Mediatization and Platformization of Cycling Cultures: Actors, Practices, Processes

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1. Mediatization of cycling

This introduction aims to describe the main issues of mediatization and platformization of cycling cultures in contemporary society. Starting with the concept of cycling culture, as opposed to the car-centric paradigm, the goal is to show the set of social actors, sociocultural processes, and cultural practices that structure the media-cycling field.

Cycling cultures can be conceived as a set of practices variously influenced by technology, economics, social interactions, symbolic values, and cultural processes (Cox, 2019; Pivato, 2019; Tirino, 2021). Based on bicycle use, in terms of the characteristics of users and their journeys, Rérat (2021, p. 14) proposes a distinction "between recreational cycling (journeys made for the sole reason of leisure or sports) and utility cycling (journeys made for a practical reason)". This distinction identifies two macro-areas of cycling cultures.

Kirsten Frandsen (2019) has done important work on the theoretical systematization of the concept of mediatization, reconstructing the approaches (socio-constructivist and institutional), the contribution of sociology and Cultural Studies, and the transformation of research objects. Therefore, we refer to her work for an introduction to the theories of mediatization of the sports. The concept of "waves of mediatization" (Hepp, 2013; Couldry & Hepp, 2016) allows us to appreciate the fact that mediatization is not a gradual, linear and homogeneous process. It, instead, develops through sudden flows of socio-technological innovation, resulting in completely new configurations of the mediascape.

Because of this "wrenching" evolution of mediatization processes, Frandsen's (2019) identifies three phases of the mediatization of sports: the first corresponds to the historical phase of broadcasting; the second refers to the liberalization of the telecommunications market, resulting from the advent of satellite and cable technologies; and the third phase frames the overall transformations of the media system produced by digitization. I suggest dividing the third phase of mediatization (digitization) into three sub-processes: social mediatization, which corresponds to the pervasive establishment of social networks with the transition from Web 1.0 to Web 2.0; mobile mediatization, which allowed the continuous use of social networks through smartphones and tablets constantly connected to the Internet; and platformization (on which we will focus particularly in section 4). New media do not replace older media: in the era of

deep mediatization media increasingly combine in unforeseen forms in a kind of "media manifold" (Couldry & Hepp, 2016).

Moreover, mediatization varies considerably according to social, cultural, and economic contexts at local and global levels.. Beyond approaches, it is necessary to point out that it is not a recent phenomenon.

1.1. *Archaeology of media-cycling*

The great cycling stage races themselves are concrete examples of how the mediatization of sport has a long history. The Tour de France, the world's most important cycling stage race, was conceived and organized in 1903 by the newspaper "L'Auto-Vélo", in a close association with the French cycling industry, as well as national and local political institutions. The Tour constitutes one of the first cases of the mediatization of the sport. The centrality of the organizing sports newspaper perfectly matches the early pioneering forms of commercialization of the sport through the involvement of private sponsors in various forms until the advent of television broadcasting after World War II. The interaction between "L'Auto-Vélo" (media), the racing clubs (sports organizations) and the cycling companies that sponsor them (sponsors) produces an initial configuration of the "SMS triangle", in which local political institutions (interested in attracting tourists flows to their territories) and other businesses (aiming to tie their image to the Tour) also take part (Frandsen, 2019). The notion of the "sports/media/sponsor (SMS) triangle", developed by Stefano Martelli (2014), is a useful conceptual tool for considering the "sports/media complex" (Jhally, 1989) in relation to economic actors and institutions. By "SMS triangle" Martelli means a new social configuration, consisting of sports organizations (federations, leagues, clubs), media organizations, and economic actors (sponsors), while audiences – who can play the role of fans, consumers, and recreational athletes (Bifulco, 2019) – are at the center of each step of the system. This social configuration is strengthened by the benefits guaranteed to all components as a result of mediatization: in fact, the increasing centrality of televised sports reinforces the economic value of sports activity, which translates into more revenue for the organizations that sell rights, larger audiences for the adjudicating networks, and more investment by sponsors interested in tying themselves to the image of leagues, teams and athletes.

The forms of mediatization of the Tour at this historical stage are even more sophisticated. In 1925, *Le Roi de la pédale* was released in theaters. This multi-episode silent film, directed by Maurice Champreux, tells the story of a young man, who, after being hired as a mechanic by the "Automoto" team, becomes a cyclist in the Tour de France. In this case, the mediatization of cycling takes the form of an economic joint venture between the film production company Gaumont, the newspaper "L'Auto", and the company "Automoto", "who took advantage of the multiple media coverage to sell its bicycles" (Bauer & Froissart, 2015, p. 1462). By the mid-1920s, the Tour was already a popular spectacle, which - thanks to the narrative of the daily sports press - had contributed to the nascent massification of communication. The cinematic

depiction of this great sports event constitutes a further form of attestation of the Tour's social recognition, as it combines moments of fiction with real-life footage in which famous cyclists such as Ottavio Bottecchia (winner of the 1924 and 1925 editions with the "Automoto" team) and front pages of the "Auto" appear. The communicative project of *Le Roi de la pédale*, moreover, responds to refined transmedia and intermedia logics (Tirino, 2019b; Bertetti, 2020) as it includes a "cinario" (a hybrid of novel and screenplay), a novelization with photographic illustrations, and a play.

1.2 The first phase: broadcasting and press

This first wave of mediatization of cycling contributed to the establishment of cycling as one of the oldest professional sports (Desbordes, 2006). The convergence of the commercial interests of the press and those of the cycling industry helped to increase the resources available to pay athletes adequately. In addition to the financial structure of this sports mega-event, the media played a crucial role in the public's understanding of the race dynamics. "The audiovisual construction used in broadcasting coverage and the dedicated radio channel used for internal event communication" (Frandsen, 2019, p. 51) are essential in providing the public with information about live events. After World War II, the Tour de France confirms its nature as a mediatized sports mega-event. As with other sports mega-events, television enables the development of the Tour and cycling in general. The ability to view delayed sequences that capture riders in the midst of their efforts increases the visibility of athletes, teams and sponsors. Furthermore, French television broadcasts images of race locations, reinforcing the mediatization of national tourism (Wille, 2003). Especially since the 1960s, when the Tour organization reintroduced sponsored teams after an absence of several decades, the mediatization became a driver of the cycling's commercialization process. Since 1963 French television began to offer live coverage of the last phases of each stage of the Tour. The live coverage produces a new model of sports information, in line with "the geographical and cultural-historical settings of the race" (Frandsen, 2019, p. 57). Combining sporting moments with long shots of the landscapes traversed by the race, often accompanied by news about the history, architecture, and culture of these places, the particular media experience experimented with this mix of "slow television" and "spectacular television" (Wheatley, 2011) turns many sports fans into a kind of "armchair tourists" (Waade, 2009). The mediatization of tourism as a parallel process to the mediatization of sports is a phenomenon that is still very frequent, as the paper by María Porro Nieto and Rocío Blanco-Gregory in this issue attests.

1.3 The second phase: the liberalization of telecommunications markets

The second phase of the mediatization of the sport also affects the Tour. Beginning in 1980, stage broadcasting rights are sold at higher prices and in more countries, becoming the primary source of revenue for organizers, on par with sponsorships. The liberalization of telecommunications markets sharpened competition between public broadcasters and private

television networks, which competed to buy the broadcasting rights of the most popular sporting events.

Around the primary role of television the mediatization of cycling also fosters its globalization. The ability of European broadcasting to encourage the globalization of sports is based on the creation of Eurovision (1954), an international body with the function of regulating the exchange of radio and television broadcasts between European countries. This body makes it possible to popularize major sporting events on a continental level. The Tour de France, which was already followed by many press journalists, thus becomes a televised sports content in various European countries. Foreign broadcasters invest large sums of money for the live broadcast rights to the race. They also create side programs, before and after the race, that promote the national mediation of the Tour, through commentary, in-depth coverage, quizzes, and so on. For both viewers and production, therefore, there is a "core" (the races themselves) and a "periphery" (the other programs) of major mediatized sporting events (Puijk, 2000). The case of the Tour shows how the mediatization of cycling is closely connected with the commercialization and globalization of media, according to dynamics of mutual influence between media organizations (the newspapers, television stations), sports organizations, and tourism actors (Frandsen, 2019). Although the Tour de France remains firmly connected to French national identity (Dauncy & Hare, 2003), it fully exhibits its dimension as a commercialized and globalized mega-event, capable of attracting sponsors and audiences internationally.

The case of the Tour is not unique in the history of the mediatization of cycling. The "Giro d'Italia", the second most important cycling stage race in the world, was likewise founded, in 1909, by a newspaper, "La Gazzetta dello Sport"; it developed through the convergence of the commercial interests of the publishing industry and the cycling industry, which invested significant sums to create competitive teams (Atala, Bianchi, Legnano, among others); it developed considerably, including abroad, thanks to radio reports and television coverage by the RAI, which also produced in-depth programs capable of increasing the popularity of the race and improving the technical competence of viewers (such as the famous *Processo alla tappa*, aired from 1962 to 1970). Moreover, the recognizability of the Giro in the popular cultural imaginary is confirmed by its centrality in fiction products such as *Totò al Giro d'Italia* (1948). The film, directed by Mario Mattioli, features cycling celebrities such as Fausto Coppi and Gino Bartali, together with famous comic actor Totò. It shows the work of athletes, mechanics, masseurs, and journalists before, during, and after the stages; offers visibility to teams and their sponsors; and features full-screen invented front pages of the "Gazzetta dello Sport".

As María Porro Nieto and Rocío Blanco-Gregory point out in this same issue, the Vuelta a España, Europe's third-largest cycling stage race, also began as a mediatized event, as it was co-founded by the newspaper "Informaciones" and later relaunched by the newspaper "El Correo Español - El Pueblo Vasco".

The mediatization of cycling represents a concrete example of how the mediatization of sports is not a linear and homogeneous process. In the first two phases, mediatization mainly concerns

the major events of men's road cycling (major stage races, classic competitions, world and European championships, and so on). It only partially affects other forms of cycling sports (minor races, women's cycling, youth cycling, track cycling) and almost not at all emerging forms of cycling (such as mountain biking), recreational and utility cycling.

1.4 The third phase: digitization and its subprocesses

Digitization, generically referred to as the third phase of mediatization, affects cycling practices in profoundly different forms. For analytical convenience, I distinguish three sub-processes of the digitization of cycling: the first coincides with the advent of the social media society, characterized by the rise of blogs, forums, chats and social networks, thanks to the technological evolution from Web 1.0 to Web 2.0; the second coincides with the rise of mobile communications and lays the foundation for the third, coinciding with platformization, which we will analyze in the next section. Compared to the first phase, dominated by the media logics of press and broadcasting, the main difference of the digitization of cycling is the multiplication of information and communication spaces. This is a long-term phenomenon, since, already in the second phase of mediatization, the political choice to liberalize the telecommunications market and the rise of cable and satellite technologies made the mediascape more pluralistic and diverse. Digitization makes it cheaper to produce media content, which, by contrast, previously contemplated substantial costs for equipment, transmission, post-production and distribution costs – as much for print as for broadcast. The advent of services based on user cooperation such as blogs, social networks, wikis, video sharing platforms, and tagging services ensures the involvement of users in interactive communicative relationships. Audiences are invited to generate content, evaluate products and services, and participate in contemporary cultural production. Bottom-up production, which nurtures grassroots culture, is manifested through the creation of UCG (User-Generated Content), within practice and interpretive communities. The situation of hyperconnected publics and co-producers of culture can be framed through the four basic concepts of the Social Network Society (Boccia Artieri, 2012): participation, sharing, creativity, and bottom-up production. However, the protagonism of publics, recognized by various scholars, should not obscure the power of media institutions, not necessarily weakened in the new scenario (Couldry, 2010).

The ability to convey opinions and ideas, thanks to easy access to online publication media, and the opportunity to reach broad audiences has changed the mediatization of cycling cultures, in many different ways.

Digital social environments offer cycling groups some spaces for communication, identity construction and self-representation. This specific aspect of digitization helps make the process of diversification of cycling cultures more visible. Blogs, communities and forums cover a wide set of practices, attributable to both the sports, the recreational and the utility dimensions of cycling. With respect to the sports dimension, the blossoming of digital environments allows "minor" forms of cycling to gain visibility: women's and youth road cycling and the eight other

specialties recognized by the Union Cycliste Internationale (UCI) (track cycling, cyclocross, mountain biking, BMX, trials, indoor cycling, para-cycling and cycling esports).

"Minor" cycling practices, in the sports and competitive arena, partly due to the visibility gained in digital communities, are often commercialized. The increased fragmentation of the broadcasting system, through the liberalization of frequencies and the activation of satellite and cable technologies, allows for niche television productions for targeted audiences, to which focused advertising investments are allocated. These dynamics demonstrate the complexity of the "media manifold" (Couldry & Hepp, 2016) constructed by digitization: in a mediascape in which old and new media coexist, both are involved in processes of remediation, mutual hybridization and complex interaction (Bolter & Grusin, 1999).

Two cultural macro-trends can be identified in the field of recreational cycling.

The first refers to cycling cultures influenced by long-term sociocultural processes that have already been active in the sports world for several decades: the wellness and fitness movement and extreme sports.

"Cycling for all" encompasses those practices that – in consonance with the basic principles of wellness and fitness movement (Foster *et al.*, 2011) – are based on the conception of sport as an indispensable activity to ensure mental, physical and social wellbeing in a non-competitive context. Especially in countries with more mature cycling cultures, such as the Scandinavian countries and the United Kingdom, many associations have developed projects to break down all barriers (cultural, economic, infrastructural) that prevent the expansion of practice to marginalized individuals (the elderly, disabled, poor, etc.) (Gray & Gow, 2020; Schwanen & Nixon, 2020). Digital spaces have greatly helped to spread the initiatives (fundraisers, events, training) developed by these associations, expanding the audience of those who practice non-competitive cycling. In addition, digital communities have often strengthened a sense of belonging, creating supportive relationships among practitioners and encouraging tutoring, mentorship and other forms of mutual assistance.

Extreme cycling stimulates athletes to move the challenge with their bodies forward through ultra-endurance races. The extreme dimension of such practices is evident from their location at high altitude, particularly harsh weather conditions, length, and duration. Over time, extreme cycling and ultra-cycling have attracted more and more practitioners. Thus, ultra-endurance races have been regulated, becoming a competitive sport in their own right and attracting the attention of local institutions and sponsors. Red Bull, a brand that has linked its image to the values of energy and athletic endeavor, has sponsored numerous such competitions. Extreme cycling, moreover, increasingly resembles a lifestyle sport. In fact, its practitioners participate in these competitions because they identify in the radical relationship with nature, landscapes, and total physical exertion as fundamental elements of their conception of sport and life (Mueller *et al.*, 2019).

A second macro-trend concerns the digitization of cycling cultures committed to enhancing the connection between cycling and social and civic issues, such as gender equality (Candipan, 2019; Lubitow *et al.*, 2019; Lam, 2020), environmental advocacy, and emancipation of ethnic and

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religious minorities (Newhall, 2021). Another evidence that digital spaces increase the pluralism of media and cultural representations of cycling concerns the women's issue. In their paper in this issue Suzanne Ryder, Fiona McLachlan and Brett McDonald recall that "with the advent and growth of digital and social media, a hopeful alternative to the male-dominated traditional media narratives found its way into women's cycling". Blogs, websites, and social networks pages can also function as sites of resistance to the masculinist logics of both professional sports (Antunovic & Hardin, 2013) and recreational cycling (Kim *et al.*, 2021). It remains to be thoroughly explored "the role of social media in the empowerment of women and challenging hegemonic sport discourses", as Ryder, McLachlan and McDonald state. For these activities, often digital spaces seem to reinvigorate media-cycling practices already experienced (even if marginalized) in the old media era: for example, as Julia Bee reminds us in this issue, the conception of the bicycle as a "freedom machine" was fueled by the widespread dissemination of photographs of suffragettes.

The common element of many of the cycling movements engaged in these cultural battles is an aversion to the capitalistic system, of which car-centrism is an expression (Sheller, 2005). Blogs, websites, social media pages help activist cycling reappropriate urban spaces by contesting their car-centric allocation (Kern, 2020). As Julia Bee argues in her paper in this issue, digital culture supports the emergence of new cycling cultures. Images, videos, and texts help shape the complexity of cycling cultures. Taken together, such content fuels a widespread sensibility toward building a more inclusive cycling culture overall, one that challenges the car-centric paradigm primarily through investments in infrastructure and policies dedicated to underrepresented social groups (Aldred *et al.*, 2016). The multiplicity of digital environments, within which the connection between cycling and social movements is welded, "shows the potential to create new alliances between cycling and activism as well as different cultures and milieus", as Bee writes in her paper. In addition, cycling has considerable potential in influencing youth cultures, as different practices become cycling cultures often linking to trends in music, film, and fashion. This connection is achieved precisely through the aestheticization of cycling practices shaped and disseminated through digital content. Moreover, recent cycling trends are being used to express lifestyle, status, and social distinction in an urban middle class context. The bicycle is increasingly turning into a key object of popular urban culture, with a strong focus on aesthetics, design, and lifestyle (Hoor, 2020), combining mediatization and commercialization through social networks and other digital social environments.

These macro-trends also vary significantly from context to context and, while they have, in general, a global dimension, they do not produce the same effects everywhere.

The rise of mobile communication globally, the second subprocess of the third phase of the mediatization of sports, has produced an intensification of the dynamics at work. With the availability of smartphones and affordable Internet connections, mobile communication has fostered widespread forms of hyperconnection, multiplying the production and distribution of digital content. The introjection of digital practices into daily life has profoundly altered social interactions in every field (Castells *et al.*, 2007; Ling & Donner, 2009; Ling, 2012; Ling *et al.*,

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2020). This wave of mediatization has touched both sport and recreational cycling along different paths.

Similarly to what has happened in other professional sports, the particular configuration of the "SMS triangle" with respect to cycling has come under severe strain with the pervasive and massive spread of mobile communication. National federations and teams have had to cope with institutional communication issues through websites and social media, often with insufficient or limited resources (Frandsen, 2019). Some of the most established cyclists have taken advantage of the opportunity to communicate directly with fans and the press through social profiles and pages (Ross & Zappavigna, 2020). The most adept have set up a compelling strategy to build a public image appealing to fanbases and sponsors (Hambrick *et al.*, 2010), or, in the case of Lance Armstrong, to rebuild his reputation after the doping scandal (Hambrick *et al.*, 2015). However, this opportunity created by the disintermediation of sports communication has also led to contrasts between athletes, on the one hand, and clubs and federations, on the other (Tirino, 2019a), because of disputes that arose from conflicts on social media. In addition, younger athletes engaged in national and international competitions have suffered from a lack of adequate media literacy when faced with unpleasant incidents on social media (sexism, pornography, hate speech, stalking, etc.) (Tirino, 2022).

In the mobile communication society, the sports mediascape also faces considerable reconfiguration. Alongside traditional public and private broadcasters, new players are trying to gain market share. Broadcasting rights to the most watched events become increasingly expensive due to competition between traditional operators, over-the-top televisions (such as DAZN) and other tech giants (such as Youtube, Amazon, Facebook, etc.). Similarly, sports journalism becomes a more complex entity, including both broadcast correspondents and professionals from newspapers (almost always migrated online) and a constellation of other heterogeneous entities, such as online-targeted magazines (specializing on cycling or one of its specialties) and semi-professional blogs and weblogs. Each of these news media and even individual journalists seek visibility and interactions on social media, which thus become platforms for mediating sports information as a whole. Finally, by virtue of the expansion and diversification of cycling cultures, brands diversified their sponsorships, often tying themselves to the athletes and specialties that best reflected their values (as in the aforementioned Red Bull - extreme cycling case). Thanks to hyperconnection, fans have experienced exceptional opportunities to follow cycling competitions (including minor ones), connect directly with athletes, and participate in communities with related interests. This has also led to some controversial consequences, such as the increased cost of television subscriptions, the commercialization of many cycling practices, and the replacement of Decoubertinian Olympic values (joy in effort, fair play, etc.) with other values (such as winning at any cost) (Martelli & Porro, 2018).

Mobile communication also affects recreational cycling. The possibility of producing videos (including live) and images of cycling performances, rides, and events, thanks to special tools such as GoPro (typical sports camera), the creation of more or less extended circles of

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audiences with whom to share emotions and passions, and the need to ensure constant communication, internal and external, of group activities contribute to the complete mediatization of the recreational cycling cultures. Images, videos and digital environments become an integral part of cycling practice. Media such as video blogs (vlogs), often updated periodically, disseminate images of cycling from a grassroots perspective. This is achieved in part by the aesthetics of recreational cycling, which are grounded in the close proximity between the camera (of devices such as smartphones and GoPro) and the cyclist's body and radically different from the aesthetics of driving a car (Borden, 2012). The vlogs are also able to return the richness and variety of cycling cultures, through their technical and symbolic equipment (types of vehicles, clothing, race terrain, landscapes, etc.). Recreational cycling becomes an inseparable mix of physical technique, cycling social aesthetics, and the circulation of audiovisual content on social media. Vlogs, apps, and social media are closely connected to the third subprocess of digitization, namely the platformization of cycling. Indeed, platforms ensure the entanglement of cycling in a network of media, as Julia Bee further explains: because cycling is a practice open to outer space and defined by the physical exertion of cyclists, the audiovisual content and data collected by platforms are parallel phenomena that ensure the practitioner's mediatized "take" on the experience he or she is having, while social media enable the collective processing of that experience through likes, shares, and reposts.

Before addressing the complex issue of platformization of cycling in the next section, this last remark allows me to include a clarification. I have proposed a distinction between three subprocesses of digitization, the third phase of mediatization of sports: the rise of the social media society, the pervasive spread of mobile communication and the platformization. This distinction responds exclusively to a criterion of conceptual clarity, since the three subprocesses are closely interrelated and more or less coeval.

2. Platformization of cycling

2.1 What is platformization?

Platformization is the third sub-process of the third wave of sports mediatization (digitization), with precise characteristics. The widespread diffusion of platforms, understood both as tools technology and as spaces that foster economic and social relationships (van Dijck *et al.*, 2018; Boccia Artieri & Marinelli, 2019), has led to the emergence of a new communicative ecosystem. Platforms operate 1) at the technological level, with reference to the implementation and use of technologies; 2) at the social level, with reference to communicative, relational and consumption processes; 3) at the commercial level, as companies generate profits through the advertising exploitation of user data (Paulussen *et al.*, 2017). As mediators between subjects who produce content and subjects who use them (Boccia Artieri, 2017), platforms play a crucial function in the contemporary cultural industry (Magaudda & Solaroli, 2021). The concept of the platform society allows for an understanding of how such a social configuration generates

socio-media mechanisms, such as surveillance and value extraction, that alter the processes of production, distribution and consumption. Platform society emphasizes the inextricable relationship between online platforms and social structures. Platforms do not reflect the social: they produce the social structures we live in (Couldry & Hepp, 2016). Platformization encourages the establishment of a new social arrangement. Platforms are based on three processes: datafication, commodification and selection (van Dijck *et al.*, 2018). First, they facilitate the translation of social behaviors into data that can be used for market purposes (Bentivegna & Boccia Artieri, 2019). Added to this is the "commodification" of what is recorded within the platforms (from the content put into circulation to the preferences expressed), along with the possibility of achieving a data-driven selection process. The essential element of platforms is thus the data collected, the management of which contributes to the increase of their social, cultural and economic power, along with the work of algorithms. Within the platform society, algorithmization produces phenomena at the micro level, such as filter bubbles. Certain affordances of online platforms allow the selection of content valued by users based on prior actions – such as the viewing of an audiovisual content or the expression of a preference – thereby collecting data on the users themselves. Based on this data, platforms make predictions on the basis of which they filter subsequent submissions (Parisier, 2011). Within these bubbles, profiled users mainly find content that should espouse their interests, selected through a process of data collection and algorithmization (often not overt and transparent) (Tirino & Castellano, 2021). The power of platforms certainly manifests internally, but with spillovers externally as well, since they define a technological framework, on which others operate. The data produced by others become readable by platforms and usable in a way that suits their own economic model. Although algorithms play a crucial role in such dynamics, upstream the selection process would follow the tendency of users to search for content consistent with their passions, which can result in the emergence of echo chambers.

The media logics of platformization also shape policies, practices, and cultures of professional, recreational, and utility cycling. Platformization of recreational cycling follows two prevalent media logics: datafication and gamification. These are two logics that I distinguish here only for the sake of analytical clarity, but, of course, they cooperate in defining the practical uses of media-cycling apps and platforms.

Regarding the production of data related to cycling experiences, one of the most obvious aspects is that many platforms (Strava, Zwift, Komoot) incentivize users to measure their cycling performance, with extensive datafication effects on sport and physical activity. This widespread propensity to monitor and measure exercise, sport performance, and health status is part of a broader trend toward quantification of the self (Lupton, 2016), a fundamental operation for extracting value from the datafication of human experience. As Luca Benvenga reminds us in this issue, the tenets of the neoliberal ethos – efficiency, intersubjective competition, optimization – become an integral part of the identity-building processes of athletes and practitioners, as well as in social construction processes (Ahmad, 2008).

2.2 Datafication

Strava is a social network created for recreational cycling communities. Subject, intent and goals are stated from the very beginning. In this way, the user inclined to sign up is aware that he or she is within a social network calibrated to specific interests. The community dimension within Strava is often married with a participatory dimension (Epranata & Bangun, 2022) and is evident from the very moment of access: after registering, in fact, when asked whether to gain to a Premium subscription, we notice on the screen some reviews of other cyclists belonging to the Strava community, whose name and date of subscription we can see. This expedient testifies to the desire to emphasize the individual cyclist, but also to the need for aggregation for the recreational users. He or she, in fact, can consult reviews written by other recreational user-cyclists, learn about the experience of others, and thus decide to share the same experiences by purchasing a Premium subscription. This dimension also emerges from the ability to connect with one's contacts already on the platform, discovering their routes and workouts, along with the various insights that can be monitored through Strava. The community dimension of the platform is fueled by the opportunity to weave social relationships related to the publication of media content about cycling activities. Such content can receive likes, comments, etc., from users within and outside one's own circle of contacts (as with other social networks, we can follow users and be followed by them). In addition, one can access "clubs", or groups within the platform, filtering them by sport and location.

The competition appears evident through affordances and features of the platform. Strava stimulates the self-tracking of cyclists, who thus monitor their own performance and that of others: within "clubs" and on user profiles, insights such as route, distance, elevation gain, time on the move, average power, average speed and calories burned, bike type, etc. are accessed. The opportunity to receive such information allows the system to transform "a subjective, physical experience into a symbolic representation that the individual athlete may communicate with others" (Frandsen, 2020, p. 106). The user can provide other users with a better version of him or herself, even nurturing a kind of narcissism. One can do such monitoring on a periodic basis (weekly or monthly), delving into specific details such as miles traveled, records set, as well as various other parameters. Monitoring others' data, on the other hand, allows one to make comparisons, even setting particular parameters. Strava users can connect their own wearable device with GPS (smartwatches, heart rate monitors, etc.) through which they can 1) monitor their personal progress; 2) analyze their activities in detail; 3) share their performance with their contacts; 4) place themselves within rankings and win challenges; and 5) analyze others' performances. This is possible through first and foremost data collection within the platform. This mediatized cycling practice became "a more goal-oriented, 'sportified' one, with competitive, performative, and achievement-oriented values" (Frandsen 2020, p. 107). These dynamics of accounting for the self are intensified by the automation of data collection operations on one's cycling activities (Couture, 2021).

From this perspective, sport reproduces sociocultural dynamics typical of the "performance society", based on "rendering" (Zuboff 2019), i.e., the transformation of biometric practices and information into profitable data, which foster the inexhaustible capitalization of our daily experiences (Morey *et al.*, 2017). Thus, self-tracking-based platforms put continuous pressure on athletes to win competitions (virtual or real) and improve performance. By virtue of the possibility of recording one's own activity, sharing it, and monitoring one's own performance and that of others, we must question both the surveillance exercised by the platform itself and "social surveillance" (Marwick, 2012) or "intervellance" (Jansson, 2015), i.e., those forms of "horizontal" surveillance, carried out between users and summarized in mutual observation. More generally, cyclists are immersed in broader surveillance and tracking networks made possible by geolocation, the extensive network of cameras in urban centers, tracking data produced during each use of their devices, and many other techno control processes. Data produced by self-tracking apps are often shared on other social networks (Facebook, Instagram, WhatsApp) for larger or smaller circles of contacts. The use of self-tracking technologies, platforms, and related social media is now an integral part of media-sports practices and socialization processes in recreational cycling (Lamont & Ross, 2020). The digitization of recreational cycling has become so normalized that it is taken for granted that many cyclists routinely use smartphones and PCs, fast mobile connections, apps and platforms, to produce and share materials, often containing data, about their experience with other cyclists. Many scholars (Lomborg & Frandsen, 2016; Smith & Treem, 2017) have expressed concerns about the consequences of intensive use of Strava and similar platforms. Barratt (2017), in his qualitative study, explains how Strava stimulates cyclists to ride more often and with greater intensity, either through direct challenge on virtual segments or by comparing individual performance. Weber *et al.* (2018) confirm that apps such as Strava, by fueling competition, have produced an increase in cycling activity. Several studies have pointed out the dangerous consequences of increased physical activity to be "shown" online, such as injuries resulting from poor preparation, the proliferation of cheating and falsification of data, obsession with times, and rather widespread forms of "soft" and "hard" doping. Moreover, several scholars have observed that self-tracking and self-surveillance platforms of physical and sporting activity strongly affect the marginalization of values typically associated with non-professional sports, such as the joy of effort and the pursuit of mental and physical well-being.

However, if we conceive of apps primarily as communication tools, we can more usefully question the meanings associated by users with the use of self-tracking platforms (Frandsen, 2019). While there is no doubt that self-tracking systems such as Strava project individuals into the web of often opaque processes of control, datafication, surveillance, and value extraction, it is equally true that they provide opportunities for communication, identity construction, socialization, and organization of leisure time.

From a communicative point of view, platforms make it possible to maintain contact with communities of like-minded individuals. Communication within platforms such as Strava often fosters the consolidation of a competitive spirit among members. However, message exchanges

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between users can also have other functions, such as sharing and exchanging knowledge and providing encouragement for novice or struggling cyclists (Pajarito Grajales *et al.*, 2019). The study of the socio-communicative aspects of self-tracking apps makes it possible to show that, in some cases, the constant exchange of data about one's sports performance provides gratification through social peer support (Ehrlén, 2021).

Second, gratification is about building one's public identity as a cyclist. Apps and platforms ask users to enter certain public data, including biographical information, photos, brief descriptions, and so on. The ways in which users respond to these requests reveal individual identity construction strategies. Choices such as including photos in a cyclist uniform or riding a bicycle and self-description as "cycling enthusiast/fan" denote a specific desire to present the investment of emotional, temporal, and economic resources in recreational cycling as a defining element of one's public self.

Third, regarding the socialization processes related to self-tracking apps, attention should be drawn to the fact that recreational cycling is an activity practiced primarily for fun and recreational purposes and often aimed at preserving the pleasure of sharing and group unity. The very structuring of a "media manifold" should prompt scholars to less peremptory considerations about the incidence of performance ideology in the platformized social environments of cycling. Indeed, cycling experiences, which on Strava are "datafied" and on Zwift are "gamified" in order to extract value translated into profit by the platforms, can be shared – through images, videos, texts – in playful, critical, empathetic, emotional tones on other media (WhatsApp, Facebook, Twitter, Instagram, and so on). Although socialization through apps and platforms is rather brief and limited, Frandsen (2019) explains that in cases where "virtual" friends are also workout buddies or members of other offline social networks, shared exercise provides a useful topic of conversation for socializing. Social networks intensify "a highly developed sensibility toward an extended network of persons and media" (Hjarvard 2009, p. 167). Moreover, digital communities and social groups often reflect, extend, and shape "light" sports communities (Borgers *et al.*, 2018).

Fourth, it is necessary to analyze the control that users can exercise over their leisure time and sports activities. Apps allow people to keep a record of their cycling activities. The ability to consult objective data on one's performance induces reflection on the exercise performed and helps users "to engage with their sporting practices in (...) more serious, focused, and persistent ways" (Frandsen, 2019, p. 107). The issue of control can be addressed not only in terms of the control actions exercised by self-tracking apps over users, but also in terms of the control exercised by users over their own cycling activities. Gerard and Hepp (2018) distinguish three factors that condition the profile of sports self-trackers: the context of further practices, of which self-tracking is a part; the context of social figurations in which self-trackers are involved; and the context of social discourses about the self in our societies. The connections between these contexts give rise to two types of self-trackers. "Pragmatists" view self-tracking as "part of purposeful practices such as weight control or maintaining sleep and work routines" and the use of these technologies as "a necessary evil to achieve a certain goal" (Gerard & Hepp 2018,

p. 696). "Enthusiasts", on the other hand, appreciate the playful aspect of self-tracking technologies, and think they are an integral part of the mediatized sports experience.

Both the creation of light sports groups and the ability to track one's activities by measuring their parameters, according to Hjarvard (2009) and Frandsen (2019), are phenomena generated by the broader macro-process of individualization. In recent decades, more and more cyclists prefer to practice outside organized and recognized sports clubs, joining informal groups and associations. For these types of cyclists, the opportunity to decide for themselves how, when, and where they ride meets a need for personalization of training programs and socialization opportunities. The impact of this macro-process on cycling can be discerned from the observation that while the number of informal cyclists has grown steadily, the number of athletes affiliated with recognized cycling clubs has declined over the past two decades (Frandsen, 2019).

The platformization of utility cycling shows how the principles of datafication already applied to recreational cycling can affect the work of riders, sometimes even more disturbingly. Algorithmic management (Stark & Pais, 2020) determines the fee to be paid for each delivery, monitors the delivery process of each order, and evaluates riders' performances partly on the basis of the votes they earn, which are also used to create a ranking according to which deliveries and labor hours are distributed. Therefore, the algorithmic management system, deputed to maximize the productivity of worker-cyclists, is based on "earned" reputation. However, several studies (many of which are cited in Heiland, 2021) have highlighted the lack of transparency and the biases of algorithmic management, exposing the opacity of rider reputation management systems.

As Francesco Bonifacio's work published in this issue shows, riders' autonomy is not only limited by the algorithmic system, but also by the concrete assemblage of available technologies, sociocultural transformations, and political decisions that structure this specific cycling culture. In this sense, the material working conditions of riders also bring out the latent contradictions between the illusion of total control, monitoring and surveillance fueled by platforms as socio-technical systems, on the one hand, and the constraints, limitations and obstacles of urban material spatial arrangement, on the other. Elements such as the availability of well-lit bike lanes, the absence of potholes and good road surface quality, and limitations on the speed of car traffic are essential to ensure the simultaneous protection of the safety and speed of the rider's work. What distinguishes commuter cycling culture and rider cycling culture is precisely the element of speed. In this sense, the recommendations that platforms direct to riders regarding compliance with speed limits, safe distance, and zones closed to bicycle traffic clash with the material need to meet delivery times by dealing with traffic jams, bumpy stretches, and sudden breakdowns of the vehicle. Spatial and material knowledge of the territory becomes a valuable quality to avoid wasted time, protect safety, and maintain high standards of productivity. But material knowledge of the territory is contrasted, very often, with the information provided by apps such as Google Maps. Indeed, as Bonifacio writes in his paper, "the spatial knowledge embedded in Google Maps does not correspond to a rider's practical

sense of the space. While the former respects abstract traffic rules, the latter is the product of the incorporation of the logic of this specific practice". Finally, as Bonifacio argues, riders' cycling culture is defined by a range of practical skills, such as bicycle maintenance techniques and quick replacement of damaged components. Therefore, a new cycling culture is being built around the work of the rider, linked to the material and symbolic consequences of mobility policies in the digital age.

2.3 Gamification

Some gamification elements were introduced into recreational cycling as early as the mid-2000s by platforms such as MapMyRide. In addition, several public administrations and private companies have used gamification for awareness campaigns for the use of bicycles as a means of transportation for urban commuters (Millonig *et al.*, 2016). But this media process has intensified considerably "particularly as cycling moved indoors and onto our screens with virtual cycling", as Sarah Thorne explains in her study in this issue devoted to the Zwift platform.

Zwift is a program created in 2014 dedicated to online cycling and running. It allows its users to interact, train and compete through a dedicated platform. Zwift involves both the physical environment (where the necessary devices are installed) and a virtual environment (where users interact, train, and compete). The platform intends to foster socialization of users, who, in addition to training on their own, can participate in collective competitions. The level of immersion and interaction is very high, as the virtual worlds are very precisely constructed and users can interact with both the environment and other users as well as, physically, with the smart trainer. Smart trainers are the devices that enable participation in virtual rides. They require the removal of the rear wheel of the bicycle and the direct connection of the bicycle chain and are able to simulate inclines and changes in the road surface. Zwift allows athletic performance to be recorded and transferred into a digital world in real time, using specific hardware and motion sensors.

There are four critical phenomena associated with cycling gamification: falsification of results, health risks (Tiessen, 2014; Rey, 2015), extreme commercialization of practice, and substitutability of offline practice. The data required by Zwift to accurately represent physical movement within the game requires metrics not typically used by most recreational outdoor cyclists. The platform provides these cyclists with useful new metrics to examine their performance. This data is published on the partner site ZwiftPower.com. Falsification of performance data can occur through manipulation of the metrics and information provided. In fact, Zwift's rendering system distributes some benefits based on cyclists' self-reported weight. Since performance in Zwift is measured in terms of watts per kg, declaring a lower weight than the real one, by altering the power-to-weight ratio in a cheating way, gives cyclists a significant advantage. Ultimately, digital conversion of sports performance is still questionable. In addition to the relevance of body weight, the rider's size, shape, and riding position, all key aspects in

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professional offline cycling, are not taken into account in the calculation of aerodynamics. Other cheating is accomplished by manipulating the calibration of rollers and power meters. Furthermore, the rendering system has some limitations with respect to data accuracy, inadequacy and unreliability of speed and power algorithms (McIllroy *et al.*, 2021). As a result, two side effects are the occurrence of hacker attacks and the imbalance of power between those who hold possession of billions of data (platform operators and owners) and ordinary users.

A second concern expressed by scholars includes the health consequences for athletes. Many cyclists chase the goal of losing weight beyond the recommended threshold for better results through rigid diets unsuitable for the physical exertion required by the practice. The cheating and consequences of disordered eating regimens have prompted the platform to launch numerous systems to combat the aforementioned "weight doping". The salubriousness of the premises where smart trainers are physically located is an issue that invests in protecting the health of athletes.

A third type of criticism focused on the commercialization and professionalization of cycling on Zwift. As Thorne notes, "the introduction of teams has also been central to Zwift's movement into esports and increased interest in serious competition and legitimizing the sport". According to some, the commercialization of gamified cycling generates an alteration of the values traditionally associated with recreational cycling (fun, sociability, sharing, etc.).

A fourth issue concerns the substitution of offline racing. Especially in countries where restrictions on sports practice during COVID-19 pandemic have been very severe, e-cycling has grown exponentially. Rojas-Valverde *et al.* (2022) questioned whether these virtual cycling practices can operate as digital substitutes for offline sports and physical activity. In general, e-cycling constitutes a mediatized cycling practice with a specific sociocultural and techno-media background, which is not intended to replace offline cycling. However, during lockdowns it has emerged as a mediatized practice that, according to the logic of substitution (Schulz, 2004), almost completely absorbs road cycling, namely, another practice, unmediatized or only partially mediatized.

Finally, according to Matthew Tiessen (2014), datafied and gamified recreational cycling practices reshape the inherent joy in cycling activity. Such practices produce the incorporation of sporting activity within a complex media-cultural mood, based on the typical values of the neoliberal ethos (self-surveillance, self-efficiency, performance obsession, productivity ideology). Such a media-cultural mood produces the dangerous distortions mentioned above.

Besides some weaknesses, Zwift has many strengths. The immersiveness of the racing environments, the versatility of the competitions, the opportunity to compete with athletes from all over the world, and the possibility offered to professional and recreational cyclists to train constantly during lockdowns – with performance comparable to that of outdoor cycling (Westmattelmann *et al.*, 2021) – are undoubted advantages of this mediatized cycling practice. In addition, Zwift overcomes the organizational constraints of offline cycling: races on the platform do not require the completion of administrative and authorization procedures, are not disrupted by bad weather, do not have to cope with poor road surface conditions, and do not

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require expenses for transportation, accommodation, and food for teams. Another advantage is that the platform consistently reduces the danger of accidents, although it is not completely zeroed out. Finally, there is considerable room for commercial and technological development of the platform. In 2019, Zwift defines a collaboration with the Giro d'Italia, which leads to reproducing the Bologna time trial on the platform. In 2020, Zwift organizes for charity the Virtual Tour de France, with the participation of great champions from the men's and women's teams. From 2020, the UCI Cycling Esports World Championships are held on Zwift. These examples highlight how, within this platform, a "SMS triangle" is being consolidated, consisting of the media interested in broadcasting virtual competitions, sports organizations (both those that are born in the e-cycling sphere and traditional ones that intend to enter it), and sponsors. At the same time, the platform's technical crew is working on improvements to the virtual environment, such as the inclusion of video capture and e-coaching, which can enhance the virtual rider experience.

2.4 Beyond platformization. E-cycling and e-bike

Platformization does not exhaust the subprocesses of digitizing the contemporary recreational cycling experience. More radical processes of digitization concern the transformation of the bicycle into a digital medium, in a twofold sense.

On the one hand, media are authentic forms of cycling as electronic cycling (Frandsen, 2019). Here, it is impossible to summarize the extensive debate that exists within Media Studies and the sociology of sports on whether esports should be given the status of sports disciplines (Del Gaudio & Ruffino, 2021). In any case, e-cycling involves competition based on skill in the use of video games. This means that the cycling experience is based on a specific form of competitive media literacy.

On the other hand, bike becomes a material medium. Cox (2022) has illustrated the technological and cultural function of the e-bike as a conduit to electric mobility and electric car. Because of its relatively affordable purchase cost, the e-bike could become a popular means of transportation in a short period of time, able to habituate many cyclists to the ways of interacting with electric technologies (pedal assist, charging, battery maintenance, and so on). A new cycling culture is being built around this specific type of bicycle. The success of the ebike culture depends on structuring an electric "vélomobility" (Furness, 2007; Spinney, 2009; Pesses, 2010; Koglin & Rye, 2014; McIlvenny, 2015; Behrendt, 2018; Cox, 2019 and 2022), that is, an assemblage of material, technological, infrastructural, cultural, and political conditions, that contends for resources, space, and attention with the car-centric system of automobility (Urry, 2004).

However, studies on the future of mobility ignore the role of the material mediatization of the bicycle. Thanks to digitization, the e-bike could fully evolve into a true "media machine", equipped with geolocation sensors (which dialogue with apps and devices, but also prevent theft), audio-visual entertainment systems, integrated video cameras, self-tracking apparatuses,

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wi-fi connections, and so on. Such an e-bike is capable of dialoguing with extended networks of devices, apps, media and social networks. The effect is a transformation of the cycling experience through the intensification of digitization, both to exploit its communicative and playful potential and to enhance insurance protection against theft and accidents.

3. Conclusions. From hyper-mediatization to de-mediatization

The mediatization approach makes it possible to investigate the transformations of cycling cultures over a very broad time span, thus complementing other more traditional fields of research such as the sociology of culture, sociology of sport and Cultural Studies. A very complex mutation reshapes interaction between cyclists, political actors, sports organizations, media entities, and economic operators. The first two phases of the mediatization of cycling act on specific social and cultural realities along with other meta-processes such as globalization and commercialization. The complex of these meta-processes, even with the variability of specific contexts, promotes the stabilization of the "SMS triangle". In this broad period, the media are mainly institutional actors with impressive socio-technical apparatuses. Their action takes place at the macro-social level, acting, together with sports and economic organizations, in the field of mass communication. Moreover, as mentioned earlier, the early stages of the mediatization of cycling involve only those competitions that are sufficiently attractive to audiences and sponsors, almost completely ignoring the "minor" forms of sport cycling, recreational cycling and utility cycling.

Digital media, mobile connections, and platforms have extended mediatization – in the specific form of digitization – to all cycling practices and cultures, thanks to the typical properties of digital and telematic communication (diffusivity, cheapness, virality, and so on). The digitization of cycling cultures is as much a product of the massive diffusion of networked digital media and mobile communication technologies, paving the way for later developments in the field of health- and fitness-oriented self-tracking apps, as it is of the broader social macro-processes of individualization, commercialization and globalization. As Ehrlén (2022, p. 545) summarizes, "mediatization contributes to the diversification of the sporting landscape, enables fluidity in sports communities, and strengthens commercialization of leisure sports". The analysis of the mediatization of cycling cultures encourages us to summarize two basic trends: the extension of digitization (third wave of mediatization) to all fields of cycling experience and the cooperation between mediatization and other social macro-processes (commercialization, globalization, individualization). Understanding the meta-process of individualization can be facilitated by Hjarvard's (2009) concept of "soft individualism". This concept identifies the contemporary tendency to define the self through lifestyle, consumption choices, sexual orientation and eating habits. In this scenario, peers and the media play a crucial role in the normative orientation of individuals. Sports, recreational and utility cycling cultures contribute to the identity construction of practitioners according to increasingly fluid and informal pathways, through

constant connection with fashion, technology, and various leisure activities. The meta-process of individualization can be related to the phenomena of de-institutionalization of contemporary sports (Frandsen, 2019), which fosters the practice of sports outside the circuits recognized by sports institutions.

A final reflection on the mediatization of cycling should be dedicated to the consequences of the COVID-19 pandemic. Some scholars (Nikitas *et al.*, 2021) have critically addressed the initiatives taken by public administrations at a global level to make cycling safer and more widespread, with a view to reducing both the risk of contagion and environmental pollution. Taking into account a large number of statistics and surveys, Buehler and Pucher (2021) come to optimistic conclusions about the levels of both recreational and utility cycling in the near future. They positively evaluate the extension of protected cycle paths, the growth in bicycle sales, the increase of new practitioners during the pandemic, the recovery of commuter routes, lost during the lockdown, the renunciation of many passengers to public transport in favor of bicycles. Later, in research focusing on fourteen "bicycle-friendly" cities in thirteen different countries in Europe and North America, the same authors found a general increase in sport and recreational cycling and a concomitant decrease in utility cycling (Buehler & Pucher, 2022). Various research attests that during the COVID-19 pandemic bicycle traffic increased significantly (Kraus & Koch, 2021), especially in urban areas (Schweizer *et al.*, 2021), partly through the provision of temporary infrastructure to support bicycle and pedestrian mobility (Francke, 2022; Rérat *et al.*, 2022). These dynamics have raised the debate about the need for public investment to implement durable infrastructure and local and national policies to support practitioners. Such initiatives are essential to transform the temporary increase in bicycle traffic into a structural mutation of urban mobility toward safer, sustainable, and cheaper practices (Büchel *et al.*, 2022). Although the debate is still open, according to some scholars (Budi *et al.*, 2021) transformations in cycling practice are supported by a deeper cultural shift. The increase of practitioners in recreational and utility cycling is supported by the social demand for new lifestyles, differentiated according to heterogeneous cycling cultures, but united by the centrality of cycling mobility and environmental sustainability in defining individual and collective identities. The processes of digitization of cycling cultures exert a relevant function in the consolidation of post-COVID-19 cycling cultures. According to Budi *et al.* (2021), media is one of the factors that sustained cycling trends during the pandemic, especially through the influence of social media dedicated to cycling. Paydar and Fard (2021) highlight the contribution of mobile apps to the improvement of cycling behavior, both in terms of their motivational function and their ability to facilitate people's recognition of positive/negative environmental aspects. This may in turn lead to greater cyclists' awareness.

Moreover, a further issue related to the digitization of post-COVID-19 cycling cultures concerns the role of e-cycling. Especially in those countries with stringent traffic restrictions, e-cycling has grown vertiginously. Recreational and professional cyclists have started or continued to regularly participate in virtual races with opponents from all over the world.

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The lockdowns have shown the relevance of sports and leisure time to the mental and physical balance of millions of cyclists worldwide, as Matthew Tiessen also reminds us in his article for this issue. Social media, mobile apps, and e-gaming platforms have offered support for practicing cycling, thus limiting the anguish of forced confinement within domestic spaces. Among the side effects of lockdowns for COVID-19, however, is the intensification of the mediatization of every daily activity: work, entertainment, social relationships, sex, sports and every other sphere of life have been experienced through the digital assemblage consisting of apps, software, hardware, Web connections and screens. However, this hyper-mediatization, which has accelerated dynamics of deep mediatization (Couldry & Hepp, 2016) that had already been in place for some time, has generated unpredictable reactions. On the one hand, cyclists have expressed the need to reappropriate spaces and territories, returning to riding in the streets and relishing again the pleasure of immersing themselves as much in busy urban arteries as in rural paths and nature trails. This reappropriation was supported by a media manifold, consisting of social network sites, apps and platforms. On the other hand, however, a spontaneous cycling movement has arisen based on the rejection of digital instrumentation for audiovisual production, control, monitoring, sharing and commentary of cycling experience. This trend, although a minority one, indicates that media saturation may generate a kind of de-mediatization (Kopecka-Piech, 2020) of some recreational cycling practices, in the name of recovering the direct relationship with the landscape, off-line sociality, and the non-competitive and non-quantifiable pleasure of cycling (individual or collective).

These observations on the evolution of cycling practices after the COVID-19 pandemic allow us to reflect more deeply on the transformations of the mediatization processes of cycling cultures. Not only is mediatization a complex of processes with varying intensity and extent depending on geographical and cultural contexts, not only is it divided into waves or phases with specific effects and characteristics, but it should also be interpreted as a nonlinear phenomenon and, therefore, potentially subject to regression (in cases of desaturation and disconnection from digital media).

Cycling is a social practice with multiple cultural meanings that can be traced to at least two areas: recreational (sports and leisure cycling) and utility (where the bicycle can be both a tool for work and a means of getting to work). Cycling can be conceived as a set of practices already characterized by marked cultural complexity. Ultimately, the analytical and conceptual framework of mediatization is useful for studying the ambivalence, contradictory nature and richness of the ways in which media cross, shape, and reconfigure actors, practices and processes of contemporary cycling cultures.

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