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Introduction

The online sports betting industry is a solid and rapidly growing sector of the global economy (Global Betting and Gaming Consultancy 2013). While most forms of gambling on sports have been stable or decreased over the last few years, online betting has nearly doubled its prevalence rate in the 2009-2014 period in the UK (Georgiu, 2015). Drawing on the wide influence of sport content in society and backed by nascent Internet regulatory frameworks, bookmakers appear to have succeeded in normalizing the action of wagering money on the outcome of a sporting competition (Parke et al., 2014). The novelty of the online component has raised questions regarding the new nature of sports betting, bringing to the public debate the yet unseen implications of this recent form of gambling. From the first exploratory studies (LaBrie et al., 2007; LaPlante et al., 2008; Woolley, 2003), the topic has gained momentum from the point of view of its detrimental effects —more specifically problem gambling (Hing et al., 2015) and match-fixing (Asser Institute, 2014)— as well as its economic impact (Paul and Weinbach, 2010). However, little is known about its characteristics as a cultural product of mass consumption and its convergence and integration with other products from adjacent markets.

This paper explores the converging processes that have made possible the existence and proliferation of online sports betting. It develops two main arguments and perspectives. On the one hand, it examines the integration of social and technological processes that have enabled the cultural saliency of contemporary online betting. Following this argument, betting on sports via online platforms is viewed as the result of independent, sometimes non-sporting, historical processes. On the other hand, the paper analyses the market integration of online betting with other neighbouring industries. If the cultural perspective identifies the origins of online betting as a cultural phenomenon, the market perspective observes it as a commodity, discussing the aggregation of multiple media, entertainment, and sport markets into new gambling commodities. The market integration speaks about the colonization or cannibalization of non-gambling niches by gambling industries, a process described as gamblification in the context of sports (McMullan and Miller, 2008). Combined, the two perspectives tackle the complexities of gambling on sports in the digital era and attempts to offer a comprehensive understanding of the intersecting forces behind the rise

and proliferation of online sports betting as a form of leisure and entertainment, but also as a motive for social concern.

The cultural integration of online sports betting

The proliferation of online sports betting has run in parallel to at least four cultural converging processes, namely the (i) temporal and geographic globalization of the sporting markets, (ii) standardization, homogenisation and numerical quantification of sport performance, (iii) increasing mediatisation of sport contents and its subsequent cultural centrality and dominance, and (iv) development of constantly available, ubiquitous and affordable personal communication technologies, especially mobile devices. These are now described and discussed in more detail below.

Temporal and geographic globalization

The temporal expansion of sports can be analysed on a micro (within 24 hours), meso (within a week) or macro (over months and years) level. Until recently, on the meso level, the weekend-centred sporting calendars enabled individuals to experience event anticipation and delay gratification. For instance, bets on football matches across Europe were typically placed during the week or just before the weekend and the gambler had to wait on the outcome for a few days. The concentration of sports over a few hours on a Saturday or Sunday afternoon naturally kept the betting activity within narrow time limits. However, the interest and demand for sports content (and associated betting activity) progressively pushed outside the weekend boundaries and started colonising other days of the week (such as football matches being played on Friday and Monday evenings). The competition between sports in each market made non-hegemonic sports try to avoid time slots populated by hegemonic sports (most importantly football in Europe) and re-schedule in less competitive time slots. The multiplication of sporting competition formats at national and supranational level further saturated a market that – far from stagnation – continued to deliver huge audiences (Whannel, 2009). In this new development, although still intensified during the weekend, professional competitive sport began to occur on a daily basis.

At the macro level, the globalization of different sports across continents has multiplied the potential betting opportunities in each month. The autumn to spring calendars of Northern Hemisphere sport competitions confront the spring to autumn calendar of Southern Hemisphere sports like the Australian Football League (AFL) and globally staged competitions like Moto Grand Prix, Association of Professional Tennis (ATP) World Tour,

20-20 cricket, rugby union, or Formula 1 motor racing. The American sporting calendar combines a summer to winter (National Football League and colleague football), autumn to spring (National Basketball Association and National Hockey League) and spring to autumn (Major League Baseball) time schedule. Annual events have gradually avoided July and August months, traditionally dominated by international football and Olympic games, to accommodate their tournaments in less populated slots such as January (Handball Euros and World Cup) and, more frequently, September (Volleyball World Championship or Rugby World Cup).

On a micro level, sports market globalization has allowed sports betting operators to transform its business time-scale from daylight-only hours to around the clock (24/7) coverage. The multiplicity of time zones has made possible for bettors to gamble around the clock on distant or close betting markets, a situation that parallels that of the financial stock market. To ameliorate the inconvenience of early morning games, top European leagues have increasingly adapted their timetables to Asian and American audiences (Rowe and Gilmour, 2008), and have also dispersed the matches in their competitions over longer periods of time to maintain the media attention and respond to team-specific or player-specific international demand from different parts of the world.

Quantification and standardisation

Sport has been described as a modern representation of rationality (Bale, 1994). The logics of aestheticism that defined sport in Ancient Greece gave way little by little to a demand for quantification. The ideals of corporal expression, geometric symmetry, and/or spatial equilibrium were supplanted by the measurement of the distance covered or the time elapsed in the completion of an activity (Lopez-Gonzalez, 2014). The Olympic motto, *citius, altius, forties* (faster, higher, stronger) represents this change of attitude toward the essence of contemporary industrial sports practice. The realisation of the 'ideal of quantification' needed a standardisation of sports variables everywhere and at any time. With the creation in the UK of written sports codes in the 18th and 19th centuries, different cities and universities were (for the first time) able to compete by the same rules and the same standards. This unequivocally determined both the absolute and relative merit of each participant within a given competition as well as between different competitions and periods of time.

The internationalization of the sport codes allowed events occurring in different and distant places to produce comparable performances and results, facilitating the origin of

supranational sport bodies that, in turn, would promote the total standardisation of sport spaces (stadiums, tracks, pitch dimensions, etc.) and sport times (game duration, breaks, annual calendars, etc.). Eichberg referred to this reduction of local singularities across the world as the 'sports monoculture' (Eichberg, 1998). The monoculture has proven to be pivotal in the development and maintenance of sports betting.

The influence of gambling was an essential part of the evolution of sports codes. Golf and cricket were codified in 1774 as a direct response to the requirements of bookmakers to operate under consistent set of rules (Forrest and Simmons, 2003). The neighbouring industries that flourished around popular sports needed formal structures and predictable formats. The measurement of human dimensions previously regarded as qualitative facilitated the explosion of even more rational forms of quantification. Statistics and advanced metrics have pervaded more spheres of the sporting culture – such as talent recruitment and athlete performance optimisation – and laid the foundations for a data-driven, technologically-enriched, and truly quantifiable sport product that perfectly suited the needs of the gambling industry.

A solid, unbiased, and unquestionable numerical output is crucial for betting purposes. To bet upon events, sports competitions and betting partners must generate reliable and globally shared standards of measurement that cannot be challenged by customers or be open for discussion. Every bettable element must be operationally defined to ensure winners and losers are unequivocally identified at the end of the betting process. In this context, the burgeoning in-game market allows sports fans to bet on hundreds of easily measurable and verifiable variables. For instance, in-play football (soccer) markets can include bets on the number of goals scored during a match, the number of corners conceded, the half-time score, the final score, and the names of the goal scorers. However, betting operators (i.e., bookmakers) resist offering betting options on harder to quantify variables like goal assists or goalkeeper saves where a human being is needed to adjudge what constitutes an occurrence of such variables.

Mediatisation of sport content

Sports content delivered through media technologies has two main implications for the development of gambling. The first implication is based on the idea that the media reassure the relationship built on trust between betting bookmakers and bettors. Since their inception, sports media and gambling have had parallel trajectories. The honour of being the first sports-based media outlet in history is commonly attributed to the *Boston Gazette* of

1733. The magazine included racing fixture tables so readers could bet money on horses (Boyle, 2006: 31). In an era when information did not travel as quickly and as reliably as today, gamblers needed assurances about the facts they were betting on. The true outcome of a game or a race happening miles away required an uninterested third party to objectively deliver the information needed. The trust between bookmakers and consumers evolved toward more sophisticated ways as the transmission platforms became more capable of presenting the spectators with vivid and often live proof of the contests.

The second implication is that as fans have become more familiarised with sport competitions, and their involvement with sport (and sports betting) has grown accordingly. The development of the telecommunication technologies and the reduced cost of transmitting sports events worldwide have brought competitions and fans together in unprecedented ways. Consequently, it comes as no surprise that sport is frequently among the most viewed television programmes in every country and among every age group (TV Sports Markets, 2013). As Griffiths (2012) has noted, betting operators have been wise enough to capitalize on the massive amount of televised sport available to the consumers. Television has made spectators integrate sports into their everyday life experiences, and spur their knowledge, awareness, loyalty, team identification, and belonging. Over the last couple of decades, the progressive transformation of sport into a commodity would not have been possible without the fundamental contribution of mass-mediated sport (Sewart, 1987). Given this context, online sports betting is arguably a predictable ramification of the complex commodification process traversing sport today.

The internal rationale of sports and media has proven to be a perfect match. Both share a common taste for technology-enhanced environments, hypermodernity, and escalating acceleration (Hutchins, 2011). Also, when combined, they both rely on a simple and readily understandable language of visual images that transcends cultures and natural language barriers. Some authors have even talked about sport as the modern Esperanto of mediatized entertainment (Rowe, 2003). In such an arguably fertile breeding ground, betting should easily flourish and expand. In an interesting study, Salaga and Tainsky (2015) tried to determine how much of the television viewership of colleague games was related to sports gambling, an illegal activity in most USA states and explicitly opposed by the National Collegiate Athletic Association (NCAA) on the grounds of sport integrity issues. To do this, they selected games in which outcome uncertainty was low and the winner was largely determined. According to previous research (Paul and Weinbach, 2007), when the outcome of a game is decided, viewership should fall due to loss of interest. However, what they

found was that when the scoring margin moved closer to the closing line point spread, the ratings were higher. The sporting reasons for such behaviour fail to explain the sudden interest in such games and betting appears to be the most plausible explanation for this observation.

Mobile technologies

The business of betting has moved irreversibly into mobile platforms. Many major operators have noted in their annual reports the unprecedented prevalence of mobile betting over other forms of access. For instance, *Betfair* reported that over 70% of its sportsbook revenue comes through mobile apps (Betfair, 2016). For *William Hill* it was 66% (William Hill, 2016) and 75% in the case of *Paddy Power* (Paddy Power, 2016). Affiliate companies that provide technological support and graphic interfaces for betting operators have reported similar results (iGB Affiliates, 2016).

It would be a mistake to interpret the shift to mobile as a mere platform substitution. Mobile betting entails a deeper transformation of the consumption patterns of sport bettors. Most importantly, it situates live in-play betting at the heart of the betting experience and further facilitates the interactions between mediated sports consumption and wagering. The picture it arguably portrays is that of a fan who bets on sports while watching it live on television or streaming it online. In just a few years, in-play betting has arguably become the preferred way of placing a bet among most types of sports gambler. Anecdotal reports from professional insiders back in 2013 estimated that approximately 50% of betting action in football occurred during the critical two hours of the game duration (Warkentien, 2014). *Betfair* reported an increase of 121% in the numbers of games that allowed in-play bets, reaching over 9,500 live events per month in April 2015 (Betfair, 2016). Since 2015, the Spanish gambling commission has provided disaggregated data from in-play and non-in-play bets placed with licensed sites operating in the country. According to the latest available data, last year 73.8% of the total money bet online on sports was wagered live during the game (DGOJ, 2016). Also, in the Spanish market, 31% of every Euro spent on any type of online gambling, including non-sport-related forms, was spent on in-play sports betting (DGOJ, 2016).

According to gambling business insiders, the sports betting market has hit a ceiling in terms of volume of events and number of in-play betting options (iGaming Business, 2016). In their opinion, the battle for quantity is over and now each operator will have to focus on offering a distinctive product that meets the demands of quality of its audience. Personalisation of

the betting experience appears to be crucial in a market where product differentiation is non-existent and price elasticity very limited (Hing, 2014).

The market integration of online sports betting

The online sports betting market has undergone a series of convergence processes with neighbouring industries in order to explore the potentially beneficial underlying synergies. Online sports betting, as the name suggests, has three natural fields for integration. In relation to its online component, sport betting can integrate with digital sector companies with whom they share a binary language and an internet-based business model. As for the sports component, betting operators are an integral part of the sports economy and build upon the popularity of sports content to boost their own business. In terms of betting, the integration with other gambling forms unrelated to sport offers new opportunities for companies to carefully expand the comfort zone of their customer base and introduce them to new gambling practices.

Figure 1 highlights the convergence of the online sports betting market by means of integration with digital, sporting, and gambling sectors. In the figure, each column regarding integration must be read as the convergence of online sports betting across products from that specific sector. For instance, digital integration can occur when digital but non-sporting and non-gambling products hitherto are integrated into the online sports betting market via all or some of the digital elements that are present in those products. Arguably some of the items could be allocated in more than one column. For example, 'fantasy sports' was originally a sport pastime only, later becoming a real money sport gambling activity, and then a real money online sport gambling activity. Convergence is a process, and as such, columns try to reflect the sector where each process originated.

FIGURE 1 AROUND HERE

Figure 1. Examples of convergence in online, sports, and betting industries

To further the argument, the digital, sports, and gambling integrations have also been the consequence of two converging dynamics: the *gamblification* of sport and the *sportification* of gambling (McMullan and Miller, (2008). Gamblification is the process of converting and applying gambling logics to something that previously had no relation with it. By gamblificating sport, neighbouring industries have incorporated gambling opportunities into

their business models and have connected their interests to those of the gambling operators. Correspondingly, sportification is the process of incorporating the logics of sport to non-sporting contexts. This can materialise in many ways but most commonly occurs when (i) other industries capitalise on the positive attributes of sport (e.g., popularity, engagement, or sanity and health inferences); and (ii) non-sport fields try to increase the entertainment and playability of their products and their association with joy and excitement. The process of sportification has big similarities with the gamification or ludification process of applying game-design characteristics to non-game environments such as education (Deterding et al., 2011) or personalised health (McCallum, 2012). The synchronous sportification of gambling and gamblification of sport might have long-term implications in relation to the way society conceptualises such activities, thinking of sport as a form of gambling and of gambling as a form of sport.

Additionally, a third dynamic, namely digitalization, is a logical consequence of the three-leg convergence of the online sports betting market. With digitalization, previously analogue products enter the online market and adopt some of its characteristics such as scalability, global reach, and universal accessibility. Taken as a whole, Figure 1 can be interpreted as part of a stationary picture in which elements from each sector intersect and become part of a bigger logic, or act as a dynamic mechanism by virtue of which gambling, digital, and sport industries penetrate adjacent markets and deliberately mutate the nature of some of their products.

Digital integration

Data

Digitalization is the conversion of information to a binary globally understandable language. Online sports betting interacts with other non-sport digital world dynamics to produce business opportunities to exploit. Among the four processes mentioned above, intervening in the proliferation of online sports betting, quantification of sport is central for understanding its digital integration. The standardization and quantification of sports action have resulted in the generation of 'big data'. In fact, a prerequisite for betting is the conversion of sport performance into data. Data and big data industries in sport have blossomed over the last decade, and data-driven technologies have taken centre stage in the transmission of sports content (Millington, 2014). Data companies (such as the *Perform Group*) have signed long-terms deals with sport competitions worldwide to extract, analyse, and deliver data content. These data are bought by sports betting operators to produce the

bettable elements in the market. In 2013, sports data providers were to deliver as many as 810 betting markets within a single football game (European Gaming and Betting Association, 2014). In addition, media companies buy it to surface patterns, statistics, ephemerides, records, and milestones that can enrich the narratives to engage their audiences. Similarly, sports organizations use the data to monitor the performance and customize the training of the athletes.

However, sports data does not only travel one way. The same digital technologies that enable 'sports-to-fan' knowledge transmission also exploit the reverse path of 'fan-to-sport'. Teams have long been implementing body and facial recognition software in their stadiums (Whisenant, 2003). When joining sports events or platforms, fans leave behind a trail of social media interaction, website navigation, and/or purchase behaviour that can be traded profitably. If popular teams and sportspeople get fans to register and download an app (something as simple as a keyboard personalisation with the team colours), fans will be granting, in some cases, access to their personal contacts, device and app history, identity, device ID and call information, and media files, as well as installing in-app purchase functionalities. Kuper (2014) has entertained the possibility of sports organizations becoming data collecting companies like *Google* or *Facebook*. Sports fans differ from other consumers in that their engagement and lifelong loyalty to the brand makes for a richer and more profound sports-fan interaction, producing better quality user identification with real trading value in the data market.

Social gaming

Via social gaming, online betting has found a gateway for real money gambling. Most popular games include fantasy-like games, football managers, and FIFA-like skill games. *Top Eleven 2016 - Be a Football Manager* (Nordeus, 2010) is the most played sports social game with over one million daily subscribers. With one of the world's most successful soccer managers José Mourinho as the public face of the game, it represents the social gaming evolution of the traditional football manager computer games. Likewise, *FIFA Ultimate Team* (EA Sports, 2015) substitutes money for virtual rewards and simulates the videogame atmospheres for mobile and *Facebook*.

Minors who cannot legally gamble can train themselves in sports-like social games on *Facebook,* that act as *de facto* technological convergence platforms of monetary and non-monetary gambling practices, and can have potentially detrimental effects (Cassidy, 2013; Griffiths et al., 2014). The attraction of vulnerable groups through mild forms of gaming has

been said to make gambling more ubiquitous and socially acceptable, even treating gambling as a family activity to perform together (King et al., 2010). Social gaming can familiarize the players with the rules, the atmospheres, the adrenaline rush, the strategic thinking, and the group excitement of gambling products without the inconvenience and financial dangers of real money gambling. The internalisation of these gambling-like experiences might predispose a minority of individuals to develop a gambling problem later in their lives (Griffiths, 2014).

eSports

Electronic sports (eSports) are a clear illustration of the results of the sportification dynamics. In its purest formulation, eSports involve people playing videogames, usually non-sports. The professionalization of this entertainment form has brought sports-world elements to it: stadium-like facilities, cheering stands, sponsors, big rewards, and competition. Instant replays, jumbotrons (i.e., super-huge television screens), and referees add to the sport dramatisation. In some notorious cases, prizes have gone beyond the $10 million [US] threshold in a packed arena housing 73,000 fans (Wingfield, 2014). It has been estimated that 134 million people watched (but did not participate) in eSports worldwide in 2015 (SuperData, 2015) with an annual revenue of $325 million [US] (Luke Graham, 2016). Real sports teams have started to move in. British football club Manchester City announced that an 18-year-old eSport FIFA player will be representing the club in international competitions (Wakefield, 2016).

This massive interest followed by a massive audience has led most major betting operators to include eSports in their daily gambling offer. However, the singularities of eSports market pose new challenges that conventional online betting sites struggle to address. Suraj Gosai, co-founder of *Blinkpool,* an eSports dedicated betting platform, laid out two main problems: in-play betting limitations and odds algorithmic programming (Bracken, 2016). For in-play betting to be viable, companies need to get access to reliable, instantaneous, and unambiguous data that can settle bets and separate winners from losers. Data companies like *Perform* do that in sport, and betting operators rely on their data to offer in-play action to gamblers. The problem in eSports is that actions are not as quantified and standardised as in real-life sports. To counteract that, *Blinkpool* created a computer vision technology that extracts data from real-time action and promotes hyper-contextual opportunities, that is, 10- to 45-second in-play betting mini-markets concerning very specific developments in the narrative of the games.

Odds programming in sports betting is fundamentally based on historical data from hundreds of thousands of games, from which each factor (home advantage, table position, head-to-head, etc.) is weighted in to determine the probability of an event occurring. In the fixed-odds betting market, the bookmaker makes available to bettors that probability plus a benefit margin. When placing a bet, an individual bets against the probability that the house has predicted. This is not yet feasible in eSports because the historical data are scarce and the modelling is complex. Companies are circumventing this problem by offering exchange betting rather than fixed-odds. This method comprises peer betting, that is, bettors do not bet against the house but between one another. This way, the house gets a commission from winning bets and operates a much less risky business (Bracken, 2016).

Immersive reality

The hyper-technologized sports terrain, particularly when it comes to elite sports, has been predicting the arrival of virtual and immersive technologies for over ten years (Katz et al., 2006). The vantage position of sportspeople in the game was emulated by utilizing on-board cameras in cycling and motor sports. Multi-camera set-ups promised fans personalised viewing with angle and viewpoint selection in their hands, as well as 3D features created to revolutionise the sports experience (Grau et al., 2007). However, the public turned out to be far more conservative than anticipated about the best way to consume sports. Screens became bigger and ultra-defined but immersive realities like 3D have – to date – failed to engage the spectator (Furness, 2014).

The next generation of virtual reality headsets (*Oculus Rift, HTC Vive, PlayStation VR* and *Google Cardboard*) might have a better chance with sports betting. Applied to gambling, virtual reality could facilitate the transition from gambling to gaming accentuating the adventure and joy components. For its horse racing market, *William Hill* has experimented with a merge between GPS data and virtual reality. Bettors can watch an online simulacrum of the actual race, built by real world live data, in a virtual environment where fans can impersonate the jockey (Davies, 2015). Theoretically, strategies such as immersive realities could pose a threat for gamblers. A deeper immersion could augment the illusion of control of bettors as their betting experience switches from a passive to an active exercise, resulting in a bigger involvement with the events bet upon. This involvement could be interpreted by the bettor as playing a bigger role in the outcome of the race, emphasizing the correlation between skills and outcome (Tobias-Webb et al., 2016).

Sporting integration

Sport journalism

For online sports betting to become a prominent cultural artefact, journalism will have to play a big part at spreading and normalising it. A number of examples illustrate the extent of the normalisation of betting in everyday sports media. First, media sports websites are big affiliate partners of betting operators. Affiliation in online marketing means that if a reader is redirected by a banner from a sports site to a betting site, and later this fan places a bet there, the sports site get a proportion of the NGR (Net Gaming Revenue) generated in the betting activity. Although no concrete figures are available as to the extent of this affiliation market between sports and betting, two proxy figures may shed some light. More specifically, the proliferation of betting banners placed in online sports outlets (and in illegal live streaming feeds), make a compelling argument concerning the existence and volume of affiliate traffic. Furthermore, back in 2012, gambling websites (sport and non-sport) were believed to attract 50% of its clients through affiliate marketing (H2 Gambling Capital, 2013). If this was the case for online sports betting, then it would be safe to assume that a large proportion of that 50% must come from sites producing sports content and targeting sports fans (i.e., sports journalism).

Second, on a more subtle narrative level, betting odds increasingly feature in news themselves. For instance, in 2016, British football club Leicester City were the unexpected Premier League football champions. The story of a team overcoming the budget obstacles and winning the Premiership title was consistently emphasised using a betting narrative. The angle selected by many outlets was not the underdog defeating the Goliaths of English football but focused on the 5000-1odds that Leicester City were given at the start of the 2015-16 season to win the league. Bettors who wagered money before the season began (and under such disadvantageous circumstances), were portrayed as true fans. Bookmakers, with estimated losses in the area of £25 million (Rayner and Brown, 2016), did not wait to capitalise on the event and promoted themselves as a business that delivered big money to fans.

Third, and still on a narrative level, the fact that data companies deliver information to both media outlets and betting companies makes it more probable that the kind of news that is published is at the same time conveniently shaped for betting purposes. Statistics and ephemerides (also superstitious numerical coincidences) identify patterns in past confrontations between two teams and project them for the build-up of the next game, manufacturing the narrative of a probable outcome without explicitly encouraging a bet on it.

Fourth, sport journalism has been very successful in helping journalists in the transition from sport experts to betting experts. In a recent study conducted in Spain, researchers cross-checked a list of the top ten sport journalists in the country with the most *Twitter* followers to see if they had any sort of relationship with the betting industry. The results showed that all of ten sports journalists had current or past endorsement deals with betting companies, with some even launching their own online betting platform (Lopez-Gonzalez and Tulloch, 2015). These journalists are regarded as knowledgeable experts that can provide followers with inside information (i.e., 'good' tips) about the status of the teams and sportspeople. Some of these journalists, managing accounts with over one million followers, function as influencers, promoting and normalising the use of betting sites to adults and minors alike.

Sponsorship and endorsement

In 2013 the European Sponsorship Association characterised the gambling industry as "a significant source of sponsorship funding for sport organizations" (European Gaming and Betting Association, 2014: 30). According to this report, gambling (in general) ranked seventh of all business sectors in terms of sponsorship deals. In Europe, gambling companies sponsoring professional sports team jerseys grew from one in 2002/2003 to 26 in 2010/2011 (European Gaming and Betting Association, 2014). The ubiquity of gambling sponsorship in sport has become apparent for anyone watching elite football. In the 2015/16 season of the English Premier League, seven out of 20 shirt deals involved gambling operators (*Betway, Dafabet, Bet365, TLC Bet, 138.com*, and *Mansion*, twice) plus an online trading exchange company, *GWFX*. In addition, all 20 teams had an official betting partner for the season (Smith, 2016). Gillooly (2015) noted that none of the seven sponsorship deals included alliances with the top Premiership clubs and that the average gambling sponsorship of these clubs amounted to £3.9 million a year whereas the average sponsorship deal for clubs in the Premier League was £11.2m. This could be interpreted as a strategy by the gambling operators to get maximum publicity rather than enhancing brand value of the operator by being associated with the best football teams. By targeting lower profile football clubs, betting operators have reduced their sponsorship expenditure while maintaining a high international exposure of their products every time their sponsored teams play against the biggest name teams.

In relation to endorsement, active players signing deals with sports betting operators are rare, at least in the premier European football market. In a few cases, when a team-gambling partnership has been in place, operators have set up promotional videos with some

players using semi-advertising formulas such as informal 'hitting-the-crossbar' competitions in which a betting operator gathers a number of footballers from a team and make them test their accuracy trying to hit the crossbar of a goal (*Betfair, Bwin* and *Kirolbet* have used such a formula). In these instances, no features of the betting product are presented and the gambling-sportsman connection is weak, typically involving a fix banner in the background of the pitch. Instead, gambling companies have favoured two distinct strategies: signing retired sportspeople and coaches (e.g. Matt Le Tissier, Stuart Pearce, Fernando Morientes, Luis Figo); or, looking for active sportsmen to endorse gambling forms other than sports betting (e.g., Neymar, Rafael Nadal or Cristiano Ronaldo in poker, Jose Mourinho in *Top Eleven Football Manager*).

The integration of betting with sports competitions has magnified the scope of gambling stimuli that sports fans are regularly exposed to. An 'environmental scan' commissioned by Gambling Research Australia (Sproston et al., 2015) in the most followed sports in the country found that six betting companies had spent $12m in ten weeks producing a total of 13,000 'advertisement events' in that period. The events in the scan included television, radio, and print advertising, but also social media messages and other digital strategies. In addition, the researchers visited sport venues where they took photographs of betting promotions from dynamic and fixed banners, and hanging billboards, as well as from less obvious places such as press rooms, volunteers' vests, front facing steps in public staircases, and toilets. The implications are that betting stimuli are –in Lopez-Gonzalez and Tulloch's words (2015)– environmental or ecological. That is, sports gambling is embedded in everyday routines and objects, irrespective of the individual platforms employed each time, and that it requires a holistic approach to tackle potentially detrimental aspects in their entirety.

Virtual and fantasy sports

The triangular convergence of digital technologies, sport, and gambling industry has multiplied the possible combinations of products that, having originated in one field, have evolved into something different. For instance, fantasy leagues and videogames existed in the pre-Internet era, but it was not until the Internet's arrival that their convergence with gambling materialised. All things considered, the integration of sports-themed products becomes easier as their digitalization process continues, blurring the lines between formerly distinctive markets. Consequently, sport bettors can now bet on the: (i) sport-themed videogame they are playing; (ii) sport-themed videogame somebody else is playing; (iii)

sport-themed videogame that a computer is generating (virtual sports); (iv) non-sport videogame somebody else is playing (eSports); (v) real-world-based virtual team management competitions (fantasy sport); and (vi) real-world games (traditional sports betting). Immersive virtual reality promises greater integration between platforms for the near future, and enhance the playability and entertainment factors of the betting experience.

Virtual sports are computer-generated games whose outcome and development are decided by an algorithm. The programming of the algorithm factors in the skills of each contender (i.e., not every team is weighted equally, the same as in real life) but adds randomness that makes it difficult to predict the result. Virtual sports differ from eSports in that the former are virtual representations of sport contests, while the latter have no explicit relationship with sport beyond the metaphorical 'sport as competition' connection. In eSports, active videogame players compete in non-sports games, whereas in virtual sports a passive audience observes a computer-generated sport game being played. As the technology for virtual reality develops, the user experience is likely to improve in an industry estimated to be worth $9 billion a year (Totally Gaming, 2015). Betting-wise, a major feature of virtual sports is the duration. Games typically last two to three minutes and can be as brief as 90 seconds. With such short cycles, the betting frequency increases, and with it the speed at which gamblers can lose potentially control over their behaviour (because problem gambling is associated with high event frequency activities [Griffiths and Auer, 2013]). Another big feature is the availability. Virtual sports are not hampered or restricted by time zones, injuries, event cancellations, weather conditions, or sport calendars, representing the ultimate evolution of the always-available sports betting culture.

Fantasy sports consist of drafting a team of real-world players and being rewarded according to their real-world performance over a period of one to seven days (daily fantasy) or a season (conventional fantasy league). While videogames and virtual sports offer the digital equivalent of the player perspective, the traditional role of the manager has, in fantasy leagues, a digital fulfilment. Fantasy sports have been found to boost sport consumption over mobile, television, and print media (Drayer et al., 2010). Fantasy leagues have grown into a multi-billion dollar industry in the USA, arguably because of its controversial legal status as a skill game, contrary to the chance-based games of online sports betting, illegal in most of the jurisdictions.. The enhanced participatory role that digital products such as fantasy games introduce could facilitate the illusion of control as they perform actions, making bettors overestimate the importance of skills and knowledge for the outcome of the competitions (Thomas et al., 2015).

Gambling integration

In-venue and in-stadium online betting

Also prompted by the digitalization, online sport betting has integrated into other existing gambling environments. Betting shops have traditionally offered the possibility of wagering while watching sporting events on television (e.g., horse racing). Intuitively, it might be assumed that online and in-venue gambling are mutually exclusive, and that the emergence of internet-based betting options would lead to a decrease in offline equivalents. However, in-venue betting operators have pro-actively reacted to such technological innovation by expanding its online betting functionalities. Suren Khachatryan (CEO, *BetConstruct*) asserts that offline gaming operators that now offer online betting opportunities integrate the benefits of digital gambling technologies with two fundamental characteristics of offline gambling: a familiar retail setting where bettors can feel comfortable and, most importantly, an environment in which a game can be enjoyed while accompanied by others (Pageant Gaming Media, 2014).

Likewise, the in-stadium gambling experience has also gone digital. The halftime queues to place a bet in the stadium bookmaker have been substituted for in-venue companion apps that allow ticket holders to wager, order food, upgrade the seat, check the parking slots, and/or follow the statistics of the game. In one of the most bold examples of this gambling integration, Celtic Glasgow football club signed a deal with the *Unibet* gambling company to provide their stadium with a high-density free Wi-Fi system that enables fans to bet online while watching the game (Sports Revolution, 2014). A free app is required to access the Wi-Fi, and through it, *Unibet* promotes its in-play odds and special offers.

Poker

A plethora of former sportspeople have transitioned from sport to gambling including Ronaldo Nazario, Alberto Tomba, Andriy Shevchenko, Shane Warne, Thomas Brolin, Boris Becker, and Teddy Sheringham. As noted above, active sportspeople rarely endorse betting sites and prefer to migrate to other gambling forms such as poker, with unknown reasons for such behaviour. Footballers like Neymar or Cristiano Ronaldo and the tennis player Rafael Nadal are examples of this. Research carried out in the 1990s in the USA showed that college athletes faced "unique temptations to gamble because of their subculture" (Curry and Jiobu, 1995: 33), with competitive motivations that might act as generalizable personality traits and find other forms of expression such as gambling. Weiss and Loubier

(2010) have also entertained the idea that a competitive nature might be nurtured through the life of young athletes as a trait of their socialization process. Another finding in their study suggested that former athletes gambled more extensively on poker games than current athletes and non-athletes, further indicating a competitive spirit idea.

Poker operators, which are sometimes owned by the same mother companies as betting sites, might be allegedly building on this competitive spirit to equate betting and poker playing in the minds of sports fans. The shared elements between sport and gambling of sensation seeking and risk-taking (Straub, 1982) might assist to produce the illusion of a coherence in the transition from betting to poker, ostensibly emphasized by the strategic airing of poker advertisements at the end of televised sporting events.

Trading

Some functionalities of sports betting platforms can be seen as a primitive form of online trading. For instance, "cash outs" are instances of where bettors can withdraw a bet made before the final result is known. In this scenario, the bettor is not gambling on a specific outcome *per se* but on the possibility that the face value of the bet would increase. The "exchange" also presents trading features. For instance, when exchanging, bettor A decides upon the odds of any bet but cannot place it until a bettor B has matched the odds, covering for each other's' winnings. This strategy very much resembles that of trading on the stock market.

In recent years, the sponsorship deals between European elite teams and high-risk financial online trading companies have flourished. Online brokerage, including binary options and forex (FX or foreign exchange) are visible partners, in some cases becoming main shirt sponsors (*Plus500* and Atletico Madrid, *HP Autonomy* and Tottenham Hotspur, and *GWFX* and Swansea City). Since 2010, a large number of top football and motor brands have deals with one or more trading firms: *IronFX* (FC Barcelona), *Alpari FX* (West Ham United, New York Knicks), *Swissquote* (Manchester United), *Gain Capital* (Manchester City), *FXPrimus* (Manchester City), *Swiss FX* (Mercedes F1 Team), *FXDD* (Red Bull Racing Team, Malta national football team, Virgin Formula 1, BMW Sauwer), *CWMFX* (Chelsea), *Markets.com* (Arsenal), *Optionweb* (Paris Saint Germain), and *24option* (Juventus). Some of these trading companies have faced judiciary as well as liquidity problems, terminating the contracts sooner than expected with potential damage to the brand equity of the team sponsored (Siddiqui, 2015).

Final remarks

In this paper it has been argued that, from a cultural perspective, contemporary gambling on sports competitions via Internet-based platforms is the consequence of the confluence of a number of historical processes affecting sporting attributes (quantification and standardization), technology conditions (mobile and media evolution), as well as political and social scenarios (globalization and mediatisation). It is unlikely that without those intersecting processes online sports betting could have ended up finding the fertile environment to evolve into the prominent and pervasive cultural phenomenon it is today. Likewise, from a market perspective, the present paper has expanded its main argument exploring the converging processes of the online sports betting market with other adjacent industries.

These integration processes can be interpreted as opportunities from the sport and gambling industries' point of view, although conversely they might turn into sources of social discomfort and alarm, especially when involving vulnerable groups. Sports betting has dramatically altered its essence from a discontinuous to a continuous form of gambling, with progressively increased availability, accessibility, frequency, and betting options. The convergence processes discussed here have contributed to such alteration and its consequences (positive or negative), given the short period of time elapsed since its materialisation, are yet to be investigated. As advertising and marketing strategies have become integral parts of the business, bookmakers are developing innovative and state-of-the-art tactics to cross-promote and converge separate markets, targeting new gamblers or discouraging the discontinuation of gambling. In this context, sport is arguably a uniquely positioned delivery vehicle for such promotion strategies due to its wide penetration and intergenerational social acceptance. The widespread interest by children and teenagers in sports and their exposure to sport-related promotions also raises further concerns about the adequacy of the current legal limits of betting advertising and demands an unambiguous stance on the matter from sport competitions, teams, and personalities.

Considering the speed of technological change affecting sport, media and betting companies, the convergence and integration processes described in this paper are likely to evolve rapidly and in hardly predictable ways. If technology perpetuates itself as the principal moderator of the bookmaker and bettor relationship, future research studies might find it difficult to keep up the pace of the constant and radical shifts of that relationship. To fight

against that, this paper offered a less present-focused look at the issue, attempting to understand online sports betting as a historically rooted cultural and market reality.

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