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Cryptoart and Digital Humanities: Transtechnological Perspectives and the Challenge of Tactical Positions

Abstract: Contemporary times always pose a challenge for theoreticians who try to map it and encode it. Nevertheless, it is more than important to grapple with present times and bring out the topics that can *engage* understanding of present discourses, potentials, and possibilities. It is even more true with art and humanities that, each on its side, faced significant challenges from the rise of technology-driven reality. As for the art, it seems that technology gives more opportunities and options than ever, but it is not without questions of value, authenticity, ownership, commodification, or artivist practices. As for the humanities, they already faced the alleged "crisis" due to the new wave of technocracy. New technology offers new media, new languages, and new discourses. But is it all good news? Should art and humanities form a kind of a (trans)tactical (im)pact and adopt the technology language, or would such a turn create more slippery points than easy-going practices? This paper will try to examine transdisciplinary and transtechnological coordinates of art and humanities taking the case study of cryptoart and blockchain system usage in contemporary artistic practices. This will also engage the discussion about digital humanities, which might be one of the next transdisciplinary steps to continue the fierce line of experimentation, and to combat the trend of going back to disciplinary frameworks.

Keywords: digital humanities; technology; trans-tactical positions; cryptoart; experimentation.

Crisis of Humanities and Matters of (Digital) Technology

The idea of crisis of humanities may seem rather new and related to recent prevalence of digital technology usage in social, cultural, political, and economic areas. However, in academic circles this topic is present and persisting for at least 60 years.[1] It seems that whenever there has been a significant technological leap which produced bigger number of effects affecting majority of media and cultural forms,[2] the academic discourses in humanities responded by certain unease, worry, and doubt

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[1] Cathy N. Davidson, "Humanities 2.0: Promise, Perils, Predictions," in *Debates in the Digital Humanities*, ed. by Matthew K. Gold (London: University of Minnesota Press, 2012), 476–89.

[2] Režis Debre, *Uvod u mediologiju* (Beograd: Klio, 2000).

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that humanities would be able to retain their position within academ, art, activism, politics and other contemporary and contested fields. But is it really a time for worrying? As Kathy N. Davidson argues, the humanities will always retain their importance in every historical time, no matter the technological changes, but it is essential for humanities to keep shifting from thinking *about* technological changes to *participating* in them.[3] In Davidson's words, "[…] we are not exempt from the technological changes of our era, and we need to take greater responsibility for them. We should be thinking about them critically, considering what they mean to us, and working to shape them to the future that we desire."[4] Humanities should, thus, keep a *tactical position* towards the world of technology, stressing their tight interconnection to it, its placement, and effects in human society. These tactical positions should not necessarily serve as an argument that humanities can "run the race" with technology in a successful way, nor they should be exhibited as a proof that humanities are being "scientific enough."[5] On the contrary – tactical positions of contemporary humanities include negotiating with technology, rooted both in revitalizing theoretical approaches, and in humanities *becoming* a technology for understanding contemporary society. At the same time, this is what marks digital humanities *trans-tactical* and *transtechnological* practice which tends to strive beyond and through traditional lines of disciplinary frameworks. Last but not the least, humanities should actively take part in the *making* of technology, through offering responsibly informed theoretical and practical tools for further technological development. These tools would serve both the humanities themselves, and the society in which such technologies would be applied.

As we speak about thinformational age, connective turn, and digital realms more and more, humanities are transforming into *digital humanities* – and for quite some time now.[6] Having started as *humanities computing* or *computing in the humanities* in the middle of the 20th century,[7] digital humanities has come a long way being regarded as a "support" for traditional humanities at first.[8] It was also often seen as a

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[3] Davidson, "Humanities 2.0: Promise, Perils, Predictions."

[4] Ibid., 477.

[5] Gary Hall, "There Are No Digital Humanities," in *Debates in the Digital Humanities*, ed. Matthew K. Gold (London: University of Minnesota Press, 2012), 133–36.

[6] David M. Berry, "Introduction: Understanding the Digital Humanities," in *Understanding Digital Humanities*, ed. David M. Berry, (London: Palgrave MacMillan, 2012), 1–20; Leighton Evans and Sian Rees, "An Interpretation of Digital Humanities," in *Understanding Digital Humanities*, ed. David M. Berry, (London: Palgrave MacMillan, 2012), 21–41.

[7] Interestingly enough, Rafael C. Alvarado says that humanities computing might not be a new layer of applying technologically driven thought to traditional humanities. As a matter of fact, humanities computing is tightly related to text studies, close reading, and linguistic studies, since computational code can be regarded as a language, or as an index of (digital) culture. In this sense, digital, or, more precisely, technohumanities has always been part of humanities; it is just the technology itself that was, and still is changing, while opening up new topics for ever relevant theoretical explorations. Rafael C. Alvarado, "The Digital Humanities Situation," in *Debates in the Digital Humanities*, ed. Matthew K. Gold (Minneapolis, London: University of Minnesota Press, 2012), 50–55.

[8] Roberto A. Busa, "Foreword: Perspectives on the Digital Humanities," in *A Companion to Digital Humanities*, ed. Susan Schreibman, Ray Siemens, and John Unsworth (Oxford: Blackwell Publishing, 2004), 10–19; Berry, "Introduction: Understanding the Digital Humanities."

specific *prop* that will turn traditional humanities into a more desired, more contemporary option for humanities professionals.[9] Very different and certainly more exciting than that, digital humanities has been actively evolving into its own field with its own professional practices, standards, procedures, exciting topics, explorations and tactical positions.[10] What might be especially important in digital humanities is its orientation towards creating communities, which implies shared knowledge, transdisciplinary collaborations, and continual interactive communication. Referring to this permanent state of interactivity in digital humanities, Cathy Davidson pulls uses the term *Humanities 2.0*,[11] as a parallel to Web 2.0, and compares digital humanities to social networks. Just as social networks, digital humanities is promoting collaboration, openness, collegiality and connections, diversity, and experimentation; its core operational mode is more distributed than centralized, and it should be, at least in the ideal state of the field, be built on trust, transparency and freedom of invention.[12] These characteristics could be the element that points to the core difference between traditionally conceived disciplinary humanities and digital humanities. On the other hand, the appearance of transdisciplinary approaches might also be just a logical consequence of working within digital field, and with digital tools that actively enable such connectional interactivity. However, this intensive communication and mediation place digital humanities right in the spot of trans-tactical work. According to Matthew Kirschenbaum, to speak about digital humanities is not to speak about the introduction of a new neopragmatic relativist term. In Kirschenbaum's words,

> At a moment when the academy in general and the humanities in particular are the objects of massive and wrenching changes, digital humanities emerges as a rare vector for jiujitsu, simultaneously serving to position the humanities at the very forefront of certain values – […] – [such as] entrepreneurship, openness and public engagement, future-oriented thinking, collaboration, interdisciplinarity, big data, industry tie-ins, and distance or distributed education – while at the same time allowing for various forms of intrainstitutional mobility as new courses are approved,

[9] See Matthew Gold, "The Digital Humanities Moment," in *Debates in the Digital Humanities*, ed. Matthew K. Gold, (Minneapolis, London: University of Minnesota Press, 2012), ix–xviI. Although Gold exhibits this possibility as a positive one, stressing the role of digital humanities in reshaping traditional humanities and bringing them closer to contemporary times and requirements, it might still be important to consider digital humanities not as a leveled-up version of the humanities, but as a distinctive field in its own.

[10] N. Katherine Hayles, "How We Think: Transforming Power and Digital Technologies," in *Understanding Digital Humanities*, ed. David M. Berry (London: Palgrave MacMillan, 2012), 42–60.

[11] Davidson, "Humanities 2.0: Promise, Perils, Predictions."

[12] Lucy Spiro, "'This is Why We Fight: Defining the Values of the Digital Humanities'," in *Debates in the Digital Humanities*, ed. Matthew K. Gold (Minneapolis, London: University of Minnesota Press, 2012), 16–35; Luke Waltzer, "Digital Humanities and the 'Ugly Stepchildren' of American Higher Education," in *Debates in the Digital Humanities*, ed. Matthew K. Gold (Minneapolis, London: University of Minnesota Press, 2012), 335–49; Hermann Diebel-Fischer, "Research Ethics in the Digital Age: Fundamentals and Problems," in *Research Ethics in the Digital Age: Ethics for the Social Sciences and Humanities in Times of Mechanization and Digitization*, ed. Farina Madita Dobrick, Jana Fischer, and Lutz M. Hagen (Wiesbaden: Springer VS), 2018, 1–21.

new colleagues are hired, new resources and allotted, and old resources are allocated.[13]

Conducting these tactical positions, of course, comes with certain challenges and questions, and it might be especially visible in the intersectional field of arts and humanities.

Transtechnological Coordinates of Arts and Humanities

Arts and humanities are often paired as mutually contributive fields. Many departments offer programs that enable art professionals to delve into humanities to understand better how and why we develop artistic practice, and how we can think about the world of art in its complex dynamics. Also, theoretical tools and approaches of humanities can be applied to various types of art analysis, art institutions, art production, audience studies, and so on. A specific point where arts and humanities merge in quite an extensive and exciting way is certainly at the crossroads with technology and technological development. Technology in this sense can appear as a tool for artistic production, or as a tool for understanding artistic production in the light of humanities theories.

Technology has been an inseparable aspect of art and artistic practices.[14] Moreover, changes in technological reality often induced changes in the world of art, both within art production and art institutions or systems. Some of the very known texts, such as Walter Benjamin's "The Work of Art in the Age of Mechanical Reproduction", speak about the influences of technology on art, perception of artwork, production of art-related objects, but also about the social, cultural and political transformations that both caused and followed changes within both arts and humanities.[15] If introducing mechanical reproduction into the world of art induced such a theoretical and practical fascination with so many new questions and concerns,[16] it is even easier to imagine how digital reproduction might influence cultural industries that have been developed to match earlier states of technologies and audiences. One of the strategies that would make this transition easier might exactly be based on using and engaging digital humanities as an interpretative tool in a more active way.[17]

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[13] Matthew Kirschenbaum, "Digital Humanities as/is a Tactical Term," in *Debates in the Digital Humanities*, ed. Matthew K. Gold (Minneapolis, London: University of Minnesota Press, 2012), 415–16.

[14] Leighton Evans and Sian Rees, "An Interpretation of Digital Humanities"; Maria Paula Fernandez, Stina Gustafsson, and Fanny Lakoubay, eds., *There is no Such Thing as Blockchain Art – A report on the current status of the intersection of Blockchain and art* (Department of decentralization, 2019); Marko Suvajdzic, Dragana Stojanović, and Joel Appelbaum, "Blockchain Art and Blockchain Facilitated Art Economy: Two Ways in Which Art and Blockchain Collide," *4th Technology Innovation Management and Engineering Science International Conference (TIMES-iCON)* eCF 1–5, 2019.

[15] Walter Benjamin, "The Work of Art in the Age of Mechanical Reproduction," in *Illuminations*, ed. by Hannah Arendt (London: Fontana, 1968), 214–18.

[16] Ibid.

[17] Rachel O'Dwyer, "Limited Edition: Producing artificial scarcity for digital at on the blockchain and its im-

One of the most frequently mentioned changes in the field of art in digital times revolves around the question of ephemerality, or immateriality of the digital artwork. As Ruth Catlow claims, the core of artistic innovation is not necessarily in the way that the artwork is conceived; it lies in the type of its transmission and reception, as well as in tools that artists use to produce their art.[18] These tools, together with art transmission and reception can be quite changed in times of digital art production. Although the move towards ephemerality is not new, nor necessarily connected to digital turn in art,[19] it nevertheless opens myriads of questions related to new media, new languages, and new discourses, as well as questions of an artistic object's value, authenticity, ownership, copying, selling or market(ing). To adequately address these issues, it would not be enough just to apply traditional theoretical humanities stand-points and tools; we will need *Humanities 2.0*, humanities well-versed in the matters of digital technology, digital spaces, digital audiences, and digital market. In the other words, we will need *digital humanities*, not in the way in which it only *speaks* about digital, but in the way in which it *is* a digitally oriented practice. Such a trans-tactical position of digital humanities would enable dialogues and conversations across the sectors that permeate contemporary field of art, which include the productive, academic, IT, economic, and activist sectors. Also, it would offer better understanding not only of the art works or art audiences, but of the very digital technologies, systems, and economies too.

Following such a thought, we might conclude that, if we want to study digital art from the standpoints of humanities, we cannot limit ourselves to approaches that seek to understand digitality through theoretical tools of traditional humanities, nor to methodologies that analyze already existing questions through technological – digital tools. To understand digital art effectively in all its complexity, we would need *both* entry points. This is what makes digital humanities trans-tactical, transtechnological and dynamic, and makes it fit for both *understanding* and *engaging* technologies, theories, economies, and art productions.

To clarify this in a more precise way, and to show how digital humanities can take the role of a transdisciplinary theoretical and practical vehicle needed for contemporary art theory (and) production, I will introduce three case studies of blockchain-related art – *cryptoart*. These include: *Plantoid* by Primavera de Filippi (2016), *Harvest* by Julian Oliver (2018) and project *terra0* by the terra0 artivist team (2016).[20]

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plications for the cultural industries," in *Convergence: The International Journal of Research into New Media Technologies* (Sage: London, 2018), 1–21.

[18] Catlow, in *There is no Such Thing as Blockchain Art*, ed. by Fernandez, Gustafsson and Lakoubay, 6.

[19] The move towards ephemerality before digital times was made by conceptual artists in the 1960s; however, the technology was different sixty years ago.

[20] Terra0 team members are Paul Seidler (co-founder), Max Hampshire (co-founder), Paul Kolling (co-founder), Andi Rueckel (web development), Gregor Finger (web development), and Johannes Wilke (visual design). See terra0 official website, https://terra0.org/, acc. on December 9, 2021.

Case Studies: Cryptoart as Transtechnological and Technoartistic Process

The case study of cryptoart provokes us to think directly about transtechnological transpositions of contemporary times. Namely, cryptoart relies on blockchain – thus digital – technology, but its roots transcend and cut across the primary function of blockchain technology. All that makes it a relevant example for understanding digital humanities and their trans-tactical impact, here in the field of art production, transmedia, and transtechnology. It could also be said that analyzing cryptoart requires digital humanities knowledge and a transdisciplinary approach.

What is, exactly, blockchain system and blockchain technology? Blockchain system can be understood as a network of connected and distributed ledgers, which contain, store, and securely *lock* information inside themselves, while recording each and every new input (usually an informational or monetary/cryptocurrency transaction). As a system with high level of security, precision, and transparency, and with the inbuilt possibility of trading safely and quickly without third party, blockchain was developed within and for the field of economy in the first place.[21] However, its usage soon spread to the wider fields, and today it is used in many disciplines tightly connected to humanities, including education and art.[22] Its cryptographic quality[23] stems from the system itself, which uses cryptography to practically "sew" one block of information into another. At the same time, these cryptographic codes are unique, and the blocks are timestamped, so the whole system obtains its recognizable level of transparency and reliability. The great deal of this transparency and, at the same time, stability, lies in the fact that blockchain system operates with a lot more users/participants/mediators than traditional transaction systems. This might prove especially important in blockchain-related art, or cryptoart, since "users" in this case often function as the witnessing or participating audience for the artwork. In cases where audience is active and in the role of the participant, cryptoart becomes continually generated and reworked through the intervention from the audience. In that way, artist, artwork, and the audience exchange their places (as in some of the case studies I will present shortly), and the whole artistic process becomes possible through digital, or, in this case, blockchain technology. Or, as Fernandez, Gustafsson and Lakoubay say, "by using nascent technologies, it's no longer relying on one owner to drive

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[21] As a theoretical, and then a technologically implemented concept, blockchain and blockchain systems were first described in 2008, in Satoshi Nakamoto's text "Bitcoin: A Peer-to-Peer Electronic Cash System," Satoshi Nakamoto, "Bitcoin: A Peer-to-Peer Electronic Cash System," www.bitcoin.org, acc. on August 22, 2020.

[22] Suvajdzic, Stojanović, and Appelbaum, "Blockchain Art and Blockchain Facilitated Art Economy: Two Ways in Which Art and Blockchain Collide"; Marko Suvajdzic and Dragana Stojanović, "Discover DaVinci: Blockchain, Art and New Ways of Digital Learning," in *Advances in Science, Technology and Engineering Systems* 6, 5 (2021): 273–78. Marko Suvajdzic, Dragana Stojanović, and Iryna Kanishcheva, "Blockchain and AI in Art: A Quick Look into Contemporary Art Industries," in *Blockchain and Applications. BLOCKCHAIN 2021. Lecture Notes in Networks and Systems*, ed. by edited by Javier Prieto, Alberto Partida, Paulo Leitão, and António Pinto, vol 320, (Springer: Cham, 2022), 272–80.

[23] Hence the term cryptoart, for art that is using blockchain system as a work and statement material.

collaboration, but rather for the technology and the software to push the process forward."[24] In the other words, here both the artist, audience and the artwork, all driven by technology, exchange trans-tactical and transtechnological positions, creating the art and, often artivist inte(rve)ntions that expand the world of art as we know it, and calls for digital humanities and its tools for better understanding.

Case study 1: *Plantoid* (2016)

One good example of cryptoart, or autonomous blockchain-based artistic system that transcends boundaries between technology and human(ities), is certainly Primavera de Filippi's *Plantoid* (2016). A Plantoid is, as its name suggests, a plant equivalent to android, a synthetic organism designed to look like a plant, and yet, it is an evolving being unto itself. As its artist, Primavera de Filippi says, it is a blockchain-based life form.[25] Modeled to behave like a creature, this Plantoid attracts attention, mates, and hires humans for further reproduction. Currently there are only a couple of Plantoids in the world.

Plantoid consists of its mechanic body that resembles flower, which is usually put in the physical urban space, and its "soul", as De Philippi says,[26] which is based on cryptographic – blockchain software. Plantoid evolves through three phases:

a. Capitalization phase, in which it (appearing as a mechanical flower) seduces people passing next to it to donate cryptocurrencies through their cryptowallets, or, simply said, to invest in Plantoid's future reproduction. Whenever someone donates money, Plantoid engages in the act by flashing lights, moving, or otherwise further "seducing" the audience in order to give more.
b. Mating phase, which begins in the moment when Plantoid collects targeted amount of money (it is different for every Plantoid). At that moment Plantoid autonomously launches open call for bids for the artists that would make another Plantoid using that precise sum of cryptocurrencies. Also, the audience will stay active and present in the artistic (mating) process, since funders have the right to vote on the artists' proposals.
c. Hiring phase, where Plantoid autonomously, through smart contract system, hires an artist to build a future Plantoid and put it in another physical space, and the cycle goes on.

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[24] Fernandez, Gustafsson and Lakoubay, eds., *There is no Such Thing as Blockchain Art*.

[25] Primavera De Filippi, "Plantoid – the Birth of a Blockchain-Based Lifeform," in *There is no Such Thing as Blockchain Art – A report on the current status of the intersection of Blockchain and art*, ed. by Maria Paula Fernandez, Stina Gustafsson and Fanny Lakoubay (Department of decentralization, 2019), 51.

[26] Ibid.

In this way, due to blockchain technology possibilities, *Plantoid* is at the same time an artwork – cryptoart – but it is also its own rightful owner,[27] a transtechnological being, an artist, its own art dealer and art agent.[28] In the other words, *Plantoid* challenges us to think beyond traditional positions and categories within the artworld, the artwork and the art process. In this case of cryptoart, the artwork consists of constant interactions (processes) between humans[29] and technology. *Plantoid* is, thus, not only an artwork, but also a creature within transtechnological sphere, which invites art theoreticians, but also the artists and art audience, to go beyond traditional discourses, and to engage in digital humanities as a new platform of thought and action.

Case study 2: *Harvest* (2018)

Similarly, to *Plantoid*, Julian Oliver's *Harvest* (2018) is conceived as an artwork beyond the human vs. technology framework. Besides being active in both material and digital reality, *Harvest* is also a critical work, an engineering and computational climate art, as the artist describes it on his website.[30] *Harvest* uses wind energy to mine cryptocurrencies, which makes it an interventional, artivist work. Mining of cryptocurrencies, if done in the usual way, currently requires huge amount of electrical energy, which negatively impacts climate and environmental factors.[31] In this work Oliver tries to:

a) raise awareness about the danger of excessive and careless technological consumption and related climate changes,
b) overcome an existing problem through the same technology that initially caused it, leaving space for that technology (here, blockchain technology) to continue developing in a more productive way,
c) use the artistic space to make an *intervention*, thus reminding the audience on the wide social, cultural, and performative implications of art.

Julian Oliver positions this artwork in a trans-tactical area, claiming that *Harvest* functions and intervenes beyond the media-art context.[32] Also, the profits that this artwork accumulates do not go to the artist, but is directly given as donation to non-profit climate change research organizations. In this way the artwork becomes

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[27] Primavera de Filippi says that she was just the initial impulse that stood behind the idea and the creation of the first Plantoid, and later, she could be regarded only as a co-creator, since Plantoid evolves by itself. Ibid.

[28] Rachel O'Dwyer, "Does Digital Culture Want to be Free? How Blockchains are Transforming the Economy of Cultural Goods," in *There is no Such Thing as Blockchain Art – A report on the current status of the intersection of Blockchain and art*, ed. by Maria Paula Fernandez, Stina Gustafsson, and Fanny Lakoubay (Department of decentralization, 2019), 297–308.

[29] The initial artist, De Filippi, the audience, and the subsequent artists.

[30] See https://julianoliver.com/output/harvest, acc. on December 9, 2021.

[31] David Serra-Navarro, "On Blockchain and Art: An Interview with Ruth Catlow," *Arte, Individuo y Sonedad* 31, 4 (2019): 969–76.

[32] Ibid.

an interventional transtechnological vehicle, which operates within both digital and material space and beyond/across it. As in previous case, creating and understanding *Harvest* in its trans-tactical work requires transdisciplinary knowledge and attitude, so important for contemporary art and media.

Case study 3: *terra0* (2016)

Merging the possibilities mentioned in previous two case study analyses, the *terra0* project relies on the Ethereum network, which fully enables decentralized autonomous organization systems, as well as possibilities of smart contracting. These technological solutions are based on blockchain technology, but they also enable the possibility of creating an automated autonomous techno-eco hybrid system. Similarly, to previous case study artworks, *terra0* is also a transtechnological work that requires more than just technological or standard humanities tools to be comprehended.

Terra0 is a physical forest, initially bought by *terra0* group, and "translated" into cryptography so it could also operate digitally, by blockchain technology. It is further programmed to make and conduct smart contract communication, as a way of interacting with humans. In this way, *terra0* autonomously hires people that take care of it, pushes smart contract for leisure activities, and accumulates capital through which it has bought itself from the owners. Of course, technically, the *terra0* group legally owns the forest since it is still the only possibility defined by law,[33] but the artistic concept as such designates the forest as its own proper owner. Following this, *terra0* is produced as a forest which is no longer a source of material to be utilized and commodified by third parties – it takes care of itself and interacts with humans as peers.[34] *Terra0*'s trans-tactical impact relies on technologically-augmented ecosystem that is able to interact with humans in its own right, thus introducing a new kind of agent into the matters of contracting, business, and environmental care/responsible commodification. Since its creation, *terra0* has been exhibited at numerous artistic events, such as the 17th International Architecture Exhibition – La Biennale di Venezia, plus Ars Electronica, Biennale de Lyon, Drugo More, Furtherfield Gallery, Schinkel Pavillon, transmediale and Vienna Biennale, and so on.[35] *Terra0* is an augmented technobiological organism that, similarly as Plantoid, is able to interact with humans through blockchain technology. In this way, terra0 is an artwork, an ecointervention, and a natural-systemic user without human ownership. Beyond all, terra0 is a trans-tactical entity *and* strategy which aims to create an ecocybernetic system not produced for exploitation, but for equal participance of humans and machines in contemporary realm. This trans-tactical strategy opens numerous areas of thought, research, and

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[33] Paul Seidler, Paul Kolling, and Max Hampshire, "terra0 – can an Augmented Forest Own and Utilize Itself?" in *There is no Such Thing as Blockchain Art – A report on the current status of the intersection of Blockchain and art*, ed. by Maria Paula Fernandez, Stina Gustafsson, and Fanny Lakoubay (Department of decentralization, 2019), 63–72.

[34] Seidler, Kolling, and Hampshire, "terra0 – can an Augmented Forest Own and Utilize Itself?"

[35] See terra0 website, https://terra0.org/, acc. on December 9, 2021.

action in the future, and stresses the need for cooperation between technology/science and digital humanities. As the *terra0* manifesto says on its website:

> I like to think of a cybernetic meadow where mammals and computers live together in mutually programming harmony like pure water touching clear sky.
> I like to think of a cybernetic forest filled with pines and electronics where deer stroll peacefully past computers as if they were flowers with spinning blossoms.
> I like to think of a cybernetic ecology where we are free of our labors and joined back to nature, returned to our mammal brothers and sisters, and all watched over by machines of loving grace.
> Right now, please! It has to be![36]

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This is certainly a future to come in many more shapes and forms. Biotechnological communication between humans and machines is already in motion, which is currently being much explored in the contexts and discourses of contemporary art practices with active references to daily reality, economy, politics, culture, and environmental care. Digital humanities, on the other hand, is evolving with its own transtechnological perspectives and tactical positions, bringing contentment, curiosity, experimentation, and challenges. Let's hope it would bring a better theory, and a better future to come.

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[36] Ibid.

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