

Criminal Jurisdiction and the Metaverse

Raffaele Vitolo

Università degli studi di Salerno
raffaelevitolo01@gmail.com

Gino Fontana

Pegaso Digital University
sl.gf@libero.it

Abstract

This article develops arguments on the issues surrounding the conception, commission, and perpetration of criminal offenses in the metaverse and on the related critical issues regarding jurisdiction and the attribution of competence. The paper also reflects on the difference between crimes committed in the metaverse and crimes committed in the metaverse but consummated on Earth. The topic aims to propose solutions, using the points of contact between the physical and the metaverse.

The aim of this article is to highlight how actions in the metaverse can have criminal relevance, and above all the problem of attribution of jurisdiction (and all the practical implications in terms of criminal procedure). In particular, the paper aims to address the problems related to the identification of the subject who committed the crime in the metaverse (avatar or the subject who pilots it?!), the open questions regarding the actions committed in the metaverse and the classical principles of criminal law (the principle of legality and its corollaries) called into question by the actions in the metaverse; moreover, this work aims to highlight the regulatory gaps for the resolution of possible conflicts between avatars in the metaverse, but, above all, the criminal procedural gaps as the issues of criminal jurisdiction and the attribution of competence are discussed in the literature.

The method used for the study is that of comparison with other legal systems to have a comprehensive picture of how the States are approaching the use of the metaverse and the criminal consequences.

The result of this contribution is represented by the distinction between the crimes conceived, committed and consumed entirely in the metaverse and the crimes conceived and committed in the metaverse but consumed on Earth. This distinction – in terms of substantive criminal law – has concrete implications on criminal jurisdiction and on the attribution of jurisdiction. The analysis of various cases has led this author to decline this distinction, which is not just an exercise in legal category since – based on the general framework – the perspective of concrete analysis changes..

Keywords: Jurisdiction; metaverse; criminal offense; competence; criminal proceedings; precautionary measures; judgment.

PREMISE

In general, every jurist, before studying and talking about metaverse¹ and law, should question themselves on the value perimeter underlying new technologies, the innovation of social needs and the change in methodological approach to legal sciences.

Today, one must prioritize the analysis of philosophical schemes over any type of evaluation of the merits and management of the relationship between law and artificial intelligence, between norms and metaverse², and between any legislative dichotomy and technological evolution as well.

In the “age of technology”³ the fifth era of the internet, the 5G and 6G technology, the interaction of visors with the Internet of Things, Meta tools, and innovative investments are indicators that lead legal reasoning to a perennial binomial. On the one hand, neonaturalism “*as an orientation aimed at identifying all human knowledge with the knowledge of the natural sciences. Naturalism, at least in Quine's seminal perspective, is a form of scientism in the sense of refusing philosophy as a privileged place: it is within science itself, and not some preliminary philosophy, that reality must be identified and described. We can consider this as the principle of immanence (or total closure) of science in itself. Not only does science not need to resort to anything external to it, but also anything external to it does not have a properly cognitive character.*”;⁴ on the other hand, a hyper-positivist push that brings to the center of the social debate “*the knowledge of reality, that is, to describe it neutrally, to take possession of it, according to a methodology ascribed by Matteucci not so much to Weber, who admitted the Wertbeziehung, an evaluative choice connected to a certain historical context, precisely, to the analysts and to Kelsen, severe censors of the confusion between factual judgments and value judgments.*”

From the perspective of an established constitutionalism and in a naturalistic key of law, the tension must be channeled into a technological framework in extreme daily evolution which cements the need for an approach linked to a conception of digital neo-humanism.⁵

Therefore, the age of technology has put an end to both the enchantment of the world typical of antiquity and its disenchantment typical of modernity, because both still expressed the traits of the man who acted with a view to goals inscribed in a horizon of meaning, with a baggage of his own ideas and a set of feelings in which he recognized himself.

The age of technology has abolished this "humanistic" scenario, and the questions of meaning that arise remain unanswered, not because technology is not yet sufficiently perfected, but because it is not part of its program to find answers to such questions. In fact, technology does not tend to a goal; it does not promote a meaning; it does not open up scenarios of salvation; it does not redeem nor does it reveal the truth: technology works.⁶

Before the current speculations on artificial intelligence and criminal proceedings, or before the reflections on Criminal Jurisdiction for crimes committed in the metaverse, and even before questioning the intersection between "worlds", a philosophical and legal study on the centrality of man and his relationship with the "machine" becomes central.

¹ INGARRICA, *Metaverso criminale. Quali interazioni nel presente nazionale e quali sfide globali del prossimo futuro*, in *Giur.pen.*, 2022, 9 ss.

² DE VIVO, *Viaggio nei metaversi alla ricerca del diritto penale perduto*, in *Inf. e dir.*, 2009, XXXV, I, 191 – 225 ss.

³ GALIMBERTI, *L'etica del viandante*, Milano, 2023, 7 ss.

⁴ VIOLA, *Diritto e naturalismo, Hermeneutica*, 2016, 61- 78 ss.

⁵ CREPET, *Prendetevi la luna*, Milano, 2023, 45 ss.

THE METAVERSE

Metaverse⁷ is ““a three-dimensional space within which physical people can move, share and interact through personalized”.”^{8 9} In the essay “Il metaverso e la necessità di superare i dogmi proprietari”¹⁰ metaverse is described as “a huge operating system, governed by demons working in the background, to which individuals connect, transforming themselves into software that interacts with other software and with the possibility of leading an autonomous electronic life”. Furthermore, metaverse¹¹ “is governed by specific rules that are different from real life and people's prestige derives from the accuracy and originality of their respective avatars.”.

There are at least three aspects that strike the legal scholar at first reading: firstly, the metaverse is initially conceived as a dystopian scenario, where "electronic life" is different from real life; secondly, if it is different from reality, it is first and foremost a modification of the anthropological and social level; finally, it has, or should have, rules, even legal ones.

Therefore, the metaverse represents a multidimensional space within which physical people equipped with special visors and software tools can move, share experiences, and interact through personalized avatars that operate in an augmented reality. In fact, it does not rely on material reality; it accompanies it. Indeed, many point out that if the metaverse is to be the evolution of the internet, an immersive experience for users, it will take the form of augmented reality, rather than virtual reality¹².

Therefore, the metaverse should move the boundaries of human life into another environment, whether immersive, such as virtual reality, or parallel, such as augmented reality: something, however, based exclusively on the imagination that each user is able to build by means of a computing device.¹³

The metaverse¹⁴ is not and will not be just interactive games, gaming, or other recreational activities. It is already a meeting place between people/Avatars who also share meeting rooms for working, dedicated places for talking, places for attending concerts.¹⁵

In short, the new parallel virtual spaces are determining the emergence of critical issues in various sectors of law:¹⁶ For instance, privacy, cyber-attacks, the increase in dependence on the internet, but, above all, the criminal aspects, and consequently criminal proceedings, linked to the various illicit conducts that can be committed within the Metaverse through the general use and interactions between Avatars¹⁷.

⁶ HEIDEGGER, *Nur noch ein Gott Kann uns retten*, 1966, translation: Only a God can save us. Interview with “Spiegel,” Guanda, Parma 1987, 146 ss.

⁷ It is important to point out that there is not just one metaverse, but several metaverses that are all located within cyberspace.

⁸ Definition from the Treccani Institute on the web.

⁹ The Accademia della Crusca defines it as a “set of three-dimensional virtual environments in which people can interact with each other through personalized avatars” from the web.

¹⁰ RICCIO, *Il metaverso e la necessità di superare i dogmi proprietari*, in *Dir. di Internet*, n. 2/2023, 234 ss.

¹¹ Definition of Mark Zuckerberg – creator of Metaverse – present in the communication given to the founders of Meta on October 28, 2021, “In this future, you'll be able to instantly teleport like a hologram to the office without moving, to a concert with friends, or to your parents' living room. This will open up more opportunities, no matter where you live. [...]”.

¹² A first test based on the ability of users to imagine "your world, your imagination" was, without a doubt, Second Life, a computer

platform that reconstructed a virtual world, launched in 2003 by an American company.

¹³ RICCIO, *Il metaverso e la necessità di superare i dogmi proprietari*, in *Dir. di Internet*, n. 2/2023, 235 ss.

3. The consummation of an illicit act in the Metaverse

First, it is necessary to consider the possibility, through the metaverse, of excessively broadening the application of total criminal law, thus further undermining the principle of legality and the vision of personalist criminal law. Total criminal law as "*crime as a social risk, and in particular how the space of freedom of individuals is progressively reduced to the point that, today, it is really rare to find conduct that can be said with certainty to belong to the area of operation of criminal law.*"¹⁸ Professor Filippo Sgubbi, without a doubt, wanted to highlight the sharp contrast with the traditional character of "*fragmentation*" to such an extent as to generate "*a drastic reversal of the traditional postulates*". The criminal law of "*social risk*", as a legal remedy for every injustice and every social evil, increasingly seeks to overcome the personalistic principle, and specifically the personalization of the sanction. In the central Italian criminal system, "*it is the personality of the individual who committed the crime; the applicability of the penalty is subordinate to the individual's imputability. The personality of the offender has considerable importance on whether to apply the penalty, but also on the identification and grading of the penalty's extent.*"¹⁹

That said, it seems completely obvious that the approach to the study of criminal and procedural law is played on this general opposition and a systematic vision of the right to *estrema ratio*.

A further initial consideration concerns the Latin maxim "*cogitationis poenam nemo patitur*" (no one can suffer punishment for their own thoughts), and on the objective penal system, that is, on the material fact (*nullum crimen sine actione*), pillars of the Italian legal system that cannot be ignored for an exegesis of the relationship between conduct in/of the metaverse and criminal law. The constitutional coverage of the "*committed act*" pursuant to Article 25 obviously declines the supreme parameters of materiality, offensiveness, and causality of the Italian legal system. These principles of modern legal civilization, also with the developments of the metaverse, are in crisis because, as Prof. Sgubbi said "*we live in a society characterized by a culture of suspicion, in which individuals are divided into categories of the pure and the impure, where law and morality*

¹⁴ In the digital world we have the possibility of duplicating a file (be it an image or a PDF) infinite times without ever losing the original quality and without there being any difference.

¹⁵ ATERNO, *Profili penali della vita nel metaverso*, in *Metaverso a cura di Cassano e Scorza*, Pisa, 2023, 422 ss.

¹⁶ VISCONTI – CESARETTI, *Il Metaverso tra realtà digitale e aumentata: innovazione tecnologica e catena del valore*, in *Riv. Internet*, 3, 2022, 627 ss.

¹⁷ TADDEI, *Elmi intelligenza artificiale, Algoritmi giuridici, Ius condendum o "fantadiritto"?* Pisa, 2020, 14 ss.

¹⁸ Definition in 1990 by Prof. Filippo Sgubbi.

¹⁹ Lecture on substantive criminal law by Professor Nicola Bartone on November 27, 2015, at the University of Salerno.

are confused and overlap to the point that public ethics are transformed into criminal law."²⁰

Therefore, the current scenario, within which the technological evolution of the Metaverse takes place, is represented by the crisis of the traditional axioms of personalist criminal law, as expressed by the Constitution, towards a comprehensive criminal law of "*social risk*".²¹

A) Cases

The metaverse cannot be seen as a place to commit crimes, but as a place where criminal offences can (or cannot) be configured. Firstly, we must ask ourselves whether the person who accesses the metaverse through an Avatar is, in the world of virtual reality, the holder of rights and/or situations that are legally relevant and protectable by criminal law.

Before analyzing some specific cases, it is appropriate to consider whether the Avatar represents the *longa manus* of the owner.

From the first point of view, if the virtual man were the direct manifestation of the owner, then it would be easy to fall within the principle of personal criminal liability, formulating a challenge to the subject who pilots the Avatar. From the second point of view, if Avatar were autonomous, it would be necessary to understand whether this case falls within the possible application of the criminal liability of companies deriving from crimes governed by Legislative Decree 231/2001.²²

Specifically, for example, the offense provided for under Article 660 of the Criminal Code (harassment or disturbance of others) can be constituted. Indeed, the offense in question may fall within the category of computer crimes. Furthermore, threats (Article 612 of the Criminal Code) or stalking (Article 612-bis of the Criminal Code) can also be committed *via the web*. In the fight against terrorism, an increase in penalties has been introduced if the act is committed using IT or telematic tools.

However, it seems quite evident that crimes committed in the metaverse are not considered cybercrimes. A further possibility is the possibility of impersonating someone in the metaverse.

Then, before moving on to the analysis of a sexual assault committed in the metaverse, a distinction must be made between crimes committed entirely in the world of augmented reality (conceived, externalized and consumed on a platform) and those that intersect the metaverse with earthly phenomenology (conceived and committed in the metaverse, but consumed in reality, such as a crypto scam in the metaverse and then transferred to an Italian bank account). The first type of offense involves metaverse-within-the-metaverse crimes, while the second involves metaverse crimes but with certain earthly traceability. This difference impacts the substantive view but certainly has a greater impact on jurisdictional implications.

²⁰ CONTINELLO, *Le nuove frontiere del diritto penale nel metaverso. Elucubrazioni metagiuridiche o problematica reale?* in *Giur. pen.*, 2022, 5, 9 ss.

²¹ CONTINELLO, *Le nuove frontiere del diritto penale nel metaverso. Elucubrazioni metagiuridiche o problematica reale?* in *Giur. Pen.*, 2022, 5 ss.

²² The so-called mixed criminal/administrative liability which definitively overturns the classical orthodox concept "*Societas delinquere non potest*".

The Italian newspaper “La Repubblica”²³ in February 2022 published an article by English researcher Nina Jane Patel denouncing sexual violence in the metaverse. At the end of November 2021, she reported having been “groped” by another user and having been isolated and mocked by the rest of the subjects “present” at the event.²⁴ Given the preliminary considerations regarding the configurability of the crime of sexual violence without physical contact and via telematics²⁵ the heart of the problem must always be analyzed, as it is necessary to understand whether the real owner of the avatar can be held responsible for their virtual *alter ego*.

One could continue with endless explanations, but the problem remains and it is related to: firstly, the issue of whether a crime regulated by the Criminal Code can be configured in the metaverse; secondly, the identification of the offender; finally, the attribution of the specific charge.

1. Criminal Jurisdiction of Metaverse Offences in the Metaverse or on Earth

It is logical to think that the application of traditional rules to the virtual world in question is difficult.

In fact, it has been hypothesized that there could be a set of electronic rules applicable in a global electronic jurisdiction, separate and distinct from the earthly one, acceptable to all users regardless of nationality and physical location, or a set of E-Rules that first solve the legal problem inherent in the social relations of cyberspace, and then move to a specific physical jurisdiction.

Going further, Kostenko concludes by imagining a comprehensive electronic jurisdiction which, in fact, can be assessed as “*the transformation of national legal doctrines towards the creation of a single global electronic jurisdiction.*”²⁶

Furthermore, a Metaverse Court within the metaverse could be envisaged and conceivable when crimes are conceived, committed, and consummated in abstract reality; instead, ordinary criminal jurisdiction can be “utilized” when crimes of commission or omission externalize the action-conduct in the metaverse but are consummated or produce effects in the real world, or, more simply, in cases of intersection between worlds. Hence, the two perspectives will be analyzed.

A) Criminal jurisdiction of metaverse offenses in the metaverse

One might think (and above all imagine) a Court in the metaverse and, consequently, a criminal procedural law *ex novo* or a transposition, subject to compatibility of application, of the current rules. At this embryonic stage of study, a meta-procedural criminal reasoning can be envisioned, attempting to advance three procedural lines: the first, the registration of the avatar in the general register of criminal records in the metaverse; the second, linked to the possible application of a personal and/or real precautionary measure to the avatar in the metaverse; finally, imagining an ordinary cognition proceeding before an impartial third-party avatar-judge or an algorithmic jury through data analysis (sources-evidence). At this delicate and imaginative point, one needs to proceed in order.

²³ In *la Repubblica*, < www.repubblica.it/esteri/2022/02/14 >

²⁴ INGARRICA, *Metaverso criminale. Quali interazioni nel presente nazionale e quali sfide globali del prossimo futuro*, in *Giur. Pen.*, 2022, 9.

²⁵ Cass. September 8, 2020, n.25266.

²⁶ LIBRO BIANCO. On Artificial Intelligence – A European Approach to Excellence and Trust, Bruxelles February 19, 2022.

To proceed with an entry in the general register of criminal reports in the metaverse, it is necessary to resolve the problem of actually identifying the offender (necessarily the registration of the avatar to avoid *a bis in idem* between the avatar in the metaverse and the owner on earth) and then establish who, when, how and why physically provides for this annotation.

Once the registration phase, which is the *input* moment, has been completed, an artificial intelligence, replacing the Public Prosecutor's Magistrate, will collect the data (evidence elements) through, for example, an algorithm of the platform system.

In terms of personal precautionary measures, the possibility of depriving the avatar of freedom of movement within the metaverse is being considered, or the impossibility of leaving their home, or the prohibition of approaching or the obligation to keep their distance from the avatar offended by the criminal action. However, when it comes to actual precautionary measures, the restriction that could be applied would be the impossibility of using virtual money, or the impossibility of using one's own metaverse asset (e.g., seizure of the avatar's cell phone, or seizure of a vehicle used to transport the avatar, etc.) A limitation of the avatar's freedom, before the Judgment, always providing a maximum term of measure.

A criminal trial in the metaverse conducted by the Platform Court is possible. An ordinary trial conducted on the basis of evidence gathered by the algorithm and artificial intelligence. A reconstruction that includes cross-examination and a defense by the avatar. A trial that could conclude with an acquittal or conviction. In the event of a conviction, criminal sanctions can be imagined in the metaverse, such as restriction of freedom, temporary suspension of the avatar, and destruction of the avatar for the most serious crimes.

B) Ordinary criminal jurisdiction of metaverse crimes

For criminal offences that intersect the virtual world with reality, the exercise of Ordinary Criminal Jurisdiction and the applicability of the provisions of the Code of Criminal Procedure pursuant to Article 1 are absolutely mandatory.

When transferring funds from the metaverse to an Italian current account, it is natural to refer to the rules of ordinary jurisdiction and, consequently, to the rules governed by Articles 8 and 9 of the Code of Civil Procedure. For this sort of crime, mainly patrimonial, it is only and exclusively an ordinary procedure, and, therefore, we are not in the case of rules compatible or transferable in the Courts of the Metaverse, but we are simply faced with crimes regulated by the Legislator with the sole eventuality of the aggravating circumstance of the fraudulent and/or computer method.

2. Conclusions

Today, the metaverse, artificial intelligence, and advanced technology, raise multiple questions and very few answers, which sometimes can be extremely futuristic or at the limits of the imaginary. The complexity of the topic and the fragmentation of the discipline, bordering on chaos, cannot generate acceptable justifications on the part of the jurist for a lack of analysis. Certainly, in general, the lack of attention to discipline is not the result of laziness, but of an intrinsic human fear of evolution, change, and uncertainty.

In conclusion, the truly monumental effort required of the legislator is to intervene, perhaps more sparingly, keeping in mind that the metaverse must not be a prison, in which every human movement is tracked and every action is made extractable from data, but a space that can offer, first and foremost to the most vulnerable groups (the poor, the elderly, and so on), opportunities to connect and access resources. No one feels the need for a new world in which, as seen in the last internet era, work is made precarious, under the pretext of introducing agile practices; access to medical care is transformed into a benefit for the few, arguing with pre-packaged austerity; social inequalities and discrimination are strengthened, rather than eliminated.²⁷

²⁷ RICCIO, *Il metaverso e la necessità di superare i dogmi proprietari*, in *Dir. di Internet*, n. 2/2023, 243.

REFERENCE

INGARRICA (2022) Metaverso criminale. Quali interazioni nel presente nazionale e quali sfide globali del prossimo futuro, in *Giur.pen.*, 9 ss.

DE VIVO (2009) Viaggio nei metaversi alla ricerca del diritto penale perduto, in *Inf. e dir.*, XXXV, I, 191 – 225 ss.

GALIMBERTI (2023) *L'etica del viandante*, Milano, 7 ss.

VIOLA (2016), *Diritto e naturalismo*, *Hermeneutica*, 61- 78 ss.

CREPET (2023) *Prendetevi la luna*, Milano, 45 ss.

HEIDEGGER (1966) *Nur noch ein Gott Kann uns retten*. Translation: Only a God can save us. Interview with "Spiegel," Guanda, Parma 1987, 146 ss.

RICCIO (2023) *Il metaverso e la necessità di superare i dogmi proprietari*, in *Dir. di Internet*, n. 2/2023, 234 ss.

RICCIO (2023) *Il metaverso e la necessità di superare i dogmi proprietari*, in *Dir. di Internet*, n. 2/2023, 235 ss.

ATERO (2023) *Profili penali della vita nel metaverso*, in *Metaverso* a cura di Cassano e Scorza, Pisa, 2023, 422 ss.

VISCONTI – CESARETTI (2022) *Il Metaverso tra realtà digitale e aumentata: innovazione tecnologica e catena del valore*, in *Riv.Internet*, 3,627 ss.

TADDEI (2020) *Elmi intelligenza artificiale, Algoritmi giuridici, Ius condendum o "fantadiritto"?* Pisa, 2020, 14 ss.

CONTINELLO (2022) *Le nuove frontiere del diritto penale nel metaverso. Elucubrazioni metagiuridiche o problematica reale?* in *Giur. pen.*, 5, 9 ss.

CONTINELLO (2022), *Le nuove frontiere del diritto penale nel metaverso. Elucubrazioni metagiuridiche o problematica reale?* in *Giur. Pen.*, 5 ss.

La Repubblica, < www.repubblica.it/esteri/2022/02/14 >

INGARRICA (2022), Metaverso criminale. Quali interazioni nel presente nazionale e quali sfide globali del prossimo futuro, in *Giur. Pen.*, 9.

LIBRO BIANCO (2022) On Artificial Intelligence – A European Approach to Excellence and Trust, Bruxelles February 19, 2022.

RICCIO (2023) Il metaverso e la necessità di superare i dogmi proprietari, in *Dir. di Internet*, n. 2/2023, 243.

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