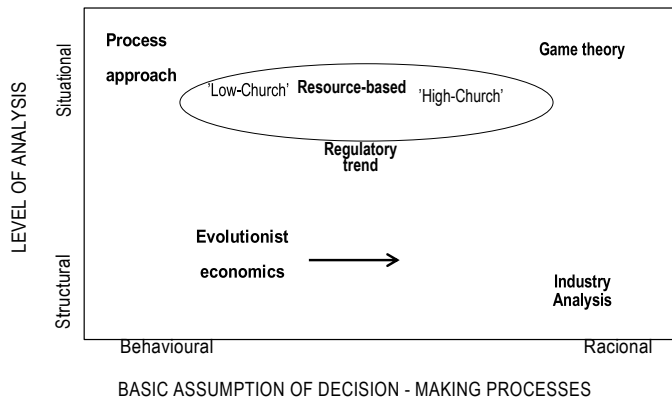
The *systematic school* prefers to claim that companies have the ability to make plans for the future and act on them consciously and effectively. The general applicability of strategic models and methods, however, largely depends on the external socio-economic environment in which the company operates. According to this, companies should be differentiated according to the social and economic systems in which they operate, since their differences have a major impact on their strategy - making and implementation practices. Representatives of the trend are *Granovetter, Whitley, Trompenaars, Whittington*. [11]

So, it depends on the company's management approach on how they manage strategic planning, so the company's strategy can be active or passive. An active strategy is one in which the company does not follow changes, but goes ahead, ie proactively exploits the benefits of change. In addition to creative strategy, active behaviour also requires risk-taking and experimenting leaders. The passive strategy, on the other hand, is responsive to environmental changes. An active strategy company is constantly strengthening its ability to "influence the future". In a passive strategy, you can always mobilize only the capabilities available to troubleshoot problems.

SYSTEMIZATION OF GAVETTI & LEVINTHAL

As I mentioned at the beginning of this chapter, the strategy can be explored from multiple angles. In the following, I will draw on Gavetti and Levinthal's 2004 research to further delineate the evolution of strategy. The author distinguishes six distinct areas of research related to the strategic area: regulatory, game engineering, industry analytics, resource-based, process-driven, and evolutionist. Figure 1 illustrates the authors' systematization of the underlying assumptions they make about organizational decision-making processes and examines organizational responses in a structural (environmental) or situational (internal) context. The directions on the right and in the middle of the figure are normative.

Figure 2. Map of Strategic Research Directions (Gavetti & Levinthal, 2004)



Regulatory trend

The regulatory 'engineering' deriving from the work of Igor Ansoff (1965) [2] belongs to the normative direction of strategic management. Organizations are viewed in a fundamentally mechanical framework, with the aim of rationally grasping corporate processes and developing a regulatory toolbox to consciously influence them. In order to increase the efficiency of strategic decision-making, it seeks to elaborate a strategic planning toolkit.

Industry analysis trend

The trend emerged from Michael E. Porter's book, *Competition Strategy*. [12] It examines the factors of corporate success that derive from industry's structural and market position, basically through economic analysis tools. Therefore, its regulatory statements also apply to the selection and implementation of market positions.

Resource-based theories

Resource-based theories emerged in the mid-eighties in the field of strategy. Their basic assumption is that corporate success is primarily a function of the internal capabilities, resources and capabilities of the organizations and the feasibility of market strategies. Two theories have developed. The first, which Levinthal [13]

[2] Ansoff, H. I. (1965): *Corporate strategy*. New York: McGraw-Hill.

[12] Porter, M. E (1980): *Competitive Strategy. Techniques for Analyzing Industries and Competitors*. New York: Free Press.

[13] Levinthal, D. A. (1995): *Strategic Management and the Exploration of Diversity*. In: Montgomery, C. (Ed.): *Evolutionary and Resource-Based Approaches to Strategy*. Boston: Kluwer Academic Press.

[13] Levinthal, D. A. (1995): Strategic Management and the Exploration of Diversity. In: Montgomery, C. (Ed.): *Evolutionary and Resource-Based Approaches to Strategy*. Boston: Kluwer Academic Press.

[14] Barney, J. B. (1986): Strategic Factor Markets: Expectations, Luck and Business Strategy. *Management Science*. 32. (10.) Pp. 1231–1241.

[15] Barney, J. B. (1995): Looking inside for competitive advantage. *Academy of Management Executive*. 9. (4.)

[16] Grant, R. M. (1991): The Resource-Based Theory of Competitive Advantage: Implications for Strategy Formulation. *California Management Review*, Spring.

[17] Dierickx I.–Cool, K. (1989): Asset Stock Accumulation and Sustainability of Competitive Advantage. *Management Science*. 15. (12.)

[18] Hamel, G.–Prahalad, C. K. (1990): The Core Competence of the Corporation. *Harvard Business Review*. May–June, Pp. 73–93.

[19] Mintzberg, H. (1979): *The Structuring of Organizations*. Prentice-Hall: Englewood Cliffs.

calls ‘high church’ theories, is primarily related to the work of Barney [14], [15] and Grant [16]. They give an economic approach to resources: successes (annuities) in competing markets are derived from positions in strategic resources markets. The second, more behavioural and process-oriented theory of theories, called Levinthal [13], was based on the work of Dierickx and Cool [17] and Hamel and Prahalad [18]. They believe that truly strategic resources are not obtainable in the market, but are due to the unique heterogeneity of organizations’ resources and their dynamic ability to develop them. Strategically valuable resources and essential capabilities are thus knowledge-based, embedded in the organization, and therefore can only be developed within the organization, organically and over time.

Process approach

The process-oriented approach, as its name clearly states, emphasizes the strategic nature of the process of strategy development. Its founding role was played by Mintzberg’s early work [19], which drew attention to the emergence of strategies in the organization, or by Miller and Friesen [20] on the evolutionary nature of strategies. Trend theories all point to the fact that explicit, explicit strategies of companies are often ex-post manifestations of a pre-existing pattern in organizations, which we can call strategy itself.

Evolutionary economics

The foundations of the evolutionary trend, which is still in the early stages of its development, were laid by Nelson and Winter [21]. The trend builds on the traditions of economics and behavioural theories. In response to the failure of sophisticated economic modelling of Schumpeterian innovation, an alternative approach has been developed that approaches the development of markets and firms in an organic, evolutionist framework. According to this, organisms change and evolve according to the mechanisms inherent in living systems: the role of genes at the organizational level is deeply embedded in unconscious routines, and these are selected according to the trial-error principle in response

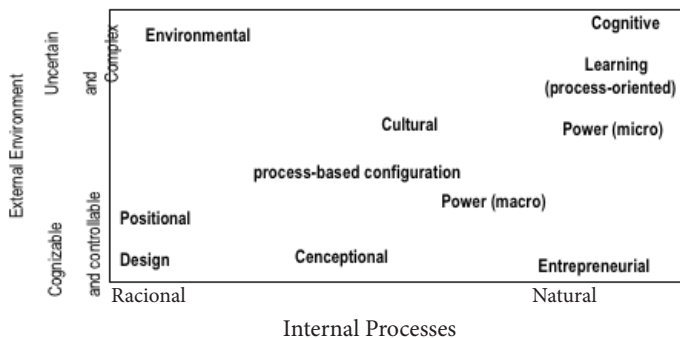
to environmental challenges and internal organizational conflicts. and the answers (strategies) change with the rearrangement of the set of routines.

Gavetti and Levinthal [1] point out that evolutionist tendencies are shifting away from behavioural science. It is filled with normative content that can be used for management practice as more and more strategic writings based explicitly or implicitly on evolutionist basic assumptions, such as organizational learning [22], dynamic capabilities [23], [24] or the dynamic adaptation of companies.

STRATEGIC DIRECTIONS OF MINTZBERG & LAMPEL

Mintzberg and Lampel (1999) distinguish ten strategy theory approaches: *conceptional, design, positioning, entrepreneurial, cognitive, learning, power, cultural, environmental, and process-based configuration* approaches. The trends are systematized according to the assumptions they make about the internal and external environment of the organizations. The normative tendencies are shown in the lower left part of the diagram: the conception, design and positioning schools clearly, while the configuration and entrepreneurial tendencies contain some normative elements.

Figure 3. Diverse approaches to strategy development (Mintzberg & Lampel, 1999)



Based on this structure, based on the work of the authors, I will follow the main trends.

[1] Gavetti, G.–Levinthal, D. A. (2004): The Strategy Field from the Perspective of Management Science: Divergent Standards and Possible Integration. *Management Science*. 50. (10 Pp. 1309–1318.

[20] Miller, D.–Friesen, P. H. (1978): Archetypes of Strategy Formation. *Management Science*. 24. (9.) Pp. 921–933.

[21] Nelson, R. R.–Winter, S. G. (1982): *An Evolutionary Theory of Economic Change*. Cambridge: Harvard University Press.

[22] Pisano, G. P.–Bohmer, R. M. J.–Edmondson, A. C. (2001): Organizational Differences in Rates of Learning: Evidence from the Adoption of Minimally Invasive Surgery. *Management Science*. 47. (6.) Pp. 752–768.

[23] Teece, D. J.–Pisano, G.–Shuen, A. (1997): Dynamic Capabilities and Strategic Management. *Strategic Management Journal*. 18. (7.) Pp. 509–533.

[24] Eisenhardt, K. M.–Martin, J. A. (2000): Dynamic Capabilities: What are they? *Strategic Management Journal*. 21. Pp. 1105–1121.

[2] Ansoff, H. I. (1965): *Corporate strategy*. New York: McGraw–Hill.

[12] Porter, M. E (1980): *Competitive Strategy. Techniques for Analyzing Industries and Competitors*. New York: Free Press.

[24] Schumpeter, J. A. (1934): *The Theory of Economic Development*. Cambridge: Harvard University Press.

The conceptional approach

Until the mid – 1970s, strategic thinking was clearly dominated by the concept-building approach – and the thinking and analysis framed by Sleznick (1957) and Andrews (1965), to which other schools rely heavily on, is still dominant. According to this, the goal of strategy development is to create a fit between the company’s internal strengths and weaknesses and its external opportunities and threats (SWOT). Strategy-making is a consciously shaped process linked to senior management, which results in a simple and clean plan that the organization can implement. The message of the trend is “Be consistent!”

The design trend

The design trend evolved from the work of Igor Ansoff [2] and is still a dominant approach. It basically accepts the messages of the concept-building approach, with the main difference that the design process here is not only conscious but also strictly formalized: it can be divided into separate parts and runs with robust analytical and planning toolkits, frameworks, programs and operational spaces. Thus, the team of designers is the protagonist of the strategy-making process rather than senior management. The Trend message: “Formalize!”

The positioning school

The positioning school was founded by Porter [12] and previous work by the Boston Consulting Group. The success of companies is derived from the performance of the industry and the correctness of market positions. Strategy-making thus basically coincides with the selection of the right market position analyst, so the key player will be the analyst-designer, who relies on a formalized, analytical toolkit, seeking “scientific” justifications. Here, too, the planning and implementation phases are strictly separated. Trend message: “Analyze!”

The entrepreneurial approach

The Entrepreneurial Approach to Strategy Development was developed by Schumpeter [24] in the late 1950s. It takes a very different view from the previous schools: strategy here is the vision and the general idea of the leader. The formalization of the vision and his personal control thus ensure the separation of the planning and implementation phases. The message of the trend: “Have your vision!”

The cognitive school

Cognitive orientation provides a behavioural, individual, and socio-psychological approach to strategy-making, based on the work of Herbert Simon and James March. [25] It is based on the fact that strategies reflect people's thinking frameworks, models, maps and ideas. In line with this, it seeks to describe the mental processes behind the strategies, both individual and organizational, such as cognitive distortions. Mintzberg and Lampel (1999) also include an interpretive or constructivist approach to strategic processes, whereby strategies do not represent a distorted yet somewhat objective formulation of reality, but an interpretation of it that is creatively developed by an organization. The motto of the trend is: "I see it if I believe it!"

Learning Orientation (Process Oriented)

The strategic orientation of learning as defined here does not coincide with the organizational learning approaches - Senge or Schön - Mintzberg and Lampel (1999) include descriptive works that explore the process nature of corporate strategy development and the unintended content of strategies. Elements are emphasized. Strategies can thus be found anywhere in the organization, and the "phases" of strategy development and implementation are blurred, not separated. These include Quinn's [26] logical incrementalism, the emergent strategies described by Mintzberg (1987), or the retrospective assessment formulated by Weick [27]. The message of the trend is "Learn!" ("Watch the process!").

The configuration approach

The configuration approach based on the work of Chandler [28] and Mintzberg [19] contains descriptive and normative elements, and attempts to integrate the results of other schools in a way: they associate normative elements with behavioural (descriptive) characteristics. Organizations are interpreted as clusters of properties and behaviours that form a variety of typical configurations that may differ in their use of normative theories, and they are also recommended to be built under specific environmental conditions. The motto of the trend: "Everything has a reason!"

Productivity or strategy?

[19] Mintzberg, H. (1979): *The Structuring of Organizations*. Englewood Cliffs: Prentice-Hall.

[25] Simon, H. A.-March, J. G. (1958): *Organizations*. New York: Wiley.

[26] Quinn, J. B. (1999 [1978]): Logical Incrementalism: Managing Strategy Formation. In: Mintzberg, H.-Quinn, J. B.-Ghoshal, S. (Eds.): *The Strategy Process. Revisited European Edition*. London: Prentice-Hall International. Pp. 103-110.

[27] Weick, K. E. (1979): *The Social Psychology of Organizing*. Massachusetts: Addison-Wesley.

Индустриальный союз Донбасса: вопросов больше, чем ответов, ukrrudprom.ua http://www.ukrrudprom.ua/digest/Industrialniy_soyuz_Donbassa_voprosov_bolshe_chem_otvetov.html Download: 2019. december 17.

[28] Chandler, A. D. (1962): *Strategy and Structure: Chapters in the History of Industrial Enterprise*. Cambridge: MIT Press.

[12] Porter, M. E
(1980): *Competitive
Strategy. Techniques
for Analyzing Indus-
tries and Competitors.*
New York: Free Press.

According to Michael E. Porter [12], production efficiency and strategy are key to achieving higher levels of performance. However, they may work in the opposite direction. Operational Effectiveness is about carrying out activities at a higher level than our competitors. Companies minimize unnecessary use of resources, use the most advanced technologies, and motivate their employees. OE solutions were the core of Japanese success in the '80s: they were able to deliver low cost and higher quality at the same time. This advantage was sought by competitors.

This race has accelerated so much that companies have reached a point where efficiency management techniques no longer have an advantage and reserves can only be mined at a high cost and time.

According to Porter [12], when a company improves its production efficiency, it moves closer to the limit of performance. The boundaries of production opportunities continue to expand as a new technology or management approach evolves. Maintaining an advantage over competitors is becoming increasingly difficult. The basic reason for this is that management techniques, new technologies, input enhancements, and higher levels of customer satisfaction can be easily copied. Continuous improvement has been absorbed into the minds of managers, but these tools unknowingly push the company toward homogeneity and copying.

In the process of strategy development, companies strive to secure a special position for themselves. they will therefore select and combine activities that are different from their competitors. Porter [12] concludes that if the same set of activities were best suited to meet all needs, production efficiency would once again determine performance, and copying and balancing would start again. Different positions require different product portfolios and different management systems.

While production efficiency aims at the excellent performance of individual activities, the strategy is about synthesizing and merging activities. The chain created by combining activities excludes imitation.

The strategy is to build bridges between corporate activities. Let's do a lot of things and put them together. [12] It is good advice from M. E. Porter [12] that a company should continually improve its productive productivity and try to push the maximum of efficiency while expanding its uniqueness and strengthening the relationship between its activities.

This view draws attention to the overall effect and synergy of corporate activities,

which is based on an integrative view of corporate functions.

In market competition, a company will succeed (sustainable competitive advantage) if it distinguishes itself from its competitors and maintains it in the long run. The driving force behind the strategy is that it can choose its value-creating activities differently from its rivals. If you can carry out these activities effectively in line with your organizational culture, you will be able to lay the foundation for a long-term sustainable strategic position. In conclusion, according to modern strategic approaches, a company that succeeds in market competition must operate with a strategy characterized by the following criteria [29]:

- Flexibility, adaptability, innovation, rapid strategic responsiveness
- Ability to maintain a long-term competitive advantage
- Openness to change in consumer behaviour
- Copyless organizational performance
- Creating values based on customer needs
- Behaviour focused on meeting future customer needs

After outlining the main lines of theories and trends, I would like to present the main directions that influenced the formation of the Dunai Vasmű and the life of the company. I'm looking for an answer to Dunaferr's strategic analysis of what theories, trends that influenced these strategies, and what were the basic capabilities with which the strategies developed were if implemented, or what were the influential ones factors that undermined the strategy's objectives. Before understanding the strategies, however, it is essential to introduce the company and the industry. This is the basis of my analysis, because one of the important internal factors is the factory itself, with its capabilities, human resources.

[29] Czinkóczi Sándor (2013): *A dinamikus szervezeti képességek érvényesülése irányítatlan változások idején.* Doktori értekezés. Pécs.

Energy diplomacy and security issues in the South Caucasus Region: The Case of Azerbaijan

Abstract: Azerbaijan's importance as an energy country is growing. Especially in recent years, some geopolitical processes in the Eurasian space, the impact of the energy factor on political events has prompted European countries to provide new energy sources. From this point of view, it was natural to pay attention to Azerbaijan as one of the main oil countries in the region. European countries are turning their faces to the country as an alternative energy supplier. Azerbaijan also attracts attention with its stable and reliable image. Therefore, the conclusion of experts that "Azerbaijan is Europe's best partner in energy security" is undoubtedly accepted. One of the factors that make Azerbaijan attractive as a reliable partner is the country's commitment to the path, perseverance, and determination to achieve its goals despite the difficulties. This is a forward-looking guarantee for energy partners with Azerbaijan. In this regard, Azerbaijan will remain attractive as an energy supplier for many decades to come.

Keywords: Energy diversification; energy supplies; energy security; Azerbaijan; EU.

Összefoglalás: Azerbajdzsán energetikai országgént egyre növekvő jelentőségű. Különösen az utóbbi években, egyes geopolitikai folyamatok során az eurázsiai térben, az energiatényező politikai eseményekre gyakorolt hatása arra késztette az európai országokat, hogy új energiaforrásokat biztosítsanak a maguk számára. Ebből a szempontból természetes volt felfigyelni Azerbajdzsánra, mint a régió egyik legfontosabb olajtermelő országára. Az európai országok alternatív energiaellátóként fordulnak az ország felé. Azerbajdzsán stabil és megbízható imázsával is felhívja a magára figyelmet. Ezért kétségtelenül elfogadják a szakértők azon következtetését, miszerint „Azerbajdzsán Európa legjobb partnere az energiabiztonság terén”. Az egyik tényező, amely megbízható partnerként teszi vonzóvá Azerbajdzsánt, az ország elkötelezett-

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sége a nehézségek ellenére is a kitűzött célok elérése iránti út mellett, a kitartás és az elszántság. Ez előre-mutató garanciát jelent az Azerbajdzsánnal együttműködő energiapartnerek számára. Ebben a tekintetben Azerbajdzsán az elkövetkező évtizedekben is vonzó marad energiaellátóként.

Kulcsszavak: Energia diverzifikáció; energiaellátás; energiabiztonság; Azerbajdzsán; EU.

Introduction

In today's shifting world order, growing demands for energy resources compel nation-states to undertake significant steps regarding how to preserve energy security within the policy circle. It is an undeniable fact that the maintenance of energy security is one of the pivotal interests of states in the contemporary world. Energy security is based on the national security of nation-states. Today, energy is significant to the process of both economic and social development in each state in terms of its direct use and the distribution of the profits from its export. Therefore, currently, states strive to make a transition to renewable energy resources to balance their domestic demands and energy consumptions. Thus, major regional powers seek a reliable trade partner that can facilitate their energy demands. Energy is an "effective instrument" or "statecraft" of a nation-state to achieve its foreign policy. It is an indicator of national prosperity, which underwrites the domestic security of each nation-state having national resources. In this regard, energy security has a decisive place and role as one of the structural elements of the national security of states. If Samuel Huntington described the 21st century as a century of clashes of world civilizations, in the context of modern political realities, some political experts characterize the state's energy resources as a leading factor in world politics. Energy security continues to be the number one issue in the world today. The focus on energy security is linked to rising oil prices. In the last two centuries, mankind has waged wars and struggles for control of energy resources, resulting in the loss of millions of lives. In particular, the geography in which we are located has been a direct scene of fierce competition for energy resources. At the same time, the threat of terrorism, instability in some exporting countries, inconsistencies in domestic and foreign policy, geopolitical competition, as well as the fundamental need for energy to ensure the economic expansion of countries. Concerns continue to grow about whether there will be enough resources to meet the world's energy needs in the decades to come, not in the distant future.

Energy factor from the prism of neoclassical realism

The central role of energy in foreign policy is undeniable. To analyze the notion of energy policy in deep, neoclassical realism was chosen as a pivotal theoretical paradigm because neoclassical realism mainly premises on the domestically derivative variables. In international relations, internal and external factors of the state's policy are closely linked with each other and do influence the behaviors and perceptions of the states.

In 1998, Gideon Rose introduced a broad interpretation of neoclassical realism in his article, called "Neoclassical Realism and Theory of Foreign Policy". This approach stood on some traditions of neo-realism but emphasized the new systemic and structural challenges and he argued that state's behavior rested on two crucial aspects that affected its foreign policy. In neoclassical realism, it is necessary to take into account the domestic circumstances and national interests of states. [1] Neoclassical realism is also called "*state-centered realism*" and emphasizes that the states' behaviors and perceptions mainly are related to the domestic variables that are capable of influencing the state's foreign policy. From the dogma of neoclassical realism, the states are not considered as important actors of international relations, in turn, the main actors in the international system are state leaders that can conduct the main internal and external issues of state policy. According to the neoclassical realist paradigm, the foreign policy of a state is conducted by responsible decision-makers and statesmen that contain the main elements of national power and interests. [2]

The state as a "*billiard ball*" moves along the trajectory that mainly has a dependency on external factors not on internal structures from the standpoint of realist paradigm, but according to neoclassical realist perspective, the key internal dynamics and demands put the impetus on ball movements rather than external factors along with the state's policy. The "*billiard ball*" has a huge capability to alter the tactics and behaviors of the states. Furthermore, neoclassical realists counter that the relative material elements and basic power have an impact on the formation of a basis of the state's foreign policy. [3] The foreign policy as a steering wheel is conducted or implemented by actual state leaders. The foreign policy of the states is chiefly

[1] Rose, G. (1998): Neoclassical Realism and Theories of Foreign Policy. *World Politics*. 51. (1.) Cambridge University Press. Pp. 144–172. Stable URL: <http://www.jstor.org/stable/25054068>; http://disciplinas.stoa.usp.br/pluginfile.php/326196/mod_resource/content/1/Rose_Neoclassical%20realism%20and%20theories%20of%20foreign%20policy.pdf

[2] Česnakas, G. (2010): Energy resources in foreign policy: A theoretical approach. *Baltic Journal of Law & Politics Volume*. 3. (1.) Pp. 45–49. URL: http://www.ver-sita.com/science/law/bjlp_file:///C:/Users/TEMP/Downloads/Energy_Resources_in_Foreign_Policy_A_The.pdf

[3] Romanova, T. (2012): Neoclassical Realism and Today's Russia, *Главная/Архив номеров*. №3. URL: <http://eng.globalaffairs.ru/number/Neoclassical-Realism-and-Todays-Russia-15681>.

[2] Česnakas, G. (2010): Energy resources in foreign policy: A theoretical approach. *Baltic Journal of Law & Politics Volume 3*. no. 1. ISSN 2029-0405, Pp. 45–49. URL: http://www.versita.com/science/law/bjlpfile:///C:/Users/TEMP/Downloads/Energy_Resources_in_Foreign_Policy_A_The.pdf

[4] Gilpin, R. (1981): *War and Change in World Politics*. Princeton University, Cambridge Books Online, Cambridge University Press, 1981. Pp. 50–105. URL: <http://ebooks.cambridge.org/ebook.jsf?bid=CBO9780511664267>

[5] Rose, G. (1998): Neoclassical Realism and Theories of Foreign Policy. *World Politics*. Vol. 51, No. 1. *Cambridge University Press*. Pp. 161–165. Stable URL: <http://www.jstor.org/stable/25054068> http://disciplinas.stoa.usp.br/pluginfile.php/326196/mod_resource/content/1/Rose_Neo-classical%20realism%20and%20theories%20of%20foreign%20policy.pdf;

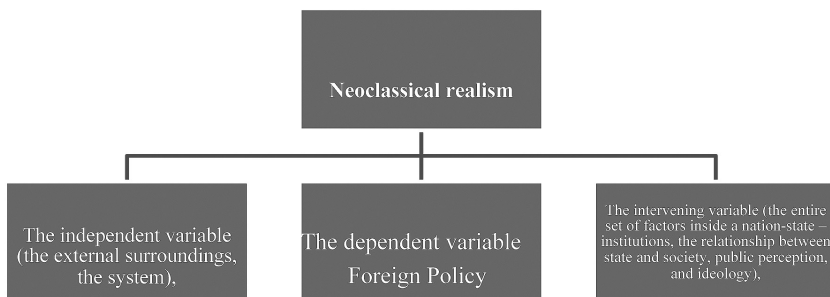
related to relative material power or national power. Hence, the maintenance of energy security and providing rational energy policy highly do depend on the internal and external factors, but mainly relative national power and homeland or domestic policy. Therefore, foreign policy has its specific seeds and sources in domestic policy.

Neoclassical realism highlights the role of two types of power: national power and state power. [2] The spectrum of national power usually can be considered as a military or economic power. For example, today, the increasing national power of China is characterized as a military and economic threat to the US, due to its growing both internal and external power. In terms of state power, it can be considered as an implementation of national power and the strength of a state. The state power is correlated with national power. Regarding the fact that national power is the security of both domestic and foreign policy of a state. The national power and domestic security are interconnected, and at the same time, they do influence the function of rational energy policy within and between countries.

According to R. Gilpin, states strive to fervently increase their capability and also control over other countries and try to influence the political and economic environment as well. The state that has a huge share of wealth and material power will be able to opt for the security and safety goals for its future development expectancy rather than less developed and weak states. Hence, it will have a pivotal impact in terms of national power in the international system. The national power of a state mostly concerns the maintenance of domestic security. [4] (The U.S' "homeland security" strategy). According to Zakaria and Christensen, one of the domestic variables refers to the relations between a state and its surrounding society. Generally, the states have a large-scale capability of access to direct resources of their societies. Thus, domestic actors, in particular, societies, public perceptions, ideologies, and other domestic structures such as national power, national security have a huge impact on states' foreign policies. [5] In some cases, it is mentioned that there are primary sources of the constructivist approach in neoclassical realism in terms of the availability of nation-state ideology, societal perceptions, and behaviors within the state.

Therefore, neoclassical realism traditionally is composed of three basic elements: [7]

Figure 1. shows three focal components of neoclassical realism, composed by the author



It is clear from the table that these three elements are interconnected with one another, hence, the effective function of foreign policy mainly stands on how the intervening variables determine the dependent one. Within the nation-state, the effective apparatus system of a state subject to the domestic or internal sets of rules and dynamics such as a relationship between the state and its surrounding society, social consolidation, public insights, behaviors as well as ideologies. To a large extent, these variables determine the policy of a state or the national power of a state.

Christensen emphasizes the role of “*national political power*” as the ability of statesmen to assemble or conduct their societies’ human and material resources through security policy advantages. [3]

Neoclassical realism points out that an increase in relative human resources and material power will cause consequently the enlargement of the spectrum of the ambitions and interests of the nation-states’ foreign policy movements. Although the best attempts of neoclassical realists, the relation between the objective and subjective features remain in the shadow of material power capabilities and the statesmen’s decision-making processes.

To sum up, in terms of energy resources, neoclassical realism gave its clear explanation regarding how intervening or entire sets of variables do influence the

[3] Romanova, T. (2012): Neoclassical Realism and Today’s Russia, Главная/ Архив номеров. №3. URL: <http://eng.globalaffairs.ru/number/Neoclassical-Realism-and-Today's-Russia-15681>.

[7] Floyd, R.–Matthew, R. (2015): *Environmental Security: Approaches and Issues*. London–New York: Routledge, Taylor and Francis Group. Pp. 248–250.

states' foreign policies and how the states choose the rational assessments between the foreign policy and national power. Thus, the neoclassical realist paradigm is a theory that opens a path for the deep analysis of the role of energy policy and its correlation with foreign policy and national power.

Critical approaches to energy policy

In today's shifting world order, the maintenance of energy security in the circle of national security is considered one of the crucially strategic policies of each state. Nation-states strive to search for much more rational and alternative ways to reshape the politics and take hard-wearing agenda in conjunction with the security of energy resources, and chiefly, large-scale access to alternative renewable energy resources in the 21st century. In the chase of national energy security nation-states strive to gain broad access to energy resources in terms of maintenance of their national security, but frequently the pursuit of these interests engender some challenges and obstacles regarding energy resources, and in turn, result in insecurity, uneven distribution of human resources, environmental degradation and marginalized civil societies or communities in the international system. Therefore, energy exploitation has negative impacts on environmental and capital resources that people have a dependence on food, water supply, and other useful resources. Nation-states are not able to lessen their energy dependency and high-level of energy consumptions. The main challenges of economic development chiefly are related to the redundant utilize of energy resources and not having a relevant agenda regarding energy policy among states. The excess use of energy resources put economic development in jeopardy and causes the uneven distribution and economic inequalities between North and South. In terms of the case of the South community, the mass exploitation of energy resources by regional power led to the lack of access to water sanitation, water supplies, and other natural resources.

Take an example of the nefarious situation stemming from the Post-War reconstruction in Iraq. From the historical background, it is crystal clear that Iraq is one of the major oil-rich countries in the Middle East region, but today, it is false to talk about the energy security and the development, and useful utilization of energy resources in the country due to the lack of secure enforcement measures by the Iraqi government, and alternative policy agendas regarding energy policy of the country, the control of more than half energy resources by Islamic State (ISIS or ISIL) and Iraqi Kurdish people in the provinces of Iraq including Irbil, Kirkuk, Baiji, etc. [6] This kind of challenge only embraces the situation in Iraq, but if we turn to another hemisphere of the world and we can observe that the South is in the murky shadow of uneven economic development and unequal distribution of natural human resources. Today, the materialistic interests and ambitions of states force them to provide their fervent needs regarding energy resources rather than equal

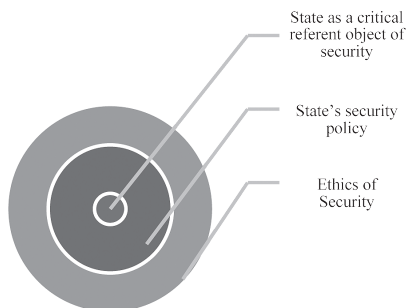
development and distribution of natural resources in marginalized communities.

Energy security today is correlated with the realist and state-centric perspectives focusing on the national interests, power, and security of each state. On the contrary, the critical approach to energy security stems from the adoption of justice, and mainly, rests on restoring the role of marginalized communities and individuals in the global political economy. [7]

Critical approaches to energy security originate from different kinds of ideas and thoughts that concern the environmental issues, energy poverty, the useful exploitation of energy resources, taking new-fangled and alternative agendas, the involvement of new management techniques, etc. In today's globalized world, the environmental security approach has become the friendly-accepted conception regarding the maintenance of energy security within policy circles.

The conception mostly focusses on the emergence of problems regarding environmental and capital resources such as food, the lack of access to water supplies, traditional use of biomass causing challenges, clean air and climate change issues and call upon the states to take more relevant steps and multi-dimensional agendas regarding natural resources, basically the security of energy within their policy circles. From the standpoint of critical analysts, Browning and Mc Donald emphasize three main central elements regarding how to save the energy policy in Figure 2. [8]

Figure 2. The three key elements circle regarding energy policy, by the author



The focal themes given above shed a light on how states can be able to reach a rational and secure energy policy within their policy circle. The circle embraces

[6] Islamic State group: *Crisis in seven charts*, 26 May, 2016, URL: <http://www.bbc.com/news/world-middle-east-27838034>

[7] Floyd, R.–Matthew, R. (2015): *Environmental Security: Approaches and Issues*. London–New York: Routledge, Taylor and Francis Group. Pp. 248–250.

[8] Adam Simpson: *University of South Australia, Challenging Injustice through Critical Approach to Energy security: A central component of Environmental Security*. Pp. 3–4. URL:http://www.auspsa.org.au/sites/default/files/challenging_injustice_adam_simpson.pdf

[8] Adam Simpson: *University of South Australia, Challenging Injustice through Critical Approach to Energy security: A central component of Environmental Security*. Pp. 3–4. URL:http://www.auspsa.org.au/sites/default/files/challenging_injustice_adam_simpson.pdf

certain policy circles in tandem with three central themes. To reach a secure energy policy, from the standpoint of critical analysts, it is crucial to take into account the policy circle. The rational implementation of energy policy is based on the reliable activity of the state who can provide the accommodative approach, progressive outcomes, and reformulation of security conception regarding energy security. The accomplishment of the other points given above only depends on the secure and balanced policy of a state.

One of the well-known critical approaches is based on the Welsh or Aberystwyth School by works of Ken Booth and Richard Wyn Jones who concern with the *emancipation* of human security and *communities* conception. Emancipation is the main conception that the context of it mainly applies to the environmental emancipation, in particular, equality of human resources, increase in the power resources of the people living in poverty condition and the environmentally degraded. [8]

Emancipation is another arm of providing energy security in terms of equally environmental and capital resources in marginalized communities and restoring the role of the poor and putting their activities into practice regarding energy security. Although the definitions and interpretations regarding the environment differ from one another, in general, try to explain the environmental security of natural resources within the community.

One of the prominent critical theories of international relations subjects to the green theory adopted by Jon Barnett whose definition focuses on the environmental degraded people that the uneven development and basically, environmental degradation decelerates the living condition of the poor and threatens their life security as well. Additionally, he argues that the large-scale energy projects in regions have isolated the people and oppressed communities, and shows results in the example of Myanmar. All of these problems stemming from the unequal social rules and structures, material relations among countries that cause environmental human insecurity within the community. According to Andrew Dobson, environmental security and sustainability stand on social justice and morality. As a critical scholar, Litfin emphasizes that environmental unsustainability and insecurity are the consequences of social structures and rules rather than environmental degradation by itself. From another standpoint of environmental studies, Lonergan counters that the conflicts among states, communities, or individuals cause environmental degradation and diminution of natural resources. Therefore, the rising social

inequalities engender mass hysteria and put individual security in jeopardy. In today's world, social justice regarding energy security should have to be based on the equal distribution and shares of natural or human resources among communities by providing *availability, affordability, reliability of energy resources* with which the future sustainability of energy security can be expected.

Nowadays, governments, unfortunately, are eager to answer the questions of the globalization process and try to adopt them on behalf of their interests rather than providing the welfare of their communities in the international system. These kinds of approaches by the states deprive the role of communities and societal individuals of taking part in necessary environmental and social projects. Unlike the realists, critical scholars mainly focus on the abilities of individuals, in particular, the roles and skills of marginalized societies or communities rather than the state-centric approach to secure broad access to rational energy resources for personal and societal needs. According to critical scholar Mulligan, there have long been close relations between environmental and energy security. They have always been interconnected and completed each other sufficiently, and today, energy security has transferred from political or economic security to environmental security. Because of the adverse effects of climate change, environmental degradation forces states to reshape their policy and reform new environmental security conception due to the maintenance of energy security. [7]

Besides, from the prism general security studies, it necessitates drawing the attention on the security conception of Copenhagen School; the *securitization* which should have to be imposed by the enforcement measures of states. Copenhagen School envisages the constructivist approach of *securitization* and prefers to broaden the security conception away from the national militaristic security approaches. The method of Copenhagen School mainly differs from the traditional security studies and chiefly focuses on the discourse and political gathering or assemblage to find out the alternative ways for the securitization issues. The new securitization process of the school-based on a much more constructive approach does embrace not only the national security but also other kinds of security issues, in particular, energy security and does try to give its progressive approaches and offers to achieve the goals regarding finding out the alternative methods on securitization issues. When it comes to energy *securitization*, the main issue is related to the demands and high-level dependency of states on limited energy resources. The process of energy securitization is based on the political behaviors and perceptions of states that how

[7] Floyd, R.–Matthew, R. (2015): *Environmental Security: Approaches and Issues*. London–New York: Routledge, Taylor and Francis Group. Pp. 248–250.

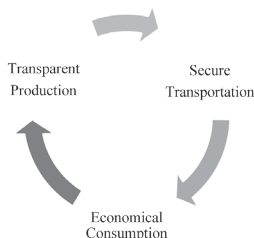
[7] Floyd, R.–Matthew, R. (2015): *Environmental Security: Approaches and Issues*. London–New York: Routledge, Taylor and Francis Group. Pp. 248–250.

[9] Sezen Özcan: *Securitization of Energy through the Lenses of Copenhagen School*. The 2013 WEI International Conference Proceedings, Orlando/USA, URL: <http://www.westeastinstitute.com/wp-content/uploads/2013/04/ORL13-155-Sezer-Ozcan-Full-Paper.pdf>

[10] Energy & Security (2005): Jan H. Kalicki, J. H.–Goldwyn, D. L. (Eds.): *Toward a new foreign policy strategy*. Woodrow Wilson Center Press. Washington D.C.–Baltimore: The Johns Hopkins University Press. Pp. 485–487.

could be better to provide or maintain energy security without causing many adverse effects in the community. The main procedures lie in the stages of transparent production, secure transportation, and economical consumption depicted in *Figure 3* beneath. [9]

Figure 3. shows the interconnected relations between the main stages of energy resources



Today, the emergence of some kinds of challenges and obstacles regarding energy security has arisen a new phenomenon called energy poverty. From this perspective, Ciuta argues that energy poverty causes as a result of contradictions between the trend of increasing energy consumptions and decreasing or limited energy resources. On the one side, growing demands for energy resources, on the other side, limited natural resources caused environmental degradation and insecurity. Energy poverty is that where people have lack access to energy services and at the same time, are unable to access electricity at a materially-necessitated level. These days, most people, almost one-third of them traditionally rely on the over-utilization of biomass for their cooking and heating, and other activities. [7]

The last, but more crucial problem relates to the challenge of climate protection. Today, global climate change as a pivotal agenda envisages the progressive and constructive steps of regional powers. Since the beginning of the Fourth Industrial Revolution, one of the major problems regarding climate change has been the concentrations of carbon dioxide, and emissions of greenhouse gasses that caused the deforestation process and environmental degradation. According to the information of the Intergovernmental Panel on Climate Change (IPCC), if greenhouse gas emissions growth is not changed, global temperatures can be estimated to be between 1.4 and 5.8 C up to 2100. [10]

Climate change is an essential result of an energy problem. Today, the U.S is the major pollutant of the environment because of its mass gas emissions coming from energy-related activities. The Kyoto protocol (11 December 1997) regarding climate change has been signed between major states to decrease the concentration of carbon dioxide and emissions of greenhouse gasses. Unfortunately, the protocol remains in the name and especially, the non-participation of the U.S in this agreement shows the fragility and weaknesses of the Protocol. On the other hand, the protocol is not global, because some countries, in particular, the U.S does not have in mind to fulfill the assignments imposed in the protocol.

It is a strong fact that some kind of alteration in the domestic policies of the U.S has a significant impact on global governance issues, in particular, climate change. During the presidency of George Bush fulfilling the agreement regarding climate change much more difficult issue. The reason why George Bush was not inclined to complete assignments related the climate change was his close relations with the U.S oil industries. Therefore, the implementation of the agreement could have been caused damages to the profits of the U.S industry. Even though Barack Obama proclaimed the last year (2015) as a year of the environment, but the U.S congress's hostile attitude to climate change action impedes to take concrete steps regarding it. [11]

Hence, the challenges regarding the environment stem from energy insecurity. The critical approach has proved that its main concern is about environmental and human insecurity, uneven development, and structural inequalities, mostly the marginalization of the communities in the global system. They focus on the formation of justice, equity, sustainability within society rather than traditional militaristic national approaches by finding out alternative ways to provide energy security. Although the North is in the shadow of severe situations and obstacles, the main concern of critical analysts is the rising problems happening in the South where inequalities, insecurities, and injustice are most overriding. Therefore, today these kinds of critical approaches are badly needed and give the interpretation that today's utilization of traditional energy resources has caused not only environmental insecurity but also economically, socially unsustainability.

[11] O'Brien, R.–Williams, M. (2013): *Global Political Economy: Evolution and Dynamics*. 4th edition, Palgrave–Macmillan. Pp. 295–296.

Azerbaijan as a major energy hub between East and West

Despite the ongoing economic and political crisis and the continuation of the COVID-19 pandemic, Azerbaijan has taken all necessary steps to implement TAP, TANAP, and other global projects. The Southern Gas Corridor project could be seen as a response from the European Union to concerns about the supply of natural gas from Central Asia and the Caspian region to Europe and, most importantly, Russia's dependence on natural gas supplies. With the implementation of the Southern Gas Corridor, Azerbaijani gas will be transported to Europe. This goal can be achieved through the expansion of the South Caucasus Pipeline, the development of the Trans Anatolian Pipeline, and the Trans Adriatic Pipeline. To this end, a Joint Declaration on the Southern Gas Corridor was signed between the European Union and Azerbaijan in Baku in 2011. As a result, significant progress has been made in relations between Azerbaijan and the European Union. If earlier Azerbaijan was seen as a mediating country, now our country is becoming a key player in determining the form and future of the Southern Corridor. It also means that the pipelines will give Azerbaijan more power in its relations with the European Union.

Besides, Azerbaijan has rich energy resources, developed fuel and energy infrastructure and energy systems. Azerbaijan's growing role in the world energy system, its unique place in transnational energy markets, and its active participation in Europe's energy security have a significant impact on its global, regional, geopolitical, and geo-economic position. Taking into account all these factors, the European Union pays special attention to its relations with Azerbaijan. The visit of the President of the European Council Donald Tusk to Azerbaijan on July 9, 2019, is one of the main indicators of this relationship. After meeting with President of the European Council Donald Tusk, President of the Republic of Azerbaijan Ilham Aliyev said: "The Southern Gas Corridor project is being successfully implemented. The East-West and North-South corridors pass through the territory of our country. In turn, Donald Tusk stated: "The European Union and Azerbaijan are getting closer every year.

Our relations are strengthening and the Southern Gas Corridor project unites us. This positive moment should raise our partnership to a higher level, benefit our peoples and accompany Azerbaijan in its reform processes and economic diversification."

For the last four years, meetings of the Southern Gas Corridor Advisory Council have been held annually in Baku at the initiative of Azerbaijan and the European Union. The European Union has been represented at these events at the highest level since 2015. The declaration signed during the second ministerial meeting of the Southern Gas Corridor Consultative Council in Baku on February 29, 2016, emphasizes the need for long-term strategic cooperation between energy producers, transit countries, and consumers to ensure the reliable, secure, and sustainable supply of European markets to Azerbaijani energy carriers. development and deepening of relations.

The “Contract of the Century” is the core of Azerbaijan’s energy policy. At the time the agreement was signed on September 20, 1994, Azerbaijan was virtually in a state of political and economic blockade. In this difficult situation, President Heydar Aliyev managed to convince eleven foreign oil companies from seven countries to invest in a young state that has just gained independence. For the first time in history, foreign companies began to participate in the development of oil and gas fields in the Caspian Sea. The “Contract of the Century” demonstrated that Azerbaijan is a country open to the world. During this period, Azerbaijan’s new oil strategy and its doctrine began successfully. [12]

As a result, the Southern Gas Corridor project will remain the EU’s main energy and geopolitical initiative, and Azerbaijan is always interested in exporting its gas to the EU. Following the successful completion of the Trans-Adriatic Pipeline (TAP), the last segment of the Southern Gas Corridor project, natural gas from the Shah Deniz 2 field reached Italy via TAP on 31 December 2020. The pipeline has a feature known as “physical reverse flow”, which allows gas from Italy to reach Southeast Europe if the energy-producing pipeline is disrupted or more pipelines are required. Two more new compressor stations are needed to enable TAP to expand its capacity to 20 billion cubic meters (bm): a new one near Serres, Greece, and another in Bilisht, Albania, where TAP will be converted into existing metering stations. , installation of additional turbo compressors. Along the route, TAP can facilitate communication with some existing and proposed pipelines. This design will allow the Southern Gas Corridor to be supplied to many different energy markets. This could allow Caspian gas to be delivered to managers in Southeast, Central, and Western Europe in the future. [13]

Europe will strengthen its energy security by acquiring natural gas from a new source via an alternative route. The decline in production within Europe creates a need for additional volumes of gas in the market, and Azerbaijani gas will help meet this need. Thus, the importance of Azerbaijan for the old continent will increase. [14] TAP will create great economic and strategic opportunities for Azerbaijan. The implementation of the second phase of the Shah Deniz field, located in the Azerbaijani sector of the Caspian Sea, will pave the way for Azerbaijan to play an important role in the world gas market in the future. The annual increase in gas production provides the country with both domestic demand and access to new export markets. It should be noted that with the implementation of the Shah Deniz-2 project, gas production in Azerbaijan has increased by 12.5% over the past

[12] Contract of the Century (2020): URL: <https://minenergy.gov.az/en/neft/esrin-muqavilesi>

[13] TAP route and infrastructure, (2020). URL: <https://www.tap-ag.com/infrastructure-operation/tap-route-and-infrastructure>

[14] The first gas was delivered to Europe via the Southern Gas Corridor, (2020). URL: <http://socar.az/socar/az/news-and-media/news-archives/news-archives/id/11515>

[15] Ilham Aliyev attended the opening ceremony of the European section of the TANAP gas pipeline in the Turkish town of Ipsala, (2019). URL: <https://president.az/articles/35054>

five years. Thus, in the first half of this year in Azerbaijan 17.3 billion cubic meters of gas was produced, compared to 15.4 billion cubic meters in the same period last year. In 2018, the country had 30.6 billion cubic meters of gas produced, which is 7.1% more than in 2017. According to forecasts, at the end of 2019, the country's total gas production increased by 20%. [15]

To sum up, Europe's demand for natural gas is growing. The only new source of energy to meet this demand is Azerbaijan: "All other sources that currently supply Europe with gas are being used. Azerbaijan is a new source, located nearby, has large reserves, and has enough potential for decades to come. At present, Azerbaijan's share in the oil supply of some EU member states is 25–30 percent. This means that our country has a decisive role in ensuring Europe's energy security. It is also important to pay attention to the role of energy security in the geopolitical security of the region. By creating an environment of reliable cooperation in the region, Azerbaijan is serving the security of the region. Thus, as a result of Azerbaijan's efforts, the South Caucasus region is becoming an arena of useful partnership, not geopolitical contradictions.

Azerbaijan's role in European energy security

Azerbaijan's energy policy is a strategic factor in strengthening security in the region. The increase in mutual investment, the introduction of new cooperation platforms, the transportation of energy resources, and hydrocarbon resources on convenient and safe routes are the fruitful results of current cooperation at the regional level. Undoubtedly, Azerbaijan's political will and determination have played a role in the projects implemented in the region so far and have given impetus to cooperation. On the other hand, Azerbaijan prefers a diversified transportation system for the export of energy resources – a diversified supply and is considered a reliable strategic partner by the world's leading countries. Independent energy policy further strengthens our country's position in the international arena, as well as the geostrategic security of the region and subregional geography.

At the same time, Azerbaijan's effective energy policy, along with identifying new platforms for cooperation, makes a strategic contribution to the enrichment of the energy map of Eurasia.

Overall, the energy partnership with Azerbaijan, which makes significant contributions to regional and international security, promises significant strategic dividends, and is highly valued in terms of a multifaceted partnership. Because Azerbaijan's pragmatic energy policy is important for the leading countries that pay special attention to energy security at the regional and global levels. On the other hand, Azerbaijan's balanced foreign policy strategy makes a direct contribution to ensuring the political and economic, as well as energy security of the region. It is no coincidence that today the world's leading states and organizations call Azerbaijan the guarantor of security and development of the South Caucasus. Thus, the world community appreciates the political significance of Azerbaijan, recognizes the great value of our country as an invaluable partner in the field of energy security in the South Caucasus and the Caspian region.

The geostrategic, political, and economic significance of energy projects implemented at the initiative and with the participation of Azerbaijan is highly valued at the international level. Because the strategic course pursued by Azerbaijan in this area is also of exceptional importance in terms of ensuring energy security and national interests of the countries cooperating with our country. In this regard, the ongoing Southern Gas Corridor project is of great importance. Speaking at the opening of the XXVI International Caspian Oil and Gas Exhibition and Conference 2017, as well as the IX Caspian International Energy and Alternative Energy Exhibition, President Ilham Aliyev said that the realization of the Southern Gas Corridor is a historic event. is of great importance for other countries. Many important steps have been taken for the realization of the Southern Gas Corridor, and, of course, international cooperation has a special place here. Because without large-scale international cooperation, it would not be possible to implement this huge project. [16]

Azerbaijani-Turkish energy projects are very important for the diversification of European gas supplies and routes. Azerbaijani natural gas has already been transported to Turkey via the TANAP gas pipeline. With the commissioning of the second phase of the TAP project, natural gas from the Caspian Sea has been exporting to the European market since the end of 2020. TANAP and TAP energy projects have further increased the strategic importance of Azerbaijan and Turkey in the region. TANAP connects from the route of Azerbaijan, Georgia, Turkey to Europe – the TAP line, and, of course, the countries along the route of Bulgaria, Greece, Macedonia, Albania, Serbia, Bosnia, and Herzegovina also benefit from it. [17]

[16] Azerbaijan's Energy Security Policy, (2019). URL: <https://www.tespam.org/az%C9%99baycanin-enerji-t%C9%99hluk%C9%99sizliyi-siyas%C9%99ti/jsf?bid=CBO9780511664267>

[17] Azerbaijani gas will breathe new life into the European market, (2019). URL: <https://apa.az/az/iqtisadi-xeberler/azerbaycan-qazi-avropa-bazarina-yeni-nefes-verecek-544564>

[18] TAP Starts Transporting First Gas, (2020). URL: https://www.azernews.az/oil_and_gas/174574.html

While taking all these steps, it should be emphasized that this is a regional project, a peace project. TAP will facilitate gas supplies to Southeast European countries through promising connectors. In particular, Bulgaria will be able to meet 33% of total gas demand through TAP after the completion of Interconnector Greece Bulgaria (IGB). [18] Along with TAP's performances in Greece and Albania, the landscape in Italy offers numerous opportunities to transport gas from Azerbaijan to wider European markets. TAP, a key part of the Southern Gas Corridor, is strategically and economically necessary for Europe and provides reliable access to new natural gas sources. TAP plays a pivotal role in enhancing Europe's energy security, supply diversification, and decarbonization targets.

As a result of the launch of the Southern Gas Corridor, Azerbaijan will become a leading energy country in the region. Energy revenues from the sale of natural gas will stimulate the development of other sectors of the economy. In this sense, the main priority for the country is to develop the non-oil sector. All projects show that Azerbaijan successfully implements energy policy, promotes regional cooperation, and takes the right steps to further strengthen the national economy.

Conclusion

Nowadays, the number of conflicting processes in the world has increased significantly. Even the smallest event can resonate in such a large space. In this context, if official Baku can play a key role in ensuring the energy security of not only the South Caucasus but also Europe, it is a great achievement. It can be said that additional opportunities have emerged for Azerbaijan in the context of discussions between the European Union and Russia on the fate of energy relations. The Southern Gas Corridor does not include only gas produced in Azerbaijan. Central Asia and Iran can also join it. On the other hand, the fact that the project envisages the delivery of gas to Turkey does not mean that sales can be made only in that country. The opportunities of different European countries, the Middle East, and North Africa must be taken into account here. The question is how the West wants to cooperate with Russia in the field of energy. Moscow can deliver gas to the Greek border and build a hub there.

However, this does not mean that Europeans will benefit from it. Experience shows that Europe can move in a different direction in some cases. From this point of view, Azerbaijan looks luckier.

Turkey factor also plays an important role here. Ankara attaches great importance to the issue of Azerbaijan. Another issue is that the price of energy can change due to the processes taking place in the world. In any case, it must be accepted that there will be no difficulties in selling Azerbaijani gas through Turkey. It should be noted that in this process, Turkey has a good chance to move towards favorable geopolitical horizons. It is on an energy route from Russia and Azerbaijan. Using this, Turkey can maneuver in various aspects. The main factor is the full compliance of the energy policy pursued by official Baku with the strategic interests of the state. There is a close connection between all aspects of the multi-vector foreign policy course, which allows for flexible maneuvers in any change. From this point of view, Azerbaijan's export of energy carriers also provides an opportunity to ensure the geopolitical interests of the state.

Let's make the electric grid sustainable!

Abstract: As energy generation contribution is dominant in CO₂ production, which concentration is doubtlessly responsible for greenhouse effect, this fact has to be key motivation for transformation of energy generation and energy utilization technologies. In recent times we have always arguments – pros and contras – concerning energy resources technologies. Even daily practicing professionals have no enough information to be able to decide whether a certain resource is promising, advanced and sustainable, or not. The typical solutions is that professionals decide according to their professional area and explaining the advantages of their own favourite technology which is based on daily practice but there is no scientific background of their decisions. First, it is essential to have a usable definition of SUSTAINABILITY. Then, when we know the specification of sustainable energy we can start to classify available current or design promising new resources. Good energy which is able to realize sustainable energy system. System view and comprehensive view of overall energy system is crucial.

Keywords: RES; SmartGrid; National SmartGrid Technology Institute; national sustainability governance; global governance.

Összefoglalás: Mivel az energiatermelés – amely kétségtelenül felelős az üvegházhatásért – hozzájárulása domináns a CO₂-termelésben, ennek a ténynek kell kulcsfontosságú motivációs tényezővé válnia az energiatermelési és energiateljesítési technológiák előttünk álló átalakításában. Az utóbbi időben mindig rendelkezünk jó érvekkel – pro és kontra – az energiaforrások technológiáival kapcsolatosan. Mindezek mellett még a napi gyakorló szakembereknek sincs elegendő információjuk ahhoz, hogy el tudják dönteni, hogy egy bizonyos energiaforrás ígéretes, előnyös és fenntartható-e vagy sem. A tipikus megoldás általában az szokott lenni, hogy a szakemberek szakmai területüknek megfelelően döntenek, és priorizálják saját kedvenc technológiá-

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jük előnyeit, amely valós napi gyakorlatra épül, de döntéseiknek nincs tudományos háttere. Mindenekelőtt elengedhetetlen tisztázni a FENNTARTHATÓSÁG gyakorlatban is használható definícióját. Miután már ismerjük a fenntartható energia meghatározását, elkezdhetjük osztályozni a már rendelkezésre álló energiaforrásokat, vagy ennek figyelembevételével tervezhetjük meg az ígéretes jövőbeli erőforrásokat. Jó energia az, amely képes megvalósítani a fenntarthatósági kritériumokat teljesítő villamosenergia rendszert. A rendszerszemlélet és a teljes energiarendszer átfogó áttekintése elengedhetetlen ennek meghatározásához. **Kulcsszavak:** Megújuló energiaforrások (RES); intelligens energiahálózat; Nemzeti SmartGrid Technológiai Intézet; nemzeti fenntarthatósági kormányzás; globális kormányzás.

Intorduction

The old ruling social class is not able to live, the upcoming and just forming ruling new social class don't want to live on the same way as it is currently operating. I remember from school: This is the definition of revolution.

A revolution is just starting right now. Revolution in society, revolution in global thinking, revolution in each aspects of our relation to Biosphere we are living in.

And it will change our life: Each element will be affected. Lifestyle, learning habits, context of cooperation, nation, transportation, and "life" word content itself will all meaning be exchanged, redefined. This new age will be much more human, tolerant, common mindset and full of solidarity.

I would be happy to see all of you to be on board of new society and I would kindly advise all people to start immediate and drastic turn in *non-circular CO₂ emission eradication* and its' technologies.

Definition of Sustainability

A Everything we are doing has effect on Biosphere. Sustainable operation doesn't change the ecosystem's basic subsystems' operation and living system's future conditions in 10000 years perspective.

Technological aspects of climate change

It is quite proven fact that global warming and related consequences were caused by human activity started at industrial revolution in 18th Century. As everything which caused current issues in Biosphere

was made by industrial activities or – being more specific – by technologies, it looks quite obvious to make total technology audit from climate, sustainability and environmental protection points in all working technologies of our current production potential. The most polluting economics areas are energy generation (and use) and transportation. If we consider energy use within energy generation issue as comprehensive term then transportation belongs massively to energy generation issue. That's why we are going to focus on energy related technologies very much when we are discussing sustainability threats and concerns.

New technologies availability

Technology is the fastest developing component of our developing world. Each 2–2.5 years IT doubles the computer speeds and capacities in line with the stored digital information increasing speed. After 4–5 years a certain software and hardware seems to be rather old-fashioned or out of date. IT, bio- and nanotechnology and life sciences have the highest number of patents each year. We have the feeling that everything can be realized by technology, even the sci-fi movies amazing technical gadgets and effects we had in the last 2–3–4 decades as conceptual examples. The only question is the supporting money and human (engineering) resource availability to realize any forecasted or visionized technical device or object, like flying humans, laser weapons, space shuttles, moon-bases and bionic bodies or just body parts. And list may be extended day-by-day as new ideas and new fictions are popping up.

Related to the advanced technologies, human characteristics and mental performance of human race (EQ and IQ) is not as much developed as technology. Human brain and intelligence, the physical operation of human memory and nerves and its higher order rearrangement (-> intelligence) principles are still grey or black areas for science. Even the behavior explanation, analysis and modeling is difficult and less general and less comprehensive. We humans feel the best this contradiction between fast development technologies vs. human stone age thinking...

Statement 22. Mankind is able to develop any kind of technology or solution within realistic timeframe for any technical or physical problem. The knowledge and technology itself is not limitation in problem-solving. [1]

[1] István Szabó:
S.O.S.tainability Book.
(2015) www.sostainability.com
Statements are numbered by book titled „S.O.S.tainability”.

[1] István Szabó:
S.O.S.tainability Book.
(2015) www.sostainability.com
Statements are numbered by book titled „S.O.S.tainability”.

Statement 23. Climate change is a physical process and it can be controlled by technology. [1]

We can safely state here: Technology availability is given or it will be ensured within limited time. Technology is available on-demand and it is available now, or if not available immediately then Mankind is able to develop it within acceptable timeline. The missing technology or missing other material or immaterial resource (like money, human resource, expertise, knowledge, etc.) is not an explanation why not to do a certain development and it cannot be used as an excuse in combat against climate change, in environmental technologies or in current technologies transformation to sustainable ones.

The complexity of modeling climate change

Biosphere is an infinitesimally complex living system. Just to make this complexity more tangible a simple weather prediction causes headache for meteorologists but weather is just a small 1 dimensional slice of the overall multi-dimensional Biosphere system model. And only the meteorological calculations have dozens of models and computers arsenals to deliver precise enough weather reports day after day. And in spite of these tools and 100 years history and professional experience of weather forecasting it is quite common to have false or – to be little more polite – not 100% reliable forecasts and uncertain longer term predictions. What could be the reason? The complexity of calculations and modeling limitations.

When we talk about Biosphere we should consider mutually interactive biophysical ecosystem including seas with its fauna, the atmosphere, the living soil and the photosynthetic green-mass represented by trees and other plants all over the world. These all with mutual interaction form too complicated system together for modeling or even just to understand the overall operation of these cooperating systems.

When we want to calculate for instance evaporation of Big Lakes (which obviously seems to be far simpler than modeling Biosphere), this calculation would be more complex and more difficult that we could manage. We may find good models for the evaporation at laboratory environment, and we could apply this model for the

surface of the big Lakes, but how to find the exact data of temperature, wind-speed, sunbeam intensity and other parameters might influence on the evaporation efficiency. Even we should consider temperature of the air and water as well, not to mention the issue of the place we would like to apply the formula and each local area (for e.g. 1 m^2 surface resolution of the Big Lakes) evaporation should be calculated with the proper registered air and water temperature of the selected square meter surface with proper wind-speed data, then all surface should be added and then we will have a quite good number of evaporated water data for Big Lakes. The Big Lakes surface represents the $1/10000000$ part of the Earth surface. If we need the result for the Big Lakes, and all data is available somehow in a database of our computer, it may take hours to have the final result. Then 1000000 times more surface calculation needs few million hours to get the final data.

Fine. But then we should calculate with calculated evaporation data the air flow and follow the vapor content in the air Worldwide. Just to remember, 10 million hours is about 1100 years, we may do faster the calculation with faster computer or cloud computing or any kind of innovative computing technology having higher calculation capacities. But then we have result with supercomputing methods in 10 hours. It is OK. Meanwhile the temperature dramatically has been changed, wind-speed and other parameters, too. Before we could follow the vapor content in the air Worldwide, the data we got is totally useless, so the only good solution was to have online, instant data and instant calculations for the further calculations. But how to realize this calculation online/immediately?

How to accelerate the calculations to have faster data? Let's reduce the surface resolution, instead of 1 m^2 let's use 1 km^2 data grid. Then it means the data represents 1000000 times higher area. It may accelerate calculations 1000000 times. We may have fast enough data with supercomputers. But then either accuracy of the calculation is getting worse as within $1000 \text{ m} \times 1000 \text{ m}$ area the temperature and even the sunbeam intensity and wind-speed can be different, and we can have still a good calculation for Big Lakes and surrounding area. What about the other area of the World? For me it looks hopeless task to be managed. Modeling is always a compromise. The accuracy and the resolution or covered calculation area as parameters are always against each-other. Problem is finite. But we are not able to handle this issue with absolute perfection.

And we are still talking on weather reports and forecasts, only. The Biosphere monitoring requires even more parameters watched continuously (online) and Worldwide. When we are going to use all satellites orbiting around the Earth for monitoring, measurements of climate parameters then there was a serious chance to have good and fast input data for a global pseudo-online weather forecasting and global climate calculation system. I assume the required calculation supercomputing capacities would be available to online data processing. Then these computing capacities would be freed from military applications as well as from FOREX trading automation systems. Sounds quite utopist and unfeasible. Now I believe the calculation and modeling issues and deepness of the weather forecasting was presented above. I think it

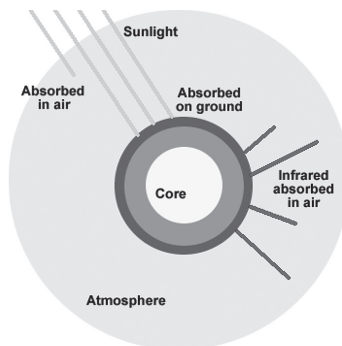
[2] *Simple Models of Climate*, <http://www.aip.org/history/climate/simple.htm>

was more than enough to convince You about the key problem of the calculation and modeling technics: We are simply not able to process the minimum required amount of data to have a good and worldwide operating, online forecasting system. The key modeling parameters are depending mutually from dozens of other parameters, and vice-versa, so the modeling may not be fast and precise enough to have continuous (online-like) process-model and online displayable key parameters.

1st Taylor model

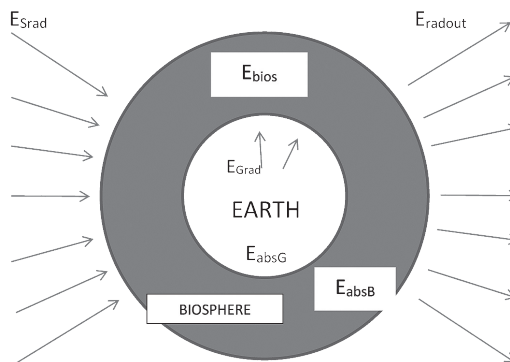
This Biosphere energy model must be as simple as possible but must be still comprehensive. The energy balance sheet should be created for the atmosphere we are living in, from the ground level till up to the end of stratosphere.

This energy balance calculation was many times in the past in focus [2], but more and more physical side effect and cross-coupling effect were considered in model evolution and the “super-comprehensive models” became so complex at the end scientists couldn’t do their calculations within finite and still usable timeframe. There were many other problems with available weather databases as input data as well as accuracy of modeling and computing capacities.



As our issue is not to develop a comprehensive climate model, but our aim is to clearly decide if climate issue is a real problem or forgettable fiction. *Figure 1.* show the atmosphere energy balance model.

Figure 1. 1st Taylor model – The atmosphere's energy balance



The system is stable when energy housekeeping is balanced. The atmosphere energy change is zero.

$$\Delta E_{\text{absB}} = \sum E_{\text{rad}} - \sum E_{\text{radout}} = 0; E_{\text{absG}} = \text{const}; E_{\text{absB}} = \text{const. } E_{\text{absB}} = E_{\text{absBan}}$$

Then the weather conditions energy carriers like wind, temperature and other energies absorbed in Biosphere are unchanged. Let's call this as ancient Biosphere energy state which is represented by E_{absBan} . Situation changes when energy balance changes.

$$\sum E_{\text{rad}} - \sum E_{\text{radout}} \neq 0; \Delta E_{\text{absB}} \neq 0; E_{\text{absB}} \neq \text{const.}$$

Then the energy balance is not unchanged and E_{absB} energy absorbed in Biosphere is not constant anymore. Ancient Biosphere energy state is over.

$$E_{\text{absBnew}} = E_{\text{absBan}} + \Delta E_{\text{absB}}$$

As direct consequence of this change that some parameters will change then in Biosphere. What kind of parameters? Every physical effect, material may convey energy inside Biosphere system.

What is the current situation? Let's describe it with 1st Taylor model!

[3] Spencer Wean:
*„The discovery of
Global Warming:
The carbon dioxide
Greenhouse Effect”*.
2011 february, [http://
www.aip.org/history/
climate/co2.htm](http://www.aip.org/history/climate/co2.htm)

Greenhouse effect on Earth is caused by carbon dioxide and other GHG gases.
[3] Everybody knows the Greenhouse effect term as maybe babies take it as first word in their lives as it comes from the water tap, too. Climate Skeptics deny the global warming effect of GHG gases, and/or the overall energy balance increasing, however we take greenhouse effect caused by GHG gases as proven scientific fact and most significant root-cause of the global warming and climate change. The long wave infrared radiations are captured by GHG gases and it changes the energy balance as described above in Biosphere:

$$\Sigma E_{\text{rad}} - \Sigma E_{\text{radout}} \neq 0; \Delta E_{\text{absB}} \neq 0; E_{\text{absB}} \neq \text{const.}$$

This case $\Sigma E_{\text{rad}} = \text{const.}$

But $\Sigma E_{\text{radout}} \neq \text{const.}$; Radiated energy leaving Biosphere to space is reduced as energy is captured in Biosphere, $\Delta E_{\text{radout}} \leq 0$ and $\Delta E_{\text{absB}} \geq 0$, thus

E_{absB} increased by the energy captured by GHG gases. The atmosphere's absorbed energy increased which appears as kinetic, static electric and thermal energy.

$$\Delta E_{\text{absB}} = \Delta E_{\text{kin}} + \Delta E_{\text{electric}} + \Delta E_{\text{therm}} \geq 0;$$

then, based on concerning energies correlation, it is highly probably

$$\Delta E_{\text{kin}} \geq 0 \text{ and } \Delta E_{\text{electric}} \geq 0 \text{ and } \Delta E_{\text{therm}} \geq 0;$$

This means temperature will be increased by CO_2 concentration as well as weather conditions will be worse and worse as absorbed energy in Biosphere increases. More windy and thunderstorm-like weather characteristics will be common in the very next future and this trend will continue, as number of extreme meteorological events will increase typically by time.

There is another effect we must consider. The Biosphere energy depends on E_{Grad} as well. This is a well-known ground heat, the heat energy stored inside the Earth under the tectonic plates of the continents we have thousands degrees hot lava material (magma) and this heat comes through the tectonic plates and makes the

Biosphere heated up. Normally the heating power depends on the location but values vary between 0,01... 0,2 W/m² typical value is 50mW/m². This EGrad was already every cases considered in our calculation model as

$$\Sigma E_{\text{rad}} = E_{\text{Srad}} + E_{\text{Grad}}$$

The situation may change when we use the heat from the deep ground and we release this heat faster to atmosphere than normal ground heat radiation. Then this heat appears as extra heat-pollution and heats up the air in atmosphere. What I would like to say here is in spite heat pump heating system is considered as environmental friendly solution the use up of ground heat very fast is not sustainable solution thus according to my view this geothermal energy mining technology is not preferred technology for the next generations.

Sorry to say, and I am quite convinced that most of the renewable energy experts will be disappointed, the **geothermal heat mining is not sustainable** solution. This is not the only disappointing conclusion what we have now. We'll have more similar findings later on.

Heat-pollution as new term and new element of global warming (and Global Warning) appeared.

Each case when we generate energy from E_{absG} like ground heat or absorbed chemical or nuclear or thermonuclear energy which energy is laying inside the ground as absorbed energy and we mine these energies and materials out from the ground and with any kind of technology we burn out these energies from ground, in parallel releasing the energy after all use to atmosphere in order to generate electrical and heat energy, we generate with these energy pure heat-pollution.

Sorry to say, unexpectedly not only fossil fuels as coal, gas and mineral oil belong to these materials and energies but geothermal, nuclear energy and even the thermonuclear energy (!) as well.

Heat-pollution causes global warming as well, not only greenhouse effect and GHG gases are the only reason of climate change. So after all, discussion of CO₂ effect on global warming between skeptics and non-skeptics is not the only relevant question. The Globe and atmosphere must be considered in one united comprehensive model and global warming shouldn't be questioned as this phenomenon is proven and measured well and the question now is how to overtake the forthcoming risky turning curves with our "rocket-speedy aircraft" (*Figure 2.*). The „Future Savers" and „Genesis Knights" must focus on the measured values more than theoretical (never-ending) discussions. Which measures show clear warming and the value changes unfortunately are still accelerating...

Figure 2. Turning back the CO₂ curve will be an extremely huge task and effort for Humanity



So there are 2 main reasons why the temperature increases as well as the weather has strange phenomenon nowadays. Greenhouse effect and heat-pollution. Heat-pollution is not as critical as GHG gases' concentration increasing. Unfortunately, both effects are still boosting the Global Warming. Heat-pollution may be more and even dangerously significant after fusion energy production steps in into the energy generation mix.

$$E_{\text{absBnew}} = E_{\text{absBan}} + \Delta E_{\text{absBCO}_2} + \Delta E_{\text{absBHp}} \quad (\text{CO}_2 \text{ part and heat-pollution part of Biosphere's absorbed energy})$$

$$\Delta E_{\text{absBCO}_2} \geq 0 \text{ and } \Delta E_{\text{absBHp}} \geq 0 \text{ thus}$$

$$\Delta E_{\text{absB}} = \Delta E_{\text{absBCO}_2} + \Delta E_{\text{absBHp}} \geq 0 \text{ and therefore}$$

$$\Delta E_{\text{absB}} = \Delta E_{\text{kin}} + \Delta E_{\text{electric}} + \Delta E_{\text{therm}} \geq 0;$$

then based on concerning energies correlation, it is highly probably

$$\Delta E_{\text{kin}} \geq 0 \text{ and } \Delta E_{\text{electric}} \geq 0 \text{ and } \Delta E_{\text{therm}} \geq 0;$$

This means the situation is even worse than to have Greenhouse effect alone, heat-pollution this time is not significant level related to GHG related energies. But surely we are facing synergic over-energizing of atmosphere and even faster changes we are facing. Moreover, from sustainability point of view the actual debate if there was Greenhouse effect-caused climate change is senseless and the only question and

the only solution is what to do in order to have sustainable energy generation and energy consumption. No heat-pollution is allowed in current state of the Biosphere.

I would like to highlight some limitations here about electrical cars which promise CO₂ free operation, or no CO₂ emission at all, etc. If the electrical energy is generated from absorbed ground energy (EabsG) then during heat-> electrical energy conversion there is an additional heat-pollution realized by using electric cars. Its stored electrical energy causes still heat-pollution at the end. Moreover, if the electrical energy is generated by fossil fuels, electrical car causes similar CO₂ emission as car would have made with Otto engine. The emission is done in power plant at energy generation in front, and not inside the engine-room of the car. But we burn the fossil energy carrier and it causes CO₂ emission at the end of the process.

However, the general use of electromotion systems are beneficial for society. For CO₂-less and heat-pollution-free electro-mobility the electrical energy in power system must be generated by 100% renewable systems. Huge difference between fossil fuels and nuclear/fusion generation is the nuclear/fusion fuel doesn't create CO₂ (a little advantage) but releases identical heat-pollution at the end, roughly 2 times more power than generated electrical energy, which is heating Biosphere.

Statement 25. Electromotion systems can be CO₂-free and heat-pollution free only if the electrical energy generated by 100% renewable energy. [1]

Sustainable energy system considerations

The “finger rule” what has to be used for sustainable energy generation in the next societies is energy must be generated with renewable energy technology, exclusively. And, unfortunately, heat pump heating, geothermal energy mining and usage as well as nuclear energy generation are not sustainable energy systems in my above introduced sustainable system context. What a surprise for experts...I do really hope these new approaches will help everyone to understand what we are doing with our Globe and the examples will show the right way of thinking about our home and with this changes mindset we may change our world accordingly.

As thermonuclear reactor doesn't emit CO₂ but releases heat-pollution into lower atmosphere, will the anticipated fusion reactor bring the paradise in energetics?

[1] István Szabó:
S.O.S.tainability Book.
(2015) www.sostainability.com
Statements are numbered by book titled „S.O.S.tainability”.

[1] István Szabó:
S.O.S.tainability Book.
 (2015) www.sostainability.com
 Statements are numbered by book titled „S.O.S.tainability”.

[4] incorporated symbol of infinity $\rightarrow \infty$

[5] Power Plant

Answer is: Conditionally, limited way. Based on our sustainability definition, this fusion-type reactor will not be sustainable, and in spite most of the experts are waiting for the energy-Canaan will be brought by fusion reactor technology around 2040–2050, this won't be “good enough” to be used limitlessly for future energy systems and for future societies. The reactor and electric energy generation should be realized out of Biosphere in order not to heat up the environment in our closed Biosphere. The reactor, turbine and electrical generators should be installed in outer space in order to have the pure generated electrical energy, only. And avoiding of heat-pollution.

But even we put thermonuclear plants to outer space, the energy we generate will not be the part of the Biosphere system, E_{absB} and sum of $E_{\text{absB}} + E_{\text{absG}}$ will increase with additional outer energy import. Which still will increase atmosphere's energetic balance similar way as current global warming. I highlight again the reason is the heat-pollution and additionally energized Biosphere which shouldn't be allowed, neither in the next advanced societies.

Beyond extra energy pollution, any other physical pollution must be minimized for sustainable future. This must be kept always in mind.

Statement 26. From sustainability point the only “good” energy is renewable energy (in other wording “GOD” energy, or “good” [4] energy). It doesn't include geothermal, nuclear, thermonuclear and traditional fossil energy carriers' generated energies. [1]

These “renewables” are coming from Sun PP [5], from wind PP, from sea-side tide /wave-driven and dam-boosted water PPs as well as from “fast cycle „fossil” fuels” or in most common name: biofuels which integrate sun energy carried in their content material. If we consider these elements in the listing, each energy is coming after all from Sun and its thermonuclear energy. The traditional fossil fuels are coming from the Sun energy as well. The difference between traditional and biofuels is the speed of creation/production time, in more fashionable form, biofuels' lifecycle is much shorter. If we had few millions years to wait for the recycling of traditional fossil fuels, then we might say, ok, these are sustainable ones, as well. But unfortunately, we have no few million year time-frame to recycle these, we have no fossil fuels for the next few million years available, so the consumption of these materials are extremely fast related to creation lifecycle speed. To call these energy carriers as renewable ones is nonsense.

This “*fast cycle fossil fuels*” term integrates not only rape based biodiesel oil or corn based bioethanol as these come first into our mind, but all kind of biomass fuels, composts, biogases and natural based materials like paper, tree, tree-coal, straw, recycled and selected communal waste biomass, etc. The only criteria is reproducing time should be limited, like one or few years or similar human scale time period and it must be originated from Biosphere system circular operation.

Statement 27. Sustainable power generation technological circle is CO₂ neutral and heat-pollution-neutral process. This process is key element of circular economy. [1]

In this chemical circle process trees and other plants may be defined as “CO₂ recycling machines” and energy plants as biofuels may be energy fuels of a sustainable power plant. With burning these biofuels, the energy can be used same way as now in a coal or gas powered power plant, heat-pollution doesn’t matter anymore, but CO₂ as the waste product of burning will be recycled by trees. Trees, alias CO₂ recycling machines will be later the next technological circle’s biofuel. Trees must be replanted after the use up as biofuels. And so on... Circular energy generation technology will work till the end of times... without any trouble. But:

We desperately need to involve “CO₂ recycling machines” as integral part of the sustainable energy system. And we arrived to one key message of this book. Tree planting, tree planting and tree planting! This technological circle shows the importance of organic natural land and efficient and responsible agricultural production.

SUSTAINABILITY SCHEME OF ELECTRIC ENERGY GENERATION SYSTEMS

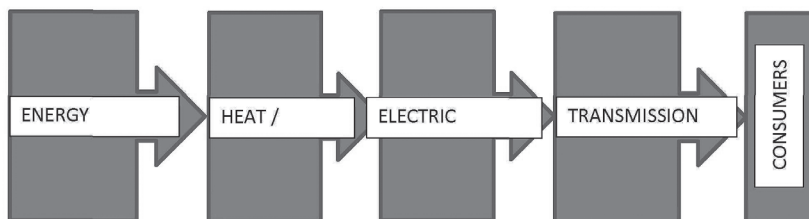


Table 1. This table shows technology benchmark from sustainability point for energy generation technologies

SYSTEM	GHE GREENHOUSE EFFECT	HEAT-> ELECTRIC ENERGY CONVERSION Heat-pollution	TRANSMISSION DISTRIBUTION Heat-pollution	CONSUMER Heat-pollution
fast cycle 'fossil' fuel (biomass, biodiesel, straw, wood, paper, etc.)	CO ₂ neutral	no HP (when production is circular)	no HP (when production is circular)	no HP (when production is circular)
Solar plant	CO ₂ neutral	no HP	no HP	no HP
Geothermal plant	CO ₂ neutral	HP	HP	HP
Water dam plant	CO ₂ neutral	no HP	no HP	no HP
coal gas oil plant	CO ₂ +GHE	HP	HP	HP
wind turbine	CO ₂ neutral	no HP	no HP	no HP
Nuclear power plant	CO ₂ neutral	HP	HP	HP
Thermonuclear	CO ₂ neutral	HP	HP	HP

Source: Author's edition

Energy consumption vs. global temperature change

As the energies we consume comes major part from absorbed energies of Earth (E_{absG}) this released energy will appear in Biosphere as energy pollution.

This energy pollution – beyond CO₂ pollution – is not visible as dust pollution, or oil spills on seawater surface. The CO₂ pollution is discussed in previous section, we focus now on the absorbed ground energy released into the atmosphere as heat-pollution.

The global energy consumption is about $6 \cdot 10^{20}$ J annually. [6] More than 80% of this sum generated by non-renewable energy carrier which heats up Biosphere. Sunbeam delivers to Earth's atmosphere $173 \cdot 10^{15}$ W power each moment and this annual 600.000 PJ amount of energy delivered at every hours to the Earth. It means that ~ 9000 times this annual and actual average energy consumption is delivered to the Earth by the Sun itself.

There is the effect of heat-pollution. It looks very infinitesimal amount now but can force losing the control upon Biosphere physical and thermal balance first locally and at last globally. As this heat-pollution released on low atmosphere, the effect appears close to the ground level where we all live and we feel. Relatively small release can cause relatively big local thermal balance disturbances. Currently approximately 480.000 PJ waste heat loads atmosphere annually. It is equal to 15 TW continuous heating power.

The 15 TW global energy heat-pollution doesn't look significant beside Sunbeam's 173.000 TW heating power. It is highly probable Biosphere internal regulation systems can handle easily the infinitesimal surplus energy released into the air as heat-pollution. However, we have to admit it is better to avoid of any extra excitement or unnecessary energizing in atmosphere.

[6] Estimation based on Wikipedia data: https://en.wikipedia.org/wiki/World_energy_consumption

Conclusion

What we discussed in this paper is the energy generation and consumption effects vs. global warming and sustainability in general. As a conclusion, global warming is detected as up to now climate change signs are getting more and more obvious and the change speed is still accelerating. We are still at the initial phases of changes and processes look non-returnable and unstoppable at the moment.

We are in real trouble as never before. The human activities and behaviors caused trouble must be remedy by human activities and by sustainable technologies. It is desirable to avoid of every pollutions and contaminations and we'd do better to start immediate activities forming a sustainable future for our civilization.

Practically on the energetics field it means that all „countries” must have to set up a high-end technological and governing institution as a „knowledge base” and „mastermind” to be able to keep under control the Energy related, more exactly the

[7] Jean-Jacques
Rousseau's famous
quote: Back to the
nature!

Electric Grid related development projections, the project generation and realization processes and programs concerning Electrical Energy and SmartGrid issues. The importance of the National SG Technology Institute is contribution to sustainability governance of each country as the national sustainable governance must be at the end as part of the Global Governance, as well.

Sustainability is global threat and it must be solved globally, there is no option for that. This huge transformation needs global action, global direction and global control. The unsustainability issues cannot be handled by individuals, by each county and by stand-alone organizations. Global cooperation is essential.

New age is coming for Humankind. As classical philosopher advised: "Back to the nature!" [7] would be the best idea to be followed now onwards. My additional message is to take it serious as time is limited.

Smart city, smart car – quality and legal liability

Abstract: The goal of the European Union's „Europe 2020” strategy was to create a smart, sustainable environment and to promote innovation. The concept of “smart city”, which is the result of developments, includes information and communication technologies (ICT) to improve the quality of urban services, use energy resources efficiently, reduce costs and protect the environment. The smart city uses smart technologies to improve the quality of life of its citizens. This requires special, “smart” sources of law created according to a new paradigm, designed to regulate the design, development and maintenance of such settlements. The study explores the quality management and legal problem of the phenomenon, primarily in relation to the legal liability of autonomous car developers.

Keywords: Smart city; technology; legal sources; autonomous car; developer; legal liability.

Összefoglalás: Az Európai Unió „Európa 2020” stratégiájának célja az intelligens, fenntartható környezet kialakítása, az innováció elősegítése volt. A fejlesztések eredményeként létrejövő „smart city”, az „okos város”, fogalma magában foglalja az információs és kommunikációs technológiákat (ICT) a városi szolgáltatások minőségének javítása, az energiaforrások hatékony felhasználása, a költségek csökkentése és a környezetvédelem érdekében. Az okos város okos technológiáival polgárainak életminőségének javítására törekszik. Ennek érdekében speciális, új paradigma szerint megalkotott, „okos” jogforrásokra van szükség, amelyek arra hivatottak, hogy az ilyen települések tervezését, fejlesztését és karbantartását szabályozzák. A tanulmány a jelenség minőségirányítási és jogi problémát tárja fel, elsődlegesen az önvezető autók fejlesztőinek jogi felelőssége kapcsán.

Kulcsszavak: Okos város; technológia; jogforrások; önvezető autó; fejlesztő; jogi felelősség.

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[1] Szellemi Tulajdon Nemzeti Hivatala (2020): *A fenntarthatóságról és a digitalizálásról is szól idén a Szellemi Tulajdon Világnapja*. <https://www.szttnh.gov.hu/hu/hirek/szttnh-hirek/hirek-esemenyek/a-fenntarthatosagrol-es-a-digitalizalasrol-is-szol-iden-a-szellemi> (Accessed: 26-05-2020)

[2] Origo (2020): *Idén is fontos üzenete van a szellemi tulajdon világnapjának*. <https://www.origo.hu/itthon/20200426-a-szellemi-tulajdon-vilagnapjanak-uzenete.html> (Accessed: 26-05-2020)

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[4] Rab Judit–Szemeréy Samu (2018): *Az okos város fejlesztési módszertan alapjai*. http://okosvaros.lechnerkozpont.hu/sites/default/files/2018-10/az-okos-varos-fejlesztési-modell-módszertani-alapjai_online.pdf (Accessed: 05-29-2020)

Innovation – digitalisation – the quality of life

Based on the resolution of the 26th session of the United Nations World Intellectual Property Organization (WIPO) in 2000, World Intellectual Property Day was first celebrated on April 26, 2001, which has become a regular event in Hungary as well. The motto of this year's 20th World Day was "Innovation for a Green Future". The World Organization has thus drawn attention to the importance of innovations that create environmentally friendly, green and sustainable technologies. [1] The National Intellectual Property Office - in its emergency situation - also emphasized that one of the biggest challenges this year in the field of intellectual property is to support the protection against the coronavirus and the restart of the economy." [2]

At the beginning of the 21st century, more than 70% of the population of the European Union (EU) lives in urban areas, producing more than two-thirds of EU GDP. [3] The emergence of digital computers and digital communication techniques, the networking of computers, the digitization of various contents, and the dynamic development of digital technology, in general, contribute significantly to GDP growth, permeating almost every area of life. Persistent, complex problems, intertwined environmental, economic, social and cultural challenges are emerging. Rising traffic jams, air pollution and waste heaps are problems that threaten the livability of cities and severely affect the quality of life. An essential question has become whether it is possible to find a solution to these problems with the help of digital technology, or whether it is possible to adapt and further develop digital technology to meet these challenges. There is a need for such developments and solutions, from which the quality of life of the inhabitants' changes in a positive direction, which helps to solve the problems of the settlement, as a result of which moving instead of emigration becomes typical.

To this end, on the one hand, the physical renewal of the settlement, including transport infrastructure, utilities, public facilities, must be promoted; to encourage innovation, economic development, to help the environment protection. On the other hand, it is necessary to improve the daily functioning of the settlement, the factors influencing the quality of life, by establishing a close partnership between local residents, civil society, local economic life and different levels of government. [4]

What makes a “smart city” smart? Of the several possible responses, the use of the “Internet of Things” (IoT) has now crystallized. As a result, in such cities, all key functions, from public transport to energy management systems, operate to provide real-time and action data to city-level systems to coordinate services and maximize efficiency. Machine to Machine (M2M) communication based on data from sensors embedded in objects, vehicles, public works and infrastructure significantly increases the possibilities for data collection and use, such as notifying traffic jams, pedestrian movements, occasional increased power requirements, power outages or maintenance intervention that has become necessary. This paradigm is not new: as a result of the “fourth industrial revolution”, data reconciliation mechanisms are already being used by the energy sector, the extractive industries and logistics. However, the handling, transmission and storage of the huge and ever-increasing amount of data generated in this way poses not only technological but also legal problems, as the increase in the value of information is directly proportional to the jump in the number of crimes/acts committed. However, the legislation is still in the system of the old paradigms, so it is slow, cumbersome, difficult to keep up with the development of technologies and the “Society 5.0” that is built on them. The smart city is vulnerable because of this.

In order to protect vulnerable legal entities due to delays in the regulatory phase, courts and other law enforcement authorities should seek legal instruments that offer applicable analogies from the previous codification period to address new challenges. However, this growing demand for the use of analogies is not only true of the IoT and the rights used in the development of “smart cities”, but there are already other areas of law where the above problems will certainly arise soon. Examples include the regulation of electronic communications networks, product liability, data protection and the liability of autonomous cars.

Features of digital, intelligent and smart city

In general, the concept of smart applications has previously been defined by Internet-based solutions. The concept of a “smart city” presupposes the integrated implementation of smart applications. The new applications have brought to life new terminology filled with content by ICT solutions:

- The digital city includes the development of digital (ICT, info-communication) infrastructure and the availability of info-communication services, including mobile internet services ranging from telephone services;
- The smart city also includes a wide range of ICT-based institutional (municipal, corporate, banking, etc.) electronic services (e-services: e-government, e-business, e-learning, e-health, etc.) that provided by the traditional Internet (IPv4);

[5] Sallai Gyula (2018): *Az okos város koncepciója*. In: Sallai Gyula (Szerk.): *Az okos város (Smart City)*. Budapest: Dialóg Campus Kiadó. Pp. 13–17.

- The smart city aims to create a more livable settlement; means a multitude of Internet-based smart applications that also build on data collection, processing and utilization, and are implemented in a more integrated, strategic approach.

The essence of the smart city concept is “smart integration” [5], a platform on which solutions from different areas come together into a mutually reinforcing system and use the city’s resources in an efficient, coordinated way. To achieve this, all relevant information about the life of the city is collected, analyzed, and a shared knowledge base is created, on the basis of which data-driven complex solutions can be implemented. A city can be considered truly smart if it uses ICT solutions to make efficient use of physical infrastructure and improve the quality of life: by managing different resources and services together, in an integrated way, adaptively, responding to changes in circumstances, in an environmentally conscious, sustainable, energy-efficient system, together with the active participation of the affected community, the involvement of its stakeholders, in an economically self-sustaining way. In practice, even in the absence or partial implementation of smart integration, ie. in the case of a multitude of smart applications implemented on a common ICT (info-communication) infrastructure, the concept of a smart city is generally used. Based on all this, the functions, the most important system technical elements that characterize the smart city:

- real-time data collection (various public and personal sensors);
- data analysis (alerts, forecasts, planning information);
- control of urban utilities (efficiency, adaptability, safety);
- smart urban applications (service, convenience, information, knowledge base);
- tools for community participation (community site, community participation);
- high-speed Internet network (availability, price, quality: such as availability, nominal speed and speed fluctuations). [5]

The developments are aimed at making the introduction of ICT solutions a positive effect for the local community, resulting in a more livable city. This goal is expressed by the internationally common name “Smart City and Community” (SCC), that technological, human and organizational aspects prevail in various smart city concepts, models, programs and plans with different approaches, different emphases, but these three dimensions of the smart city must be present in the smart city plans in order for the ideas to be successfully realized. [5]

Characteristics of groups of smart city programs. The “smart city methodology”

Several model cities have been built since the 2000's (Songdo in South Korea, Masdar in the UAE, PlanIT Valley in Portugal). [4] These settlements were created as a greenfield investment, primarily with the aim of demonstrating the integrated application of the full toolbox of smart solutions, from ecological design principles to built-in technologies and efficient operation. They are currently in a different state of readiness, and their actual operation is the subject of many analyses and criticisms. Technology-driven programs can be called the 1.0 generation of smart cities.

Demonstration projects have a greater impact on projects implemented in existing cities as a comprehensive strategy or program element. Municipalities with a long history and diverse environmental, social and economic status have created smart transport and utility systems, integrated urban management centres (e.g. Sao Paulo in Brazil with IBM), e-government and service infrastructures, and development programs in which data and technology instruments have a key role to play. City-driven, service-oriented programs that target real needs make up the 2.0 generation of smart cities.

Today, more and more settlements are implementing wider collaborations instead of developments based on corporate products. These are usually platforms (organizations, framework programs or even IT systems) into which a wide range of actors can connect and actively participate in the operation and development of municipalities. Such strategies are usually based on the integration of sectors, the achievement of holistically set goals in many areas and through multi-scale instruments. Generation 3.0 of Smart Cities is organized around communities. In practice, the three generations are mostly present simultaneously and in parallel in the developments of a settlement. However, which approach is the starting point is decisive. [4]

The Hungarian Government has set the goal of implementing intelligent urban developments at the national level in the Modern Cities Program [6], the Digital Prosperity Program [7] and in line with the implementation of the goals set out in the integrated development strategies of local governments. Hence it has become necessary for municipalities to develop a methodology to prepare the local population, businesses and the local government system for the changes that come

[6] Fekete Dávid (2019): A Modern városok program jelentősége a hazai városfejlesztésben = The Modern Cities Programme in Hungarian urban development. *Tér és Társadalom*, 33. (1.) Pp. 27–43.

[7] Magyarország Kormánya által 2015 végén – az internetről és a digitális fejlesztésekről szóló nemzeti konzultáció, az InternetKon eredményei alapján – elindított, a digitális ökoszisztéma egészét érintő Digitális Jólét Program (DJP), majd 2017-től a Digitális Jólét Program 2.0 (DJP2.0)
Forrás: <https://digitalisjoletprogram.hu/hu/rolunk> (Accessed: 06-05-2020)

with integrating rapidly changing technologies into the municipal service portfolio. According to the smart city methodology, along with the four main priorities, each settlement needs to create a “smart city” vision that is specifically applicable to it:

- (a) improving the quality and efficiency of services;
- (b) more efficient use of energy and other resources;
- (c) involving citizens in these processes in order to improve their quality of life;
- (d) development of economically self-sustaining systems.

The concept of the smart city methodology is defined in Article 2. point 5.b. of Government Decree no. 314/2012 (XI. 8.) on the concept of settlement development, the integrated settlement development strategy and settlement planning tools, as well as certain specific legal institutions of settlement planning: “A settlement development methodology of settlements or a group of settlements that develops their natural and built environment, digital infrastructure, as well as the quality and economic efficiency of settlement services using modern and innovative information technologies in a sustainable way, with the involvement of the population.”

The Smart City Development Model, a development tool for the “smart city methodology”, was developed by the Lechner Knowledge Center. In this framework, technological and intelligent service solutions are tools for more complex goals of quality of life, efficiency, ecological and economic sustainability that can work successfully when used in conjunction with other tools:

- Sustainable development of the natural and built environment. One of the major issues in global urbanization is the fundamentally unsustainable resource needs of urbanization. In addition to optimizing costs and expenses, the more economical operation also aims to reduce the ecological footprint of cities. In addition to emissions, the reduction of environmental impact also covers the climatic issues of the built environment of cities (e.g.: management of heat islands) and the role of ecological networks surrounding and interweaving cities (e.g.: blue-green infrastructure).
- Development of digital infrastructure. In addition to the traditionally built infrastructures of the settlements, ICT systems are playing an increasingly important role, not only with their elements appearing in the physical space (eg data transmission networks) but also with their systems and applications appearing in the digital space. On the one hand, this new type of infrastructure requires new legal regulatory frameworks (eg national and local data policy), but unlike traditional infrastructures, full access requires that users (municipal workers, residents) have the appropriate knowledge. The opportunities of the digital world are encountered and lived in different depths by residents of different social backgrounds and ages, businesses operating in different sectors. These developments are effective and sustainable if as many local actors as possible are active users in a given settlement, this requires the planning of digital infrastructure developments together with the appropriate competence developments.

- Improving the quality of municipal services. The service-oriented reform, open management and digital infrastructure of the public administration (e.g.: Satellite Office Desk Clerk) can speed up and simplify the administration, making the official procedures more personal and efficient. Transparency of data makes the work of municipalities and authorities traceable and understandable. Integration also provides an opportunity to address competence issues between administrative sectors. However, within the meaning of the above-mentioned regulation, all services provided in the municipality need to be developed and operated with a similar approach, which in the long run will help to create a more sustainable municipal service portfolio of service providers with different backgrounds and interests.
- Involvement of the population. In addition to well-functioning services, the quality of urban life depends on a number of complex factors in which the individual and community activity of citizens play a key role. Constructive and value-creating participation and the development of personal responsibility and attachment are not only important for well-being and public life but also have direct economic and competitiveness effects. In the cities of the future, more and more business, community and individual actors are emerging in development and decision-making, and even in operation, and smart solutions can effectively promote these collaborations.
- Involvement of the population. In addition to well-functioning services, the quality of urban life depends on a number of complex factors in which the individual and community activity of citizens play a key role. Constructive and value-creating participation and the development of personal responsibility and attachment are not only important for well-being and public life but also have direct economic and competitiveness effects. In the cities of the future, more and more business, community and individual actors are emerging in development and decision-making, and even in operation, and smart solutions can effectively promote these collaborations.

It can be seen that technological solutions alone are not sufficient to achieve the indicated ones. The toolbox of smart cities has therefore now included methods to promote the living standards, information and decision-making autonomy of city dwellers in general. The smart city has thus become a kind of collective concept, regrouping under the auspices of technology, often interrelated topics such as the livable city, the green city, the creative city, the open city, the sustainable city or the service city. This is also influenced by the fact that in addition to large ICT companies, more and more small-scale development and community initiatives are trying to achieve similar goals. In addition to top-coordinated smart city visions, bottom-up initiatives are also playing an increasingly important economic, political and cultural role. Thus, the vision of smart cities is usually about coordinating the two main directions, where the different elements work together to operate each area.

[8] autopro.hu (2020):
*Az önvezető autók
tesztelése is szünetel
a koronavírus miatt.*
[https://autopro.
hu/szolgaltatok/
az-onvezeto-autok-
tesztelese-is-szunetel-
a-koronavirus-mi-
att/324435](https://autopro.hu/szolgaltatok/az-onvezeto-autok-tesztelese-is-szunetel-a-koronavirus-miatt/324435) (Accessed:
05-29-2020)

[9] Vida Rolland
(2018): *Okos közleke-
dés.* In: Sallai Gyula
(Szerk.): *Az okos
város (Smart City).*
Budapest: Dialóg
Campus Kiadó. Pp.
127–141.

Smart cars in smart cities

Quality risks of operating autonomous cars

The current global megatrend, digitalisation, aims to make life easier for humanity with remarkable solutions – including in transport. Autonomous cars, which are classified as radical innovations in the literature, suggesting that the widespread use of them is expected to affect not only the daily lives of mankind but also, among other things, the structure of cities and many features of transport. will also radically change. The development of these “self-driving” cars is in its final test phase, despite Ford, General Motors and Toyota temporarily suspending driver-supervised testing of self-driving vehicles as a result of the coronavirus epidemic. [8]

According to a standard developed by SAE International (Society of Automotive Engineers) in 2014, the following levels of automation can be distinguished for motor vehicles [9]:

Level 0 (“no automation”): conventional vehicle, processes are not automated at all, everything is in the driver’s hands, the vehicle only sends warnings.

Level 1 (hands-on): most tasks are in the driver’s hands, but a specific function (such as accelerator control or steering wheel rotation) is already automated. This category includes vehicles with adaptive cruise control or automatic parking function. The driver controls the steering wheel in the case of adaptive cruise control and the accelerator pedal in the case of automatic parking.

Level 2 (“hands-off”): here the vehicle already handles several tasks automatically, both the steering wheel rotation and the accelerator pedal are handled by the vehicle itself. Monitoring the environment, however, remains the responsibility of the person, who must be prepared to take control at any time if necessary.

Level 3 (“eyes-off”): here the environment is monitored, other vehicles around us and traffic situations are automated. The person sitting in the car may even start watching a movie on his phone, but if the vehicle detects a traffic situation, a scenario for which it is not prepared, the person should be able to regain control within a reasonable, short period of time.

Level 4 (“mind-off”): in this case no human intervention is required at all, the passenger can even sit back and sleep in the back seat, the control of the vehicle is fully automated. However, this usually only works in limited scenarios, in well-defined areas (such as slow driving in a traffic jam on a road section where there is no oncoming traffic). If the vehicle leaves this predictable environment in which it operated automatically, the vehicle must be able to stop safely somewhere on the side of the road and wake the sleeping driver up to hand it over again.

Level 5 (“full automation”): full automation, when the vehicle always operates automatically in all conditions, no human intervention is required at all, so much so that a person does not necessarily have to be in such a car.

Figure 1: Tesla’s driving assistance system in operation (autopro.hu, 2020)



The introduction of autonomous cars can have a number of beneficial effects: on the one hand, transport costs will be reduced, as there will be no need for paid drivers: truck drivers, taxi drivers, bus drivers; on the other hand, social groups who for some reason could not have a license: children, the disabled, the elderly, or simply people who were afraid of traffic, also have the opportunity to drive independently.

In addition, there is a clear increase in transport safety, the capacity of the transport network and, consequently, user satisfaction, a reduction or elimination of congestion and a reduction in energy consumption. In the case of autonomous vehicles, it is not necessary to use traffic lights at road junctions, as a comb-like passage of vehicles coming from different directions can be ensured without accidents. In addition, speed limits may become obsolete, as autonomous vehicles will always be driven in accordance

[9] Vida Rolland (2018): Okos közlekedés. In: Sallai Gyula (Szerk.): *Az okos város (Smart City)*. Budapest: Dialóg Campus Kiadó. Pp. 127–141.

[10] Fleischer Tamás (2018): Gondolatok a közlekedés jövőjéről. *Lépések a fenntarthatóság felé*, 23. évfolyam 1. szám (71.) Pp. 4–7.

[11] Lukovics Miklós–Udvari Beáta–Zuti Bence–Kézy Béla (2018): Az önvezető autók és a felelősségteljes innováció. *Közigazgatási szemle*, LXV. évf. Pp. 949–974.

with current traffic conditions. These, however, require that all vehicles should be self-driving, but we will have to wait a long time for this. [9]

As with the introduction of all new technologies, it is necessary to identify the risks that arise in the case of autonomous cars, some of which follow directly from the reservations identified in the study of the social perception of these vehicles. Potential risks can be divided into five major categories: 1. technological, 2. environmental, 3. industrial, 4. ethical and 5. governmental. [10]

1. Within technological risk, so-called operational risk can be highlighted. Autonomous cars are equipped with extremely complex tools and software, with sensitive sensors and complex algorithms responsible for the smooth operation of the vehicle. However, possible program errors or failures should be identified as a risk, as they can have a serious impact on autonomous vehicles and other participants in a given traffic situation. There is also a risk of accidents of passenger or passers-by during transport, and the individuals may suffer injuries (material or personal) as a result. Passengers are also exposed to electromagnetic radiation from autonomous car systems (e.g. GPS, Bluetooth, Wifi, 5g), so these health considerations must also be taken into account when designing such vehicles. There is also a myriad of security risks associated with the technology. As digital technologies continue to spread, cybersecurity and data protection issues are emerging. In the case of autonomous vehicles, whether part of a fleet of privately owned, it is inevitable that they be equipped with defence technologies that protect the passenger and their environment from hacker attacks (such as theft of personal data, terrorist attacks or cyber-terrorism).
2. Environmental impacts are also closely linked to technological risks. Climatic risk calls attention to the need for manufacturers of autonomous cars to find a solution to extreme weather events or weather factors (such as rain, snowstorms, sandstorms) that affect the efficiency of the sensors, in order for the vehicle to be able to operate safely in these conditions. operation. In addition, these cars must meet sustainability criteria, so environmental considerations must also be taken into account when designing them. These factors are, of course, also linked to technological and governmental risks.
3. Within industry risks, labour market, economic, confidence and consumer risks may emerge. The introduction of autonomous cars on the market will affect all occupations that require a driver, but the change may also extend to companies that organize driver training courses. [11]

The issue of the legal liability of autonomous cars

However, there is another factor that can be an obstacle to the widespread use of autonomous cars: the issue of legislation. The most important issue, of course, is that you will be liable in the event of an accident. In the case of conventional vehicles, this is much simpler, as in most cases an error or negligence committed by one of the drivers can be attributed to the cause of the accident. However, in the case of autonomous vehicles, the situation is not so clear, as the responsibility of the car manufacturer and development company is given similar weight.

Accidents in Uber's autonomous car show that regulation is far from keeping pace with modern technology. In March 2018, Uber's autonomous vehicle waded to death Elaine Herzberg pushing her bike in Tempe, Arizona. The car was still under test, with a safety driver sitting in it, who in turn was given the task of not interfering as it would affect the test results. The investigation revealed that the Uber model noticed a person passing his bike on the road just 1.2 seconds before the collision, and that time was too short to avoid the tragedy. The rationale is that the design of the system did not take into account the fact that someone may attempt to cross the road on a busy road section. However, this was not the first time that Uber autonomous cars had been involved, as these cars caused 37 collisions in the 18 months before the fatal accident. The report said twice that Uber's test model did not notice obstacles on the road and thus did not respond to them properly. [12]

Accidents have drawn attention to a number of issues, and it is still unclear who can be held accountable: the person sitting in the vehicle, the owner of the car, a member of the development team, or the head of the car brand. How far is the individual's responsibility to intervene, and what is the point from which it can be stated that the algorithm is faulty?

The "Definitions" of 3a) and 3b) in the Article 2. of KÖHEM Decree no. 5/1990 (IV. 12.) in force on the roadworthiness test of road vehicles were formulated in 2017 precisely to fill the regulatory gap created by the advent of autonomous cars. According to the current legislation:

"3a.[...] a development vehicle: a vehicle referred to in Article 16 / B. a vehicle that meets the conditions on which a test or technical change involving temporary participation in traffic is carried out on a temporary basis."

"3b. [...] b) "Autonomous vehicle for development" means a development vehicle

[12] Shepardson, David (2019): In review of fatal Arizona crash, U.S. agency says Uber software had flaws. *Reuters*. <https://www.reuters.com/article/us-uber-crash/in-review-of-fatal-arizona-crash-u-s-agency-says-uber-software-had-flaws-idUSKBN1XF2HA> (Accessed: 05-06-2020)

intended for the development of partially or fully automated operations and containing a test driver who, depending on the level of automation or in any situation endangering road safety, exercises manual control to the extent necessary during operation, or can take manual control of the vehicle at any time”.

The points k) and l) of Article 2 of the NFM Decree no. 11/2017. (IV. 12.) introduced the concepts of “test driver” and “test of an autonomous vehicle for development purposes” in 2017:

“k) test driver: a driver who supervises the testing of an autonomous development vehicle while in the tested autonomous vehicle and is able to immediately take control of the development autonomous vehicle at any time,

l) autonomous vehicle test for development: the participation of the autonomous vehicle for development on a road closed to a public road, on a closed test track or in road traffic, for the performance of tests specified by the vehicle developer, under the direction and supervision of a test driver.”

Presumably, the issues raised by Uber’s autonomous car in a fatal accident regarding the liability of the development company also contributed to the fact that Article 1. Section (1) of the ITM Decree no. 28/2018. (XI. 15.) inserted Article 2. point j), and the concept of ‘vehicle developer’ – thus expanding the range of legal entities regulated by the regulation. According to the text in force from 15 December 2018: “(J) vehicle developer:

(ja) an undertaking or institution engaged in the development of a vehicle or vehicle unit which qualifies as a research site under the Act on scientific research, development and innovation,

(jb) an undertaking or institution which develops a vehicle or a unit of a vehicle and which carries out applied research or the exploitation of the results of research and development and innovation on the vehicle or certain units of a vehicle,

(jc) the manufacturer of the EC type-approved vehicle, the manufacturer of certain vehicle units,

(jd) the type examiner or

(je) an undertaking which has a contractual relationship with one of the persons defined in points (ja) to

(jd) and which carries out the development of vehicles or vehicle units under contract.”

The issue of liability leads to the problem of another branch of law, which, however, has not been addressed in depth in the literature so far: liability insurance. It is also conceivable that with the introduction of self-driving vehicles, the current insurance model will change radically, as accidents will no longer be due to faults not only by the operator and the driver but also by the software. Thus, it is also conceivable that manufacturers will take out insurance for the software itself, which will cover all the vehicles in which this software operates.

According to Article 5. Section (1) point f) of the KPM-BM Joint Decree no. 1/1975. (II. 5.) on the rules of road traffic (KRESZ) “May engage in transport with a vehicle which is covered by compulsory motor third party liability insurance as defined in a separate legal act.”

At present, there are detailed regulations for development vehicles in Hungary, but there are no regulations for liability insurance for autonomous cars.

Autonomous vehicles must first be tested on a closed track and then the developer decides when to start testing them on the road as well. On the closed test track, only the physical integrity of the persons participating in the testing is at stake, which is regulated in Chapter XIII. of Act I of 2012 on the Labor Code (Mt.). However, the situation on public roads is no longer so simple. Even though a pedestrian has stationed several times in front of the car on a closed track, no one expects in the pedestrian crossing to drop into a test of an autonomous car. For the time being, the relevant legislation says that the developer must decide when to allow the car to be tested on the road based on the results of the closed test track. The responsibility, therefore, lies with the development team, so if anything happens on the roads, the legislature can claim that the particular development company could have sent the vehicle to the roads only if it is convinced that everything is in order and the car is safe. However, if the section of the KRESZ referred to above is properly interpreted, even the developer cannot decide that the vehicle can be tested on the road if he does not have valid liability insurance.

The finding at the beginning of the study that “the smart city is vulnerable” thus paints a real picture of the pace of digital development in our time, with which, for the time being, it seems difficult to keep pace with legal regulation. A smart city requires “smart legislation”, a change of attitude and paradigm.

A Pilot Study of Cross-Sector Co-Curation: Linking City Fragments of Csepel District (HU) and Heavy Woollen District (UK)

Abstract: There are two cultural organizations, namely Artopolis Association (HU) and Creative Scene (UK), and their joint program, called 'Take your place/Make your place', in 2016. The two NGOs supposed, if they are stepping out from their former role of cultural content providers by merging their different, more artist- and more community-led approaches: on the one hand, new urban images could be created; on the other, new models of cross-sector commissioning could be developed – across two post-industrial sites. So, for testing their ideas, small-scale social and spatial researches, as well as cultural and artistic initiatives were conducted in Csepel District (HU) and in Heavy Woollen Districts (GB). The paper summarizes several 'evident' and many still affecting, unexpected results of cross-sector co-curation.

Keywords: Participatory action research; community mapping; SceneMaker; post-industrial areas; civic participation.

Összefoglalás: Adott két kulturális szervezet, az Artopolis Egyesület (HU) és a Creative Scene (GB), valamint közös programjuk a „Take your place/Make your place”, 2016-ban. A két civil szervezet feltételezte, ha kimozdulnak korábbi, kulturális tartalomszolgáltatói szerepeikből azáltal, hogy erősítik az egymástól tanult művészeti és közösségi megközelítéseiket: egyrészt új város-elképzeléseket hozhatnak létre; másrészt új szektorközi együttműködési modellt dolgozhatnak ki – két posztindusztriális térségben. Elképzelésük tesztelésére kis léptékű társadalmi és területi kutatásokat végeztek, valamint kulturális és művészeti kezdeményezéseket szerveztek Csepelen (HU) és Heavy Woollen Districtben (GB). A tanulmány ennek a szektorközi közösségi kurátori munkának számos „nyilvánvaló” és több, máig ható, váratlan eredményét mutatja be.

Kulcsszavak: Részvételi akciókutatás; közösségi feltérképezés; SceneMaker; posztindusztriális területek; civil részvétel.

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[1] “Result.” *Merriam–Webster.com Dictionary*. Merriam–Webster. <https://www.merriam-webster.com/> (14 June 2020)

[2] Wond, Tracey (2017): *Ethnography in Evaluation: An Introduction*. https://www.researchgate.net/publication/320538021_Ethnography_in_Evaluation_An_Introduction (30 May 2020)

[3] Bell, Stephen–Aggleton, Peter (2012): “Integrating Ethnographic Principles in NGO Monitoring and Impact Evaluation.” *Journal of International Development*.

[4] Nánay, Fanni–Vicky Holliday (2015a): Tandem Application Form. In this introductory paragraph, I reused the project application materials of ‘Take your place/Make your place’, produced by Fanni Nánay and Vicky Holliday, managers of Artopolis Association (HU) and Creative Scene (UK), in 2015. I reedited their texts only to the extent necessary; I also kept their ideas and conceptual language sets.

Introduction

What is the meaning of ‘result’? [1] Based on the Merriam–Webster dictionary, this noun is 1: something that results as a consequence, issue, or conclusion, also: beneficial or tangible effect; 2: something obtained by calculation or investigation. We have been interpreting this word predominantly as the latter(s). However, the quantitative forms of evaluation have arguably resurged at the turn of the century [2] – also due to the explosive development of the digital economy and thus its measurement compulsion –, qualitative methodologies are still not being exploited enough. Hereby, I apply the interpretation of the former meaning of ‘result’. I must do this because Artopolis Association (HU) and Creative Scene (UK), the two cultural (non-governmental) organizations, were also looking for perspectives that can help in the feeling of lack of concern for another way of monitoring programs and appraising impacts [3] to produce a narrative account of particularities. Nevertheless, why should Artopolis Association and Creative Scene think more broadly about the complexity of developing a cultural ecology...?

There are two post-industrial urban sites: Csepel District (HU) and Heavy Woollen District (UK). The first is the 21st District of Budapest, so in Hungary’s capital, the latter includes cities like Dewsbury, Batley, Heckmondwike in the Metropolitan Borough of Kirklees, in West-Yorkshire, England, United Kingdom. They are areas that have negative images, which in turn affect local people, and the socio-economic position of places as well. But, Artopolis Association and Creative Scene shared a belief that by enabling community ownership of cultural activities locally, residents’ pride and, in turn, the image of places would improve. They have both developed approaches to explore this earlier. Artopolis had more artist-led, while Creative Scene had more community-led approach. Artopolis collaborated with artists so far, while Creative Scene has previously worked with private and public sector services. This capability has led them to challenge each other’s approaches in the framework of the ‘Take your place/Make your place’-project, by asking a crucial question for both organizations: What role do other sectors play, and how can this help to find alternative, more sustainable collaboration models...? [4]

They sought to develop a positive identity of place by involving local people and cross-sector partners in the collaborative commissioning of culture. Across two countries Artopolis and Creative Scene aimed to find universal tools to build a new-to-them, more sustainable model for building art projects with communities in 2016. They have taken account of non-monetary impact and value of development of patterns and relationships within different community settings, how ideas transfer, money flows, and how a culture program can connect and flow between participants. They had to be careful with the biggest challenge of the stronger effects ‘Take your place/Make your place’-project could have on individuals and communities concerning legacy and sustainability. [5]

Along with these ideas, with a five-years-retrospective approach, I would like to re-introduce the characteristics of the two organizations, the areas, the local participants, the cultural programs, and in parallel the consequences, issues, and conclusions of the project implementation, as results (see above). I took part in the ‘Take your place/Make your place’-project as an invited researcher. Still, during the process, my subjects were sliding between the roles of a researcher, a volunteer, an audience, an artist, a critical friend at the programs taking place in Hungary. My present point of view, which has a particular scope on Csepel, is the same as sociologist Pierre Bourdieu understands “participant objectivation”. It “undertakes to explore not the ‘lived experience’ of the knowing subject but the social conditions of possibility – and therefore the effects and limits – of that experience and, more precisely, of the act of objectivation itself” [6]

Two cultural organizations: Artopolis Association (HU) and Creative Scene (UK)

The Artopolis Association was founded in 2008; its primary mission is to promote and inspire works created in unusual locations and site-specific artistic endeavors in Hungary. The work of Artopolis rests on two pillars. On the one hand, it organizes the PLACCC International Art Festival, which focuses on works created outside the traditional venues of art – for example, at public spaces, unusual places – and presents international venue-specific art initiatives and trends for the Hungarian public. On the other hand, Artopolis supports Hungarian artists who are willing to

[5] In this introductory paragraph, I reedit and reused the workshop materials of Creative Scene (July 2019), which summarized their highlights on ethnographic evaluation.

[6] Bourdieu, Pierre (2003): “Participant Objectivation.” *Journal of Royal Anthropological Institute*. 9. P. 282. In the context of my empirical research, I used methods such as participant observations, workshop activities, semi-structured deep-interviews, actor, and place mappings. Besides, it was complemented by literature, document, and artifact analysis.

[4] Nánay, Fanni–Vicky Holliday (2015a): Tandem Application Form.

[7] PLACCC (2020): <https://placcc.hu/2018/06/03/artopolis/> (22 June 2020)

[8] 1 EUR = 311,46 HUF, as average in 2016, see <http://www.mnbkozeparfolyam.hu/arfolyam-2016.html>

[9] The year 2016 was remarkable for Artopolis, as it could just start a large-scale international project called: PICTURE (Post-Industrialized Creative Transformations and Unpredictably Reciprocal Experiments), which also meant, the income level has increased compared to the average.

[10] Creative Scene (2020): <https://www.creativescene.org.uk/> (23 June 2020)

[11] 1 GBP = 1,23 EUR, as average in 2016, see <https://www.ofx.com/en-au/forex-news/historical-exchange-rates/yearly-average-rates/>

[12] Tandem (2020): <https://www.tandemforculture.org/programmes/tandem-europe/> (23 June 2020)

create and experiment with site-specific productions. [7] Artopolis has been embedded in the international cultural scene (e.g., InSitu, MitOst, Bosch Alumni Network, Tandem Turkey, ‘Arts and Culture Under Pressure’). Still, its activity is not in the focus of the Hungarian official cultural politics; for this reason, it finances its projects based on cultural grants (e.g., InSitu, Creative Europe, National Cultural Fund of Hungary, Summa Artium, different cultural institutions, partnership agreements). In 2016, its amount of income was around 18 million HUF (57,79 thousand EUR) [8], based on its balance sheet. [9] As a site-specific art curator, it does not require a permanent establishment; it has a flexible team based on locations and projects, works with about ten volunteers per year, and does not have any infrastructure.

“Creative Scene was set up as one of Arts Council England’s Creative People and Places projects to bring world-class arts and cultural activities to Dewsbury, Mirfield, Cleckheaton, Batley, and Heckmondwike.” [10] Since 2014, Creative Scene is an action research project that shares knowledge with the rest of the industry, connects to national and international conversations about arts engagement, and organizes volunteer-led festivals and cultural regeneration of towns and communities. Its headquarter is in Dewsbury, works with three full-time, three part-time colleagues, and with approximately 20 volunteers/year. Its income in 2016 would have been in the region of 330.000 GBP (405,9 thousand EUR) [11], as they operate as part of a bigger organization, called Kirklees Theatre Trust – so a balance sheet is not prepared and published specifically for Creative Scene. In 2015, the managers of Artopolis Association and Creative Scene, namely Fanni Nánay and Vicky Holliday had met at a workshop, organized by the Tandem Europe program – “for stimulating strategic thinking in organizational renewal processes, for helping to create and sustain culturally innovative effects across sectors, disciplines, and borders, and for exploring creative and collaborative solutions for contemporary challenges in our societies.” [12] Their jointly elaborated concept of ‘Take your place/Make your place’ project was outlined here and gained support for 2016 by Tandem Europe’s jury. To sum up the project goal, Artopolis and Creative Scene aimed to develop, test, and refine an alternative model of curating art projects and commissioning artists in deprived communities, which helps to answer a question like: How does the feeling of ownership of art correlate with the feeling of ownership of the location and pride? [4] (For more about the concept, see *Table 1.*)

Table 1. Innovation, Impacts, Opportunities, and Risks

Innovation:	Impacts:
It lies in the involvement of people from different sectors in the process of curating, commissioning, and creating. By making them the co-producer of the work, we aim to create a continued engagement without compromising the artistic quality.	<p>The project's long-term aim is to have a strong impact on the feeling of ownership and self-estimation of the community.</p> <p>Building in testing in both countries through smaller artistic events will enable us to identify what works universally and what is locally specific and, as such, build a model that can be shared across Europe.</p> <p>The primary beneficiary of the project should be the community, who – through the local cross-sector partnerships – can be integrated into the planning and the decisions about local artistic/ community activities.</p> <p>The third sector partners also benefit; by supporting and participating in the cross-sector commissioning, they can develop skills and increase their profile.</p>
Opportunities:	Risks:
<p>As public services are put under pressure across Europe, and the private sector plays a more significant role, there is an opportunity to influence managers to consider the role arts can play in their business.</p> <p>Civic participation in decision-making is (UK) /should be (HU) a priority in local politics. By engaging people with cultural commissioning, they will become able to speak confidently about the value of arts in their community and other public issues.</p>	<p>There is the possibility of compromising the artistic potential because the cross-sector partners may have limited knowledge of art projects.</p> <p>To overcome this, 'Go&See' trips will be built to performances/exhibitions for increasing their frame of reference and encourage cultural dialogue.</p>

Source: Based on [4], edited by the author

[13] Oprea, Corina (2017): *The end of the curator: on curatorial acts as collective production of knowledge*. A Doctoral Thesis. https://repository.lboro.ac.uk/articles/thesis/The_end_of_the_curator_on_curatorial_acts_as_collective_production_of_knowledge/9332957/1 (15 June 2020)

[14] List of artworks produced by Artopolis Association in the framework of PLACCC Festival, in Csepel, between 2013–2015:

In 2015: Mapping Budapest, Jessica Dolby (UK); urban walk & installation; <http://placc.hu/2015/09/21/jessica-dolby-uk-mapping-budapest-2/>

Remixing the City, Don't Eat Group (HU); site-specific loop event (one of the 3 locations was in Csepel); <http://www.donteat.org/works/remixing-the-city-loop-event/>
In 2014: Reality Room, 011 Group (H); site-specific theatre performance; <http://www.in-situ.info/en/artists/011-group/works/en/reality-room-64>

Subjective Csepel, Jan Pfeiffer (CZ), Tímea Tóth (H) and Attila Balogh (H); pop-up gallery; <https://www.facebook.com/events/636108069836262/>

In 2013: Volt egyszer egy Csepel Művek [Remember the good times, Csepel], SPACE (H/NL); urban walk & digital application; https://www.youtube.com/watch?v=HPORxp6MA_U

Promenád [Promenade], Artus – Stereo Akt (H); performance; <http://stereoakt.hu/promenad/>

Oázis - Köztéri építészet installáció [Oasis – Public space architecture installation], Studio Nomad (H); installation; <http://studio-nomad.hu/oasis.html>

Különkiadás [Special edition], Budapest Barangoló (H); urban walk & game; <https://www.utazzitthon.hu/program/budapest/barangolo-csepele-kulonkiadas>

Rejtett víziók [Hidden visions], Hungarian University of Fine Arts (H); exhibition; https://www.youtube.com/watch?v=__MmCMiCfeA

3D Pixel, Klára Orosz (in collaboration with Újirány [New Directions Landscape Architects] Group) (H); urban art (one of the 3 locations was in Csepel); <https://www.moksha.hu/muvhaz/jatekos-muveszet-negyvenezer-piros-kocka-budapesten/>

As it was already mentioned, Artopolis had a more artist-led, while Creative Scene a more community-led approach; Artopolis used to collaborate with artists as creative partners so far, whilst Creative Scene used to work with private and public sector services previously. In the making of 'Take your place/Make your place'-project, one crucial shift was in the perspective of project management. Artopolis has already discovered the process of community art, but participatory action research or community mapping not at all. The fundamental difference how Artopolis experienced the cross-sector collaboration is to practice the framework of a participatory exploration as only a facilitator. That also meant the end of its curator-role, more precisely, a transformation to understand curatorial acts as a collective production of knowledge. [13] Between 2013–2015 Artopolis curated ten various art events in Csepel, with younger or more well-known artists, whom all represented the professional art scene. [14]

At this time, the focus was on the ideas, needs and performances of local community rather than on any aspects of professional art. Ergo, while starting the program, only the salient goals and the site of Csepel was sure, but none of the following questions were pre-settled: with whom? what? where? for which goals? when? to organize cultural events.

Meanwhile, in the case of Creative Scene, the professional curatorial activity itself and its attitudes started to being discovered (see Table 2.). In the end, the new model of cross-sector commissioning was named as the model of cross-sector co-curation. (In Hungarian: „szektorközi közösségi kurátori modell”.)

Table 2. Keen to learn about...

Artopolis Association:	Creative Scene:
<ul style="list-style-type: none"> – Creative Scene’s multi-level activities in the fields of fostering community participation, presentation of cultural events, and engagement in sector development – the methods of engaging local communities – the method of collecting artistic feedbacks from the community with the help of tools integrated into the artistic events themselves – the ways of collaborating with self-organized and voluntary-based cultural and community events – the processes of cross-sector partnership-building 	<ul style="list-style-type: none"> – the local and international relationships Artopolis develops and associated funding models – the impact of the PLACCC Festival on their area – the festival’s management structure and processes in order to share this learning with volunteer-led festivals – collaboration and mentoring process with an artist(s), which is based on a model of creative partnership rather than of a presenter’s commission

Source: [4], edited by the author

Two urban areas: Csepel District (HU) and Heavy Woollen District (UK)

Csepel is located on Csepel Island, so it is the only Budapest district, which belongs neither to Buda-, nor to Pest-side. One of the most diverse areas of the capital, with suburban, rural, Danube-waterfront, and housing, industrial parts. Accordingly, its income structure is also very diverse; the average monthly income was 202 thousand HUF/household (651,8 EUR) [15] in 2015, with a 30% difference between its suburban and rural residences. [16], [17] The population of Csepel was 76,9 thousand people in 2016, its area is 25,75 km², and it lies 3,5 km far from the city center. At the same time, Csepel has a tight and determinative relationship with the southern agglomeration of Budapest. Its administrative border physically merged with the neighboring settlement, and its main roads are significant transportation channels for the southern large urban area of Budapest.

Csepel District is historically multi-layered, having witnessed the economic and political interest of the past (for example, as a flagship of the state in the socialist

[4] Nánay, Fanni–Vicky Holliday (2015a): Tandem Application Form.

[15] 1 EUR = 309,9 HUF, as average in 2015, see <http://www.mnbkozeparfolyam.hu/arfolyam-2015.html>

[16] Hegedüs, József –Horváth, Vera–Kovács, Vera (2015): *Budapest XXI. kerület Csepel szociológiai vizsgálata*. https://mri.hu/wp-content/uploads/2015/07/Csepel_lakasszoc_pt_11.pdf (6 June 2020)

[17] Monthly earnings in 2014: Hungary: 774 EUR, United Kingdom: 2.795 EUR, see <https://appsso.eurostat.ec.europa.eu/nui/submitViewTableAction.do>

[11] 1 GBP = 1,23 EUR, as average in 2016, see <https://www.ofx.com/en-au/forex-news/historical-exchange-rates/yearly-average-rates/>

[18] CABERNET (2006): <http://www.eugris.info/displayresource.aspx?r=259> (11 June 2020)

[19] Dolezelova, Lucie et al. (2014): “Redevelopment potential of brownfields: A-B-C classification and its practical application.” *E a M: Ekonomie a Management*. 7. Pp. 34–44.

[20] 1 EUR = 351,17 HUF, as average in 2020, see <http://mnb-kozeparfolyam.hu/arfolyam-2020.html>

[21] Csepeli toronyrobbantás: épülhet a kétszázmilliárdos atlétikai stadion (2020): https://nepszava.hu/3102369_csepeli-toronyrobbantas-epulhet-a-ketszazmilliardos-atletikai-stadion (20 February 2021)

[22] MTI (2021): Karácsony: Budapest nélkül nem fog az ország talpra állni. https://hvg.hu/itthon/20210306_Karacsony_Gergely_Budapest_orzag (12 February 2021)

[23] Engines of Prosperity: new uses for old mills (2016). <https://historicengland.org.uk/images-books/publications/engines-of-prosperity-new-uses-old-mills/engines-of-prosperity-new-uses-old-mills-fullreport/> (12 June 2020)

period of political propaganda after WW2), and are likely to become the subjects of diverse and conflicting interests in the future – meanwhile its presence is absent. After the prosperity-and-failure of the iconic heavy industrial Csepel Works – originally settled here in 1897 as Manfréd Weiss Steel and Metal Works –, the giant infrastructural body lost its identity-and cohesion-building power. The Works is categorized as a C-type reserve site in the “A-B-C classification model” [18] for the redevelopment potential of brownfield sites, which means a “non-developing” site, where “private enterprise is not interested ... because the regeneration costs will not guarantee the increase in the value of the site that would enable future development.” [19] However, the breakthrough seems to be coming, as the World Championships in Athletics will take place in Budapest in 2023, and huge governmental developments are starting at the peak of Csepel Island, for a cost of 204 billion HUF (581 million EUR [20]). [21] Besides, the municipality of Budapest plans fifty thousand new homes to be built in the capital until 2027, and one of its main directions points to the regeneration of brownfield sites. [22]

The Heavy Woollen District is named from the heavyweight cloth manufactured in the north part of large urban area of Kirklees. The scope of Creative Scene is on five towns here, namely: Dewsbury, Batley, Heckmondwike, Mirfield, Cleckheaton. Altogether, 157,7 thousand people lived in these cities in the year 2016. The region of Kirklees lays in 408,6 km², where the average monthly earnings were 1527,2 GBP (1878,5 EUR [11]) in 2016.

Textile mills have helped define this area’s identity since the late 18th century as the Industrial Revolution started to shape the landscape, the economy, and the communities here. [23] Later, in the 1980ies, because of changing economic trends, the time of the textile industry crisis was described as follows: “Over the last ten years 45% of the wool textile workplaces ... closed down [in the UK]. ... The impact of the continuing problems of the industry does, of course, have a very strong regional dimension since over half of the industry’s employment is in West Yorkshire. ... seriously undermining many local economies founded on the woollen textile industry.” The region witnessed prosperity and fall. There are currently over 1500 remaining textile mills in the West Riding of Yorkshire and are at risk of falling into disrepair and ruin. [23] However, many have been

successfully converted to new uses, as younger generations discover them to live or socialize where they have been converted to residences and leisure space. In 2019, eight towns in West Yorkshire, for example, Dewsbury too, set for a 3,6 billion GBP (4,1 billion EUR [24]) governmental regeneration fund aims to develop regeneration plans and boost the local economy.

The locale offers a particular type of factor. Moving across these post-industrial sites in Csepel District or Heavy Woollen District, we find vacant premises, socially unstable areas, neglected land, roadsides, railroad embankments, inaccessible places, and infrastructural facilities, networks, and their surroundings. Post-modern conditions place these urban peripheries in the forefront, giving them the relevance of locales that “left the context” and opening up new possibilities. However, the two sites, Csepel and Heavy Woollen Districts, are different in their scale, territorial classification, economic importance, but they share similarities in their aesthetic dimensions. [25] Furthermore, staging peripheral locations with their aesthetic dimension brings performativity to the floor and necessarily requires engagement, inclusivity, and bodily paradigm. This draws attention to the realm of our affective practices [26], to the possibility of channelling effects and responses into the creation of our micro-space and micro-society. Furthermore, the centralizing of peripheral locations might provide platforms for developing languages, suggesting interpretations, and politics up against neoliberal mechanisms of spatial selection, and make us think about competing for spatial aesthetics. [27]

Moreover, if we keep the line about the similarities of Csepel and Heavy Woollen Districts: chain of generations has been experiencing the process of depriving social spatialization [28] in both sites: “Negative image of place/ Lack of Pride/Being done ‘to’ rather than ‘with’” – as Nánay and Holliday expressed. [4] Social spatialization offers a way of talking about the pre-constructed cultural discourses of sites, and the relationships established between sites, how they came into those associations and under what authority, and by which groups.

Working in often overlooked communities, Artopolis and Creative Scene aimed to find what is universal and local so that the commissioning model could be translated in other locations and can help other processes (e.g. social-spatial rehabilitation/regeneration). Due to these conditions, they were

[4] Nánay, Fanni–Vicky Holliday (2015a): *Tandem Application Form*.

[24] 1 GBP = 1,14 EUR, as average in 2019, see <https://www.ofx.com/en-au/forex-news/historical-exchange-rates/yearly-average-rates/>

[25] Vidler, Anthony (1992): *The Architectural Uncanny*. Cambridge-London: MIT Press.

[26] Thrift, Nigel (2004): “Intensities of feeling: towards a spatial politics of affect.” *Geografiska Annaler: Series B, Human Geography*, 86. 1. Pp. 57–78.

[27] Read more here: Kovács, Szilvia (2017): “Peripheral Locations in Budapest: Where Inherent Emptiness Turns into More-Than-Representative Density Formations.” In: Anamarija, Batista–Szilvia, Kovács–Carina, Lesky (Eds.): *Rethinking Density: Art, Culture, and Urban Practices*. Berlin: Sternberg Press. Pp. 180–189.

[28] Schields, Rob (1991): *Place on the Margin: Alternative Geographies of Modernity*. New York: Routledge.

[4] Nánay, Fanni–Vicky Holliday (2015a): Tandem Application Form.

[29] A SceneMaker is a pro-active cultural organizer, facilitator, and therefore acknowledged member in a community. The notion originated from the vocabulary of Creative Scene's practice (and a pun: SCENEMaker of CreativeSCENE).

[30] Nánay, Fanni–Vicky Holliday (2015b): Collaboration Canvas.

able to work together in a complementary way, which proved to be a key element in addressing similar problems of people living in two different areas with familiar ways. By testing each other's approaches in their environment, Artopolis Association and Creative Scene aimed to find versatile tools which improve practices and offer new prospects for sustainability.

One social-spatial research: empiricism in Csepel

"Fanni [from Artopolis Association] will meet all the team, including our SceneMakers [29], the community volunteers we work with to instigate, plan and deliver events. Our role will be to ensure Fanni gets the opportunity to see how partners are engaged and how action research runs throughout the organization. As an independent practitioner, Fanni can gather feedback from current partners (community and cross-sector) on their experiences with Creative Scene." [4] That is, "Go&See"-visit, as one method for the knowledge transfer between the two organizations, were essential elements in the Tandem Europe program. And not just in the practices of participatory action research, Creative Scene was ahead also in the practice of community mapping. Since the beginning of its operation, Creative Scene has been searching, contacting, and involving residents in identifying the assets of their neighborhood, looking at opportunities, and creating art projects.

Figure 1. List of potential partners and partner resources

5.Partners <ul style="list-style-type: none"> • SceneMakers/Cultural Facilitators • Local Community Leaders (Small Businesses) ◊ Other Sector Organisations <ul style="list-style-type: none"> ◊ Investors ◊ Building Owners ◊ To be defined during mapping ◊ Critical Friend/Researchers/University Students ◊ News agencies (Potential Partners) <ul style="list-style-type: none"> ◊ Local municipality ◊ Investors/Building Owners 	6.Partner Resources <ul style="list-style-type: none"> • Ideas • Opinion Maker – influencing local people • Connecting people – artist with locals • Reaching a new local audience ◊ Shared Vision ◊ Space ◊ Venue/Infrastructure ◊ Financial Support – maybe ◊ Research Methods ◊ Theoretical background/models ◊ Human Resources
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Source: [30]

These practices and facilitated workshop techniques were several of Creative Scene's strengths that could be shared with Artopolis, and transmitted from Heavy Woollen District to Csepel District. Before applying such methods and techniques, Artopolis had to find potential partners and overview local assets in Csepel. To this end, as a pre-phase, a more formal but suitable empirical social-spatial research was achieved – with my involvement. [31]

I. At first, I applied to document and web content analysis to discover in parallel:

- 1) the main neighborhoods of Csepel, e.g. their borders, names, histories, architecture, and landmarks,
- 2) the cultural, sport, educational, and economic institutions, organizations, e.g. libraries, schools, galleries, small and medium-sized (SMEs) and large enterprises, national and international companies, NGOs,
- 3) the Local Community Leaders, who were associated with formal and informal communities locally.

II. At second, I conceptualized 23 interview questions, in three sub-topics, as follows:

- 1) District parts, neighborhoods, cultural nodes, characterization of inhabitants,
- 2) Cultural profile of Csepel District, urban development, future imaginations,
- 3) Community life, participative approach, the “hooks,” and a closing question about who else could also be interviewed in these topics in Csepel, for keeping the snow-ball method roll on.

III. At third, I chose potential interviewees, keeping in mind a possible diversity in terms of demographical, spatial, and occupation distribution. Between May–July 2016, I conducted 16 semi-structured deep-interviews with local community leaders altogether (in the Hungarian language). The interviews took place in cafés, bars, homes, workplaces and took circa 2 hours/head. The interviewees were:

[31] I have been researching the area of Csepel and the activities of the Artopolis Association for eight years already – as my primary academic research focuses on urban peripheries, which also includes public space-issues and site-specific art too. Firstly, in 2013, I joined to the PLACCC Festival as a volunteer assistant; I helped in the organization of audience during an urban walk, called “Volt egyszer egy Csepel Művek [Remember the good times, Csepel],” directed by the art group: SPACE (H/NL). Later, in 2015, I, as a DOC-team Fellowship recipient, deep-interviewed some artists who produced site-specific artworks for the PLACCC Festival in Budapest. Finally, in 2016, I started to work in the ‘Take your place/Make your place’-project as an invited researcher, a project associate on a contract basis. Besides the already mentioned interests, it is important to add one more: I also felt as a “corresponding member” of the community in Csepel. I live in Budapest's northwestern agglomeration in Pest County, but I grew up in the shadow of a similar entity like Csepel Works. My father worked some decades until his retirement for RÁBA Automotive Group, founded in 1896, in Győr, in northwestern Hungary, and there my family also witnessed the post-industrial phase, although a successful transformation.

[32] Unfortunately, no elected representatives or representatives of the local government were involved, although there was an intention for it. Since one invited (former) representative of the local government could only take part in the interview process late because of health reasons, and then already no longer as a member of the municipality, but as an independent expert.

[33] During the research, it turned out quite fast that I could also reach a possible diversity in terms of political views, as my role as a researcher and an outsider provided the opportunity for an open discussion.

[34] In 2010, Hungary held its sixth parliamentary elections since the Transition. Like elsewhere in the country, these elections also became a milestone in changing political attitudes in Csepel, whereafter periods of being governed by mayors who were affiliated with liberal- (1990-1994, SZDSZ) and socialdemocratic- (1994-2010, MSZP) parties, this time national conservative and populist (2010-present, Fidesz) party gained a majority in the local government.

[35] Read more here: Kovács, Szilvia. "What else could a chimney be if it's not a chimney?"; in print.

[36] Appadurai, Arjun (2006). "The right to research." *Globalization, Societies and Education*. 4. (2.) Pp. 167-177.

- four different artists and cultural facilitators,
- two CEOs from two internationally recognized companies,
- two architects and urban developers,
- three cultural managers from three different community centers,
- one historian and museologist,
- two managers and teachers from two different youth and educational centers,
- one member of a neighborhood association,
- one social-business owner and environmental trainer. [32], [33]

Indeed, the research could assess the local resources, values, and conflicts. The best illustrated through the four detected "Golden Age" – variations of Csepel District, which are the followings:

- (1) the era of "Manfréd Weiss Steel and Metal Works" (1892-1950),
- (2) the "Red Csepel"-epoch (1950-1989/90),
- (3) the Transition period lasting until 2010 [34] (1989/90-2010),
- (4) the contemporary Csepel (2010-).

Nevertheless, each interviewee – with their cumulative perspective covering the continuous history and the different (conceptual) views of Csepel over the period discussed –, only mentioned one variation as "the Golden Age." [35] The first period is interwoven with nostalgia. The Red-epoch has resulted in a controversial modernization. The Transition-time was demanding a transformation: from a focus on industrial mass production to a highly diversified service and information society. The present ongoings are all about re-habilitation, regeneration, re-development because of the effects of the periods mentioned above, furthermore, it is interspersed with political division and opposition.

Consequently, the community is forced to face its quintessential social values, such as opinion, need, love, honesty, power, respect, dignity, doubt, vision, and stance. At the first attempt, that presupposes "the right to research". [36] For each participant of the community, the opportunity should be given to collectively examine the real situation, to reflect on the own experiences about local issues, and to take steps to promote the own situations.

These all are important tools (not just for critical thinking) for empowering bottom-up change in our own learning-working-decision-making arena.

Two network initiators: Mrs. Csepel (HU) and Mr. Heckmondwike (UK)

The deep interview-series has started with Mrs. Csepel, as Artopolis Association has been working with her since PLACCC Festival was presented in Csepel (in 2013). I would like to introduce Mrs. Csepel: She is an artist, an art teacher, who has been working on the cultural life of Csepel for decades: until 2010 as public gallery director as well, after 2010 as an independent cultural organizer.

Mrs. Csepel is not a business owner; she is a recognized art teacher in the local art school and a recognized cultural facilitator in her community. She has social, cultural capitals, but not economic, based on Bourdieu's theory. [36] As Seth Godin explains the new type of capital, she has the network, intellectual, prestige, physical, and instigation capital, but not financial. However, instigation capital keeps her constant community role, as she has endless desire to move forward and the ability and the gust to say yes. [37] Moreover, the ability to make other people say yes also for such an experimental project as the 'Take your place/Make your place'.

Compared to that: "I'd like to introduce you to Simon or as I like to call him Mr. Heckmondwike. That's because he's in the know in Heckmondwike, the small post-industrial mill town where he owns a 1950s retro café." [38]

In these several sentences, which are describing the two SceneMakers, we found a significant difference: Mr. Heckmondwike has a publicly announced identity, while Mrs. Csepel remains anonymous. [39] Because, on the one hand, the locals from Csepel – the Hungarian contributors of 'Take your place/Make your place'-project – identified themselves as one-group, and they even named and visualized themselves as one community, called: "Helyi Érték Védők," alias "HÉV" [Local Value Defenders]. [40] On the other hand, all HÉV Group members decided to non-using their names or faces in any media channels to a greater extent than necessary due to the local political disunity.

[36] Bourdieu, Pierre (1986): The forms of capital. In: Richardson, J.: Handbook of Theory and Research for the Sociology of Education. Westport, CT: Greenwood. Pp. 241–58.

[37] Godin, Seth (2015): Poke The Box. Penguin Books Ltd. Hardill, Irene (1983). "Problems and Prospects: The Wool Textile Industry." *Geography*, 68. (2.) Pp. 165–168. (24 April 2020)

[38] Holliday, Vicky (2016): *Making art. A Part of every day life – what happens when communities play a strong role in commissioning?* <https://www.creativepeopleplaces.org.uk/sites/default/files/Vicky%20Holliday%20notes.pdf> (3 April 2020)

[39] She does not even think of herself as "Mrs. Csepel"; this notion was chosen by me for drawing parallels between the two SceneMakers.

[40] The acronym: HÉV, originally means: „Helyi Érdekeltségű Vasút" [Railway of Local Interest]. It used to be the legal name for suburban train lines in Budapest. HÉV is one of the landmarks in Csepel, representing "the connection" between Csepel District (including its surroundings) and Budapest's city center.

[41] From then on, my researcher role transformed and mixed with the roles of a volunteer, an audience, an artist, and a critical friend. Just as the interviewed locals made their own decisions about whether they would like to continue participating in the further implementation of ‘Take your place/Make your place’-project, or to/ in which extent, part of the process, if at all.

[42] BB (2016): (Anonymous indication of an interviewee.)

Figure 2. The logo of HÉV [Local Value Defenders] Group in 2016 and in 2017



Source: Balogh, Attila (2016/2017)

One social-political claim: Civic participation and civic imagination

For the end of August 2016, Artopolis Association organized the first introductory workshop to start participatory action research and community mapping. Mrs. Csepel and another five people have accepted the invitation from the above-listed interviewees, among those three of them worked in Csepel, but did not live there. [41]

At this stage, the group's idea mostly focused on how to connect the Inner City Budapest with the Csepel District. Their pressing feeling rooted in the desire to re-introduce Csepel as a place, which is “just 10 minutes far” [42] from the center of Budapest (by suburban train). So, to make Csepel be recognized as it is “here” and “another” (not there and other anymore, in the nexus of spatial and social distance). As a place of project implementation, the Boráros Square has been singled out since it is a southern public transportation hub of the city center, which is also the terminal of the suburban train line in the direction of Csepel.

Figure 3. The social-spatial distances between the Inner City Budapest and the Csepel District



Source: edited by the author

The terminal of the suburban train at Boráros Square is on the edge of inner- and outer-Budapest – as it lies at the endpoint of Grand Boulevard, one of the most important routes in the center of Budapest, which passes through the inner districts since the 19th century. It is also the most likely place for slowing down the flow of people from Csepel to the Inner City, or vice versa, coming from the Inner City to Csepel (by the iconic suburban train). Here, we get out or get in of the hustle and bustle of the Big City, and during the 10-minute train journey, we are switching to or from the rhythm of Csepel. There is the attenuation of people's flow, as we stop for a few minutes while we are waiting for the train. Bumping people into a message of art project here is unavoidable, has a significant impact, and can sharply increase attention.

And the main “message” [43] that was articulated is the aspiration to address “in-Csepeler-s”, so “Csepel-less people.” (In Hungarian: „csepeltelenek”.) Those locals and not locals, who are formally or informally connected to Csepel, but who has a kind of empty or negative spatialization towards Csepel, and with whom the local contributors miss the interactions in everyday life of Csepel.

[43] Brosio, Richard A. (1994): *A Radical Democratic Critique of Capitalist Education*. Peter Lang Inc.

[44] Kovács, Szilvia (2019): "About Care-Based Urbanism: The Case of Budapest-Csepel." In: *Arts and the City International Conference Budapest*. 23–24 May 2019: Booklet of Abstracts. Budapest: Károli Gáspár University of the Reformed Church. Pp. 24–25.

[45] Burton, Brian K.–Dunn, Craig P. (1996): "Feminist ethics as moral grounding for stakeholder theory." *Business Ethics Quarterly* 6. Pp. 133–147.

[46] Noddings, Nel (1984): *Caring, a Feminine Approach to Ethics & Moral Education*. University of California Press.

What seems to have been articulating is a non-conceptualized, instinctively evolving phenomenon of care. [44] Philosopher Nel Noddings' believes that caring "rooted in receptivity, relatedness, and responsiveness", and her approach has been described as relational ethics because it prioritizes concern for relationships. According to Noddings, each caring relation consists of (at least) two people, the "one-caring" and the "cared-for," who have a reciprocal commitment to each other's well-being. But one does not have either the capacity or the duty to care for everyone. One does hold an obligation to be prepared to care for particular others: for "the proximate stranger". [45], [46]

However, during autumn 2016, by the time of the next workshops, the circle of local participants had organically changed according to the local milieu (in the narrow social-political sense). Because then, all invited participants have assessed the amount of voluntary work, energy, and the potential significance of commitment involved in such 'Take your place/Make your place'-project. Everyone considered the possible outcomes of participation, comparing the real and perceived ideas of how their own (organizational) environment might relate to the topic, the group, and their resolutions. The mechanisms became characterized by the local social-spatial-political patterns of Csepel. As a result of this, the representatives of local public institutions and almost all of the non-residentials of Csepel, have disappeared from the participatory action research. The social-political division, also felt by the empirical research, slowly re-tuned the original, professionally balanced, internationally tested initiatives. Finally, from now on, the remaining, renewing but highly committed participants were almost entirely living and working locally, individuals and non-representatives of organizations, based on a personal network of contacts and engaged mainly in creative, artistic and/or education, training fields. They were experiencing the retreat of their wider social-political environment in the project process, and as a result, a more general claim also did crystallize: the need to address the invisible (local) masses and overcome the (local) social indifference.

Based on a new community mapping, the choice of event venue fell at last to the middle of Csepel District, namely to Csepel Plaza. The shopping mall is a local landmark, because of this the most likely place for meeting locals during Christmas time. Its catchment area covers the neighborhoods within Csepel, a practical site selection in terms of program organization and implementation, and as an economic organization, it is more open for cross-sector collaboration.

In conclusion, a series of interdependent decisions, and not individual decisions per se, led to a continuous and self-coded displacement in that participatory culture met political and civic participation to search for asserting new voices against social apathy. On a discursive level, a new image-bank was claimed to discuss: what is Csepel look like now, and what is its prospect...? For example, compared to the four “Golden Age-variations” that existed. With that, civic imagination was reclaimed: the capacity to conceptualize alternatives to current cultural, social, political, or economic conditions. That also “requires the ability to see oneself as a civic agent capable of making change, as a participant in a larger democratic culture.” [47]

Two cultural programs: Redrawing – Csepel (HU) and HeckmondLIGHT (UK)

After a productive force to re-arrange and transcript local values, the first event has formed into a 3-day program-series, under the umbrella name: “Redrawing – Csepel” (HU). The art concept created joint work of arts in public space: art workshops for children and street art festival, inside and outside of Csepel Plaza.

“Redrawing – Csepel” (HU)
16–18 December 2016, Csepel

“...there are various exciting ways the 21st district of Budapest, the island of Csepel can be redesigned. By involving members of the local community HÉV Group and PLACCC [Artopolis Association] are organizing a CS-project [“CS” as Csepel] event series to see what kind of possibilities there are for such changes – for renewal – in Csepel. (...) Held by various artists and school teachers, these workshops will allow participants to get a glimpse into the process of how projected images and light painting are created, with topical digital exhibitions, shadow theatre, and light painting performances planned in the parking lot of Csepel Plaza.” [48]

[47] Jenkins, Henry et al. (2016): *By Any Media Necessary: The New Youth Activism*. NYU Press.

[48] Újrarajzolás_Redrawing – CSEPEL /Tandem (2016): https://placcc.hu/2016/12/14/ujrarajzolas_csepel-tandem/ (14 April 2020)

List of programs:

KépZene [ImageMusic], PandaElektroakusztik (H); audio-visual concert

Képek zenére / Árnyak falra [Images to music / Shadows on walls], students of Nagy Imre Primary School and Elementary School of Art, concept: Gábor Körömi (H); performance

Üvegperformansz [Glassperformance], VJ Bios & Csilla Szilágyi (H); performance

Angyaltánc [AngelDance], Tamariska Dance Studio; concept: Sára Hudákné Farkas (H); performance

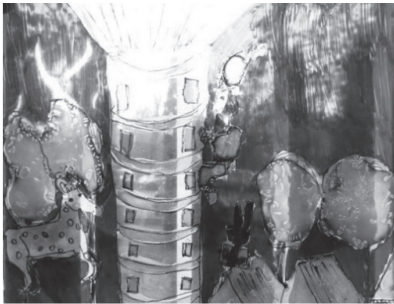
Drawing workshops for children; mentoring: Tímea Tóth (H) and Attila Balogh (H); fine art

Figure 4. Moments of “Redrawing – Csepel”



Source: Balogh, Attila (2016)

Figure 5. Imaginations about Csepel



Source: Kovács, Katalin Tünde; Kovacsics, Mia; Márton, Dorina (2016)

The fellow-event was “HeckmondLIGHT” (UK): a festival for the traditional Christmas decorative lighting in Heckmondwike.

„HeckmondLIGHT” (UK)

31 October 2016, Heckmondwike

The evening included a presentation about how light can transform the experience of place. Locals could also meet some of the artists who were creating work for the event: “from shadow puppetry to cycle powered projections and The Momentum Wheel – a special finale moment to make the event go out with a bang!” [49]

[49] Heckmond-
light 31 October
2016. (2016) [https://
karennaylor.blogs-
pot.com/2016/10/
heckmondlight-31-oc-
tober-2016.html](https://karennaylor.blogspot.com/2016/10/heckmondlight-31-october-2016.html) (14
April 2020)

Figure 6. Launch of The Momentum Wheel



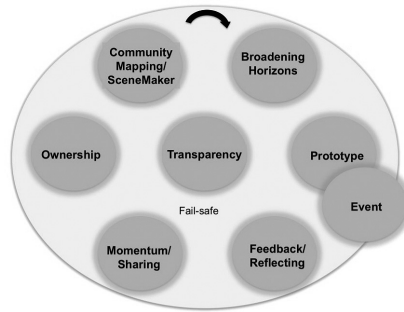
Source: <https://www.impossible.org.uk/momentum-heckmondlight-16>

Conclusions: One model for cross-sector co-curation with some unique patterns

In general, we can conclude that the model of *cross-sector co-curation* means the initiation of cultural and artistic projects that are results of community mapping and participatory action research, based on local partnerships (involving, e.g., local governments, small and medium-sized business, nonprofits, public institutions, artists, etc.), less artifact-based in terms of output, discursive and educational in nature, and which seeks for the feeling of ownership and sustainable effects on a long-term basis.

It uses artistic and cultural communication instruments after identifying needs, allocating resources, generating connection points, and sharing reflections. Here, we can see the local actors' awareness to contribute to social-spatial reality through the choice of topic, the field of research – to understand, draw attention, or even to change the (cultural) representations in a manner of practice.

Figure 7: The cycle of cross-sector co-curation



Source: [38]

The effects are realized due to cross-sector co-curation: the collective production of knowledge, the making a slit in formalized social-spatial practices, the process-, knowledge-, and research-based initiatives, the easiness of exchanging resources, etc.

In Csepel District's case, there was the curiosity to make stranger-Csepelers be known and the wistfulness to have insights into the different life-worlds of Csepelers. The prototype event, namely "Redrawing – Csepel" has shown HÉV Group's ability to conceptualize and organize a complex cultural event to address such issues, with the professional support of Artopolis Association. Simultaneously, it failed to break through the bubble of "Csepel-less people," as it could not embed at the local level.

Compared to that, "HeckmondLIGHT" refreshed a traditional local event based on extensive local cooperation.

From the perspective of Artopolis Association, there was the purpose of speaking confidently about the value of arts in the community and other public issues. The selected site, Csepel District, has proved the role arts can play in local planning and decisions about community activities. But all had to face the political division, the conflicts between individual and institutional interests, citizens' passivity, the questioning of status quo, the problems of hegemonic accounts vs. alternative value systems, which are oversized in Csepel District. [50] The original idea failed to have a substantial impact on the community's feeling of ownership and self-estimation permanently.

[38] Holliday, Vicky (2016): *Making art. A Part of every day life – what happens when communities play a strong role in commissioning?* <https://www.creativepeopleplaces.org.uk/sites/default/files/Vicky%20Holliday%20notes.pdf> (3 April 2020)

[50] At the same time, we should not forget, the "United Kingdom European Union membership referendum," commonly referred to as the "EU referendum" or the "Brexit referendum," took place on 23 June 2016, so at the year of the 'Take your place/Make your place'-project. However, the listed driving forces did not come to the surface in the Heavy Woolen District's case; they could have already appeared in the national public thought.

[51] See here: <https://placcc.hu/2017/06/08/gyar-kert-muveszet-csepelen/>

[52] Read more here: Kovács, Szilvia: Cross-sector co-curation in the mature stage. Csepel as „FactoryGarden”. In print.

Compared to that, Creative Scene adopted curatorial aspects into community building and broadened the horizons as local cultural commissioner.

Consequently, repetition becomes the most crucial element in the model of *cross-sector co-curation*. Therefore, Artopolis Association and Creative Scene continued their project with Tandem Europa program’s support in the year 2017. That is the story of the cultural event called: “FactoryGarden” in Csepel District [51], in that cross-sector co-curation is continued. [52]