VIRTUAL SHELLS – LEGAL PERSPECTIVE OF DIGITAL CLONING AND IMMORTALITY

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Abstract: *Digital cloning is the replication of an individual human being in digital form. While biological cloning has a legal regulation, digital cloning is left out of the scope of the legal framework. Digital cloning cannot be banned on the same grounds as biological cloning; however, it is evident that technological developments are outpacing the current legal framework. This paper examines the possibility of digital cloning and its legal implications, especially grey areas in case of protection of individuals and their interests. In particular, questions regarding personal rights protection, both for the living and the deceased, will be addressed.*

1. Legal regulation of human cloning

Biological cloning can be described as the asexual replication of a biological entity and it is a field of biological research (i.e. genetic engineering) with its roots in the past century. Generally, there is two major areas of cloning: i) therapeutic cloning, ii) reproductive cloning (Robertson 1998). Therapeutic cloning involves cloning cells from a human or other biological entity for use in medicine and transplants, and is an active area of research. Two common methods of therapeutic cloning that are being researched are somatic-cell nuclear transfer and, more recently, pluripotent stem cell induction (e.g. Colman & Kind 2000; Takahashi et al. 2007). Reproductive cloning involve creation of an entire cloned human, instead of just specific cells or tissues.

A significant breakthrough in biological cloning came with the first mammal clone Dolly which was created by somatic cells nuclear transfer.[1] After the report of first successful cloning from adult cells, the global debate about human cloning and its implications started. The following year, the U.S. National Bioethics Advisory Commission (hereafter «NBAC») released Report and Recommendations of the National Bioethics Advisory Commission[2] (hereafter «NBAC Report»). The NBAC Report analysed the issue of human cloning from religious, moral and ethical perspectives, as well as public concerns of using somatic cell nuclear transfer techniques to create children. The NBAC, besides other things, concluded that «at present, the use of this technique to create a child would be a premature experiment that would expose the fetus and the developing child to *unacceptable risks* [emphasis added]. This in itself might be sufficient to justify a prohibition on cloning human beings at this time, even if such efforts were to be characterized as the exercise of a fundamental right to attempt to procreate.;...Beyond the issue of the safety of the procedure, however, NBAC found that concerns relating to the potential psychological harms to children and effects on the moral, religious, and cultural values of society merited further reflection and deliberation.»[3] The NBAC Report supported a moratorium on public

[1] Dolly was born on 5 July 1996 in Scotland. For more information see: https://www.nms.ac.uk/explore-our-collections/stories/natural-world/dolly-the-sheep/ (last accessed: 6th January 2019).

[2] Cf. Shapiro, Cloning Human Being, Report and Recommendations of the National Bioethics Advisory Commission. Rockville, Maryland 1997.

[3] Supra note 2 Executive summary, ps. ii–iii.

funding of reproductive human cloning. However, the current legal framework in federal laws has not adopted a complete ban on human cloning and there are fragmented regulations from state to state.

On the global level, an international agreement is far from being reached. In 2001, the United Nations General Assembly began elaborating an international convention against the reproductive cloning of humans and established an Ad hoc Committee.[4] A broad coalition of UN Member States, including Spain, Italy, the Philippines, the United States, Costa Rica and the Holy See sought to extend the debate to ban all forms of human cloning, noting that, in their view, therapeutic human cloning violates human dignity. Costa Rica proposed the adoption of an international convention to ban all forms of human cloning.[5] Unable to reach a consensus on a binding convention, a non-binding United Nations Declaration on Human Cloning was adopted, calling for the ban of all forms of human cloning contrary to human dignity.[6] The Declaration recalled the UN Declaration the Universal Declaration on the Human Genome and Human Rights,[7] adopted by the General Conference of the United Nations Educational, Scientific and Cultural Organization in 1997, and in particular article 11 thereof, which states that practices which are contrary to human dignity, such as the reproductive cloning of human beings, shall not be permitted.

In Europe, there is development in the regulation of human cloning on two levels, via Council of Europe and European Union. The European Convention on Human Rights and Biomedicine[8] (hereafter «Convention») prohibits human cloning in one of its Additional Protocol to the Convention[9] (hereafter «Additional Protocol») with regard to the Application of Biology and Medicine, on the Prohibition of Cloning Human Being appear to ban SCNT of human beings.[10] Of the Council's 45 member states, the Convention has been signed by 31 and ratified by 18. The Additional Protocol has been signed by 29 member nations and ratified by 14.[11] Although, there is a ban on human cloning, the regulation leaves to domestic law to define the scope of the expression «human being» for the purposes of the application of the Additional Protocol.[12] The Charter of Fundamental Rights of the European Union explicitly prohibits reproductive human cloning in its Article 3.[13] The charter is legally binding for the institutions of the EU and for member states.

The major argument against human cloning is its safety, as research has not demonstrated the minimum risk of procedure in animal cloning it cannot be justified on humans (e.g. Langlois 2017). Further objections against human cloning include (i) safety of the embryo and surrogate mother; (ii) possibility of psychological harm to the child as well as identity crisis; (iii) detrimental effect on the family and on society (e.g. Sheikh 1997). The argument that human cloning is in fact a right to reproduce will be a major point of contention and

4 For more information see http://legal.un.org/committees/cloning/ (last accessed: 6th January 2019).

5 Proposal by Costa Rica for a draft international convention on the prohibition of all forms of human cloning (A/58/73). 2 April 2003. Working Group of the Sixth Committee on an international convention against the reproductive cloning of human beings http://legal.un.org/docs/?symbol=A/58/73.

6 United Nations Declaration on Human Cloning (A/RES/59/280), 8 March 2005 (hereafter «Declaration»).

7 Universal Declaration on the Human Genome and Human Rights, UNESCO's 29th General Conference. 11 November 1997.

8 Convention for the protection of Human Rights and Dignity of the Human Being with regard to the Application of Biology and Medicine: Convention on Human Rights and Biomedicine (ETS No.164). 4th April 1997.

9 Additional Protocol to the Convention for the Protection of Human Rights and Dignity of the Human Being with regard to the Application of Biology and Medicine, on the Prohibition of Cloning Human Beings (ETS No.168). 12th January 1998.

10 Article 1 of Additional Protocol: «1 Any intervention seeking to create a human being genetically identical to another human being, whether living or dead, is prohibited. 2 For the purpose of this article, the term human being «genetically identical» to another human being means a human being sharing with another the same nuclear gene set.»

11 List of ratifications available here https://www.coe.int/en/web/conventions/full-list/-/conventions/treaty/168/signatures?p_auth=nnJVssjf (last accessed: 6th January 2019).

12 Explanatory report for supra note 9. Available at: https://rm.coe.int/CoERMPublicCommonSearchServices/DisplayDCTMContent?documentId=09000016800ccde9.

13 Charter Of Fundamental Rights Of The European Union, Article 3 Right to the integrity of the person, Section 2: «In the fields of medicine and biology, the following must be respected in particular: ...- the prohibition of the reproductive cloning of human beings.», C 364/9.

the main support for human cloning (Sheikh 1997). Also, there is discussion over the possible fallacies and contradiction in regards to human cloning. One important factor to consider is that although a clone would be physical identical to its donor, they would nonetheless develop as a unique individual due to environmental factors, potentially very different to those experienced by the DNA donor (Macintosh 2006). Another limits of assessing the legality of human cloning are set by the fact the needed analysis of existing risks can not be performed since reproductive human cloning is not carried out (Ruggie 2014). The closest research areas are animal cloning and twin studies which cannot provide satisfying arguments for or against human cloning. Moreover, recent progress in mammal cloning might mean that technology for human cloning is realised which would shift the debate from theoretical to practical.[14] Therefore, human cloning remains one of the most controversial research areas with potentially huge benefits but significant ethical dilemmas.

2. Digital cloning technology

Digital cloning is the replication of an individual human being into digital form. Digital cloning can be understand in *largo sensu* as all forms of replication of human personality via digital technology which can involve less sophisticated replication as a mere virtual identity in form of online profile or avatar. In *stricto sensu*, digital cloning should result in the identical clone of human being. However, this concept has its technical and non-technical limits as it will be described below (see Section Philosophy – dead end).

Digital cloning can be implemented via different technology such as chatbot,[15] hologram,[16] video[17] or combination of these technologies.[18] Two approaches are typically used to create digital clones: the direct approach and the indirect approach (Beard 2001). Under the indirect approach, the individual who is cloned is not present and film, photos, and other media of the individual exhibition taken during his life are used and then incorporate the person's image, voice, and even mannerisms from this material to create a completely new digital version. An example of a direct approach is motion capture where an individual can create a «human blueprint» of themselves by attaching sensors to themself and recording the light refractions in front of a blue or green screen (Smith 2014). The «human blueprint» can then be manipulated by software to do anything the creator would like.[19] The selected approach of digital cloning method can be dependant on whether the clone should replicate an alive or dead person. This fact can have significant consequences for legal and ethical assessment of digital cloning which will be discussed later.

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[14] Helen Briggs, First monkey clones created in Chinese laboratory, published on 24 January 2018, https://www.bbc.com/news/health-42809445. (last accessed: 6th January 2019).

[15] For example, Replika (https://replika.ai/), which is an AI based chatbot designed to learn from your interactions and create a persona that is supposed to reflect your personality.

[16] A famous example of this technology is a hologram of Tupac Shakur that performed at the Coachella Music festival in 2012 e.g. https://www.washingtonpost.com/business/technology/how-the-tupac-hologram-works/2012/04/18/gIQA1ZVyQT_story.html?noredirect=on&utm_term=.a4597350fbb6.

[17] See for example the videos of former President Obama saying things that he had never said in real life, an explanation of the technology is given in Suwajanakorn et al. (2017) and the technology can be viewed in a TED talk from April 2018: https://www.ted.com/talks/supasorn_suwajanakorn_fake_videos_of_real_people_and_how_to_spot_them/transcript?language=en.

[18] UBS recently announced that they had invested in a digital clone of their Chief Investment Officer, Daniel Kalt, so that he could simultaneously hold meetings with multiple clients, more information here: https://www.faceme.com/our-work-and-case-studies/ubs-partnered-with-ibm-and-faceme-create-dani.

[19] Cf: Chaque & Charbonnier (2015):«We believe that using a digital clone of his self as an avatar in virtual reality can lead to an increased feeling of embodiment and thus an increased feeling of presence.;...We first developed two base anthromorphic human avatars: a male and a female. The avatars were composed of two layers: a texture mesh (skin) used for the rendering of the surface of the avatar and an animation rig (skeleton) – which is a hierarchical tree structure – to deform the mesh. The 3D scans obtained at the previous step were then used as input to a topology transfer tool which was in charge of fitting the template mesh to the 3D body scan.;...This scenario demonstrated the use of 3D body scan both for the user representation and for the content creation.»

A digital clone can take many forms, from a simplistic clone such as a social media profile to a complex clone. The lower forms of digital clones are everyday reality and easy to create and commonly encountered. These digital clones are regulated on a level of personal data protection laws when it has no longer raise complex and difficult questions. The level of autonomy of such digital clone stays low, since it usually requires human input, therefore, even possible interaction with this kind of clone is limited. The higher form of digital clones is more sophisticated (e.g. chatbot or video conversations). Such technology might be hard to recognise for individuals whether they are interacting with human or a machine. An example of more sophisticated technology is the result of a team from Washington University which demonstrated technologies that could produce fake audio-visual content based on replicating an existing person (Suwajankorn et al. 2017).[20] The subject of their demonstration was former President Barack Obama whereby they created video footage of the President speaking words which he had never spoken. This development led to discussion of appropriate measure against misuse of such technology (e.g. Huh et al. 2018). Sophisticated technology can also reach a higher level of autonomy from its creator which is the case for chatbots, which typically operate without human input. It also influences an interaction with these clones. Finally, the ultimate digital clone will represent the full embodiment of a person into the digital environment. As a result, the digital clone should replicate the «soul» of a human being, so it will be conscious. However, this level of digital cloning presents various obstacles on a philosophical level as well as technical level, which will be discussed below.

Digital cloning is demonstrated by several applications such as UBS Companion[21] or Intellitar.[22] In the case of the UBS Companion, an interactive avatar of Kalt that will be able to meet with 100s of clients at a time, will appear via television screens in the Bellevue branch in central Zurich in the near future. The Kalt clone should be so lifelike that customers might believe they are watching a video of a real human. When they speak with the clone they will receive answers conjured up through the real Kalt's training of IBM's Watson AI technology.[23] In contrast, Intellitar's main purpose was to preserve and share personality, life experiences, knowledge, wisdom, and memories in a way never before available. Users start by choosing a photo to animate and then take a Myers-Briggs type personality test which is assigned to the avatar, and finally they start imparting knowledge to it – memories, photos. The avatar learns a user's personality using an AI engine from LA-based Cognitive Code.[24] Then an avatar becomes interactive, so that others can ask it questions and talk to it. However, the project stopped in 2012[25] because of a legal battle over the intellectual property rights to Intellitar. There is an ongoing project, Eternime, which started where Intellitar stopped.[26] Another existing project, Replika,[27] has some similar features as Intellitar. The first clone created using Replika was of a deceased friend of Replika's creator;[28] however, today the application is focused on the replication of existing individuals. There are obvious connections to the idea that we increasingly are leaving behind digital personas (or avatars) in the form of social media profiles, video game characters, etc. (e.g. Bainbridge, 2011). Such a perspective can be a lower level of digital cloning where it is not a perfect clone of an individual but still has

[20] See also supra note 18.

[21] See supra note 19, further information can also be found in reporting by Atkins, Ralph, Why UBS cloned an economist, Financial Times, https://www.ft.com/content/fdaf48ec-8422-11e8-a29d-73e3d454535d (last accessed 6th January 2019), 19th July 2018.

[22] An article about Intellitar discussing their motivation and technology can be found at Forbes online by Hill, Kasmir, Virtual Immortality Through Digital Cloning, Forbes Online, https://www.forbes.com/sites/kashmirhill/2010/10/21/virtual-immortality-through-digital-cloning/#5d7c16897802, last accessed 6th January 2019, October 2010.

[23] Details about IBM's Watson technology can be found on their website: https://www.ibm.com/watson/.

[24] Successor company of Cognitive Code: http://www.voxagentlabs.com/.

[25] See: https://splinternews.com/this-start-up-promised-10-000-people-eternal-digital-li-1793847011 (last accessed 6th January 2019).

[26] The Eternime website opens with the question «Who wants to live forever?, Eternime preserves your most important thoughts, stories, and memories forever» see: http://eterni.me/ for more details.

[27] See supra note 16.

[28] The story of the first Replika can be found in the reporting of Newton, Casey, Speak, Memory, The Verge, https://www.theverge.com/a/luka-artificial-intelligence-memorial-roman-mazurenko-bot (last accessed 6th January 2019).

common features with higher levels of digital cloning. Despite the fact that all aforementioned applications are fascinating, they have also side disturbing effect and remind episodes of UK series Black Mirror which is linked to concept of techno-dystopia.[29] It is evident therefore, that there is need for analysis of the possible side effects of usage of these technologies in the field of law, psychology and sociology.

3. Philosophy – dead end

As it was presented above, there are several levels of digital cloning technology. The most interesting are the most sophisticated applications which might perfectly replicate a person. Digital replication, in this context, can be described as the fullness of our mental selves can be uploaded with first-person perfection to a non-biological media, so that our mental selves will live in the virtual environment. While replication of a biological body has no relevance to digital cloning, the main obstacle to reaching first-person perfection is presented by replication of a human mind as it is one property of the originator. Logically, the main subject of the process of digital cloning becomes the mind of a human. In regards to that, there is a substantial question: is it possible to perfectly digitally replicate ourselves? Which leads to another fundamental question: what we are made of? These and other questions are essential existential considerations connected to pure existence of human beings. One area where such questions have been discussed at length is in philosophy.

Kuhn (2016) examined the philosophical aspect of virtual immortality which is one form of the digital cloning. In his view unless human-like inner awareness can be created in a non-biological environment, uploading someone's neural patterns and pathways, although complete, could never replicate the original, first-person mental self, and virtual immortality would be impossible. The philosophy of mind describes the mind–body problem as the relationship between the human brain as part of the physical body and thoughts and consciousness in the human mind. It is distinct from the question of how the mind and physical body function chemically and physiologically since that question presupposes an interactionist account of mind-body relations.[30] This question arises when mind and body are considered as distinct, based on the premise that the mind and the body are fundamentally different in nature. There are two fundamental philosophical streams which deal with this problem: 1) monism,[31] 2) dualism.[32] There is obvious argument in favour of monism where science can actually study subject-matter (brain) for understanding of mind and consciousness, so there is the possibility to find an answer. While dualism is a more romantic idea which might provide no answers in research so the research will always be shrouded in mystery and therefore there would be not transparent. Other approaches to the mind-body problem vary significantly on this issue and do not provide clear solutions.[33] Another approach to digital cloning can be viewed through the phenomenon of virtualisation. In philosophy the virtual is that which has potential rather than actual existence. Lévy describes virtualisation «as the movement of actualization in reverse. It consists in the transition from the actual to the virtual, an exponentiation of the entity under consideration;...virtualization involves a change of identity, a transition from a particular solution to a general problematic, the transformation of a specific and circumscribed activity into a delocalized, desynchronized, and collectivized functioning.»[34] Thus virtualisation of body means the change of its form which would be multiplied and heterogeneous. The perfect virtualisation, however, requires the complex knowledge of the subject or object of the virtualisation, since this knowledge presents limits to virtualisation which solely take over the subject into an alternative environment. As it was discussed above, there is no existing solution to

[29] Rickett, Oscar, How Far Off Are We from the Digital Clones of «Black Mirror»?, Vice, https://www.vice.com/en_uk/article/zmq8vy/how-far-off-are-we-from-the-digital-clones-of-black-mirror (last accessed 6th January 2019). 15th January 2018.

[30] Skirry, Justin, Rene Descartes: The Mind-Body Distinction, Internet Encyclopedia of Philosophy,https://www.iep.utm.edu/descmind/#H4 (last accessed 6th January 2019).

[31] That the mind and body are manifestations of a single entity.

[32] That the mind and body are distinct and non-identical entities.

[33] Supra note 31.

[34] Lévy, Pierre, Becoming virtual: Reality in the digital age, Plenum Trade, London, 1998.

discover complex and full knowledge of mind. This fact implies that a possible perfect digital clone is impossible at least from a philosophical perspective. Nevertheless, the question is, whether a perfect digital clone is necessary?

In discussing biological cloning, it was stated that even though human clones would share identical DNA, they will not be perfectly identical. The personal experience of human clones would distinguished them. Logically, digital cloning can be limited in a way that it will not require to replicate mind. In such sense, there should be identified different parameters for digital cloning, e.g. same behaviour pattern, personality, memories, etc. Although, it may seem as stepping back when we abandon the wish to create a perfect digital clone, such a decision, however, provides a practicable framework and scope for technology. It can be then considered from the technological perspective whether existing technology is within such scope. Presented technologies and examples are definitely digital cloning.

4. «Virtual shells» from law perspective

It is apparent from the previous sections that digital cloning is becoming viable as technological advancement allows for the creation of individual digital clones. It has been demonstrated that such technology has great potential for usage, but due regard should be given to assessment of its possible impact on society. One example of possible society impact is called «technology vertigo» which can be understood as a confusion as to what about a person is real and what is not, meaning that there is a possibility that someone's «virtual self circulates as fact».[35] Furthermore, society as a whole might face in case of virtual immortality «new concept of afterlife». The existing model is based on life-circle which ends with the death of person, so the phase of mourning is natural. What happens if we can preserve our beloved ones even in case that they are no longer alive?[36] What if their digital clone would be unrecognisable from its originator? These questions imply the necessity of ethical and psychological evaluation of digital technology, since it is first time when we can reach some form of afterlife. Consequently, there should be evaluation of possible legal issues related to this technology.

Probably the first issue discussed in relation to digital cloning in the literature has been right-to-publicity (e.g. Smith 2013). The debate focused on the extension of right-to-publicity in case of digital cloning. While the technology to re-create deceased celebrities on screen has existed for some time, this new level of social interaction and duplication of every detail of physical appearance and personality shines a possible light on the inadequacies of current right-to-publicity. The dangers of damage of reputation by digital cloning was identified as great and similar to controversial reproduction cloning techniques where modifications to someone's identity are regulated. The suggestion of legal regulation is to establish an opt-in requirement where an artist must explicitly consent to the use of virtual clones will help to protect the rights of artists and re-creators and will lead the way in protecting against this technology's potential for invasion and destruction of reputation and legacies (Smith 2013).

Staying in the entertainment industry, a significant friction area of digital cloning and law can be copyright. The usage of digital cloning technology found its gross application in audiovisual production. One of many examples can be a project which aimed to build a system capable of learning to generate new audiovisual content of a chosen TV character from the TV show Friends, in the form of a moving, gesturing and speaking 2D avatar (Charles et al. 2016). Another example is based on direct digital cloning and was demonstrated

[35] «We're beginning to live in a world where it's extremely difficult for people to determine what is real from what is not real,» Ryan Calo, the director for privacy and robotics at the Stanford Center for Internet and Society, regarding the hologram of Tupac Shakur (https://www.yahoo.com/news/blogs/trending-now/y-big-story-tupac-resurrection-questions-over-raising-215806421.html?guccounter=1).

[36] The person behind Interllitar admitted in the interview that he would be happy to preserve expression of his dead mother. Link to interview: https://www.youtube.com/watch?v=MMjodHFXfAM (last accessed 6th January 2019).

in the film The Curious Case of Benjamin Button.[37] Besides the issue of protection of actors scanning, there is potential protection of digital clone technology itself and its outputs (Newell 2010). In the former case, we can consider copyright protection of technology as well as patent protection when the technology fulfils requirements set by laws.[38] More interesting is the protection of digital clones. There are assumptions based on existing legislation that copyright protects digital models, even those that replicate reality, when these models include elements of creativity, such as colour, shading, texturing, animation, and lighting. Additionally, it is possible that copyright will protect expression of digital models as either artistic or audiovisual works. However, there is obvious limitation in scope of copyright protection of digital clone when the main purpose of these technologies is to provide indistinguishable reflection of an individual. Therefore, the process of digital cloning of a person may exclude artistic and creative aspects and prevent copyright protection of outputs. While this conclusion is in favour of the originator, which would hardly desire his clone to be the property of a third party, it should be noted that the case-by-case assessment may also provide opposite decision.

The first discussed implications of digital cloning on law were focused on the entertainment industry where digital cloning has the biggest application. Nowadays digital cloning technology is more accessible. Currently we are witnessing a shift towards its individual application. Thus, protection of personal rights is of great importance. There are several problems which should be dealt with in the case of a personal digital clone. The preliminary question is the creation of a digital clone which should be done only with explicit consent of the originator when protection is based on a two-layered system of personal rights and protection of personal data.[39] The regulation of personal data is a key aspect for digital cloning since personal data is a fundamental building block for a digital clone. When an individual would not want to be the subject of digital cloning, such a process operating without his explicit consent would impair his rights. Also, protection of personal rights shall provide a measure against the misuse of an existing digital clone. However, a different situation would be in the case that a person desires to create their «virtual shells» but does not obtain sufficient amount of their personal data or it would require immense effort to collect them. A person can attempt to obtain their personal data from a subject which collects them. The potential restriction on access to collected personal data by a third party may indirectly impair a person who wants to create a clone.

Another scenario involves cloning a deceased person, where the question of consent might be troublesome. The post-mortem protection can greatly vary from state to state.[40] Some states may provide protection of personal rights of a deceased person to his relatives.[41] The possible choice of creation of a digital clone of a person would be vested in his relatives after his death. However, this situation can be more complicated if a deceased person never desired to be digitally replicated and there might be uncertainty whether such a wish is legally binding and enforceable. Moreover, existing legislation, e.g. GDPR, explicitly exclude its application

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37 Dunlop, Renee, The Curious Case of Benjamin Button: The Beginning of the End for the Uncanny Valley, , CGSociety: Prod. Focus, http://features.cgsociety.org/story custom.php?story-id=4848&page=1.

38 The digital cloning technology will be protected in most scenarios as a computer program. The existing legal framework allows to protect a computer program by copyright and by patent. E.g. Directive 2009/24/EC of the European Parliament and of the Council of 23rd April 2009 on the legal protection of computer programs.

39 International public law establishes fundamental framework and minimum standards for protection of personal rights via article 12 of Universal Declaration of Human Rights, article 8 of European Convention on Human Rights and other international treaties with binding effect for their members. However, national laws usually vary on implementation of international standards. On the EU level there is no harmonised secondary legislation which deals with protection of personal rights. The fundamental EU legislation on protection of personal data is Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (hereafter «GDPR»).

40 Cf. Habinja, Edina, People are going to court over dead family members' Facebook pages – it's time for post-mortem privacy. The Conversation,http://theconversation.com/people-are-going-to-court-over-dead-family-members-facebook-pages-its-time-for-post-mortem-privacy-78375, 2nd June 2017.

41 Such a concept is established in Czech Republic, see Section 82 of Act. 89/2012 Coll., civil code.

to deceased people.[42] Moreover, existing legislation, e.g. GDPR, explicitly exclude its application to deceased people, however, provides space for such national legislation.[43]

The previous sections presented several friction areas between law and digital cloning, however, this does not by any means represent an exhaustive list. There might be other issues related to digital clone actions from legal perspective, can such actions be attributed to the originator? Or whether an originator can execute some rights through the clone? It is clear that the current state of art poses a challenge for existing legal framework.

5. Conclusion

This paper examined the possibility of digital cloning and its legal implications. A clear rationale exists for banning biological reproductive cloning due to its potential harm both to the physical and mental well-being of a human clone and the wider impact on society as a whole. Digital cloning satisfies concerns regarding the physical safety of an individual but there remain issues regarding psychological and societal impacts. Digital cloning cannot be banned on the same grounds as physical cloning; however, it is evident that technological developments are outpacing the current legal framework. Therefore, proper analysis of the ethical and social impacts of this technology should be carried out. Moreover, the existing law also includes grey areas which might be troublesome in case of protection of individuals and their interests. In particular, questions regarding data regulation, both for the living and the deceased, as well as liability of a digital person should be addressed.

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[42] See Recitats 27, 158, 160 GDPR.

[43] The Federal Court of Justice has ruled that Facebook must provide access to account of deceased person by her parents since Facebook refused to do that. See https://www.thelocal.de/20180712/german-court-to-rule-on-parents-access-to-dead-daughters-facebook.

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