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Fair Play: Notes on the Algorithmic Soccer Referee

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Fair Play: Notes on the Algorithmic Soccer Referee

*Michael J. Madison**

ABSTRACT

The soccer referee stands in for a judge. Soccer's Video Assistant Referee (VAR) system stands in for algorithms that augment human deciders. Fair play stands in for justice. They are combined and set in a polycentric system of governance, with implications for designing, administering, and assessing human-machine combinations.

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I. INTRODUCTION

The center referee in a World Cup final may be the most powerful person on the planet. One human alone, expert and experienced, makes judgments that affect the outcome of the match on the field, the allocation of hundreds of millions of dollars (and Euros, and so on) in commercial investment, and emotional and cultural

commitments that involve billions of people.¹ The referee's judgments are human, prone to the occasional but world-changing error, and altogether unreviewable.² Could a machine do the job better? Should it?

"We shape our tools and thereafter they shape us," wrote Father John Culkin,³ popularizing Marshall McLuhan and generalizing Winston Churchill's statement, "We shape our buildings and afterwards our buildings shape us."⁴ Churchill was talking about rebuilding London after German raids in World War II. McLuhan was writing about technology and media. Today, human-machine blends concern the specter, power, and apparent ubiquity of artificial intelligence (AI). Massive data sets, algorithms, and expert systems are with us at work, at war, and in our social and personal lives.⁵ They both frame and decide questions, or seem to, for us, with us, and about us. Do they change us?

That question links ancient concerns (who decides and how, versions of which date to ancient Rome and no doubt earlier⁶) with contemporary practice. How does AI-based decision-making change the character of individual human decision-making? How does it change the conditions of social life?

Consider not work nor ordinary social or personal life. Consider play. The television program *Star Trek: The Next Generation* attributed this quotation to the eighteenth-century philosopher David Hartley: "Nothing reveals Humanity so well as the games it plays."⁷ Humans play soccer, essentially everywhere. Soccer is the most

1. See DAVID GOLDBLATT, *THE AGE OF FOOTBALL: THE GLOBAL GAME IN THE TWENTY-FIRST CENTURY* 2–8 (2019).

2. See Joshua Landy, *The Hand of God: Aesthetics, Ethics, and Law in the Beautiful Game*, ARCADE (July 8, 2010), <https://arcade.stanford.edu/blogs/hand-god-aesthetics-ethics-and-law-beautiful-game> [<https://perma.cc/VKS4-U6BM>]; THE INT'L FOOTBALL ASS'N BD., *LAWS OF THE GAME 2020/21*, at 65 (2020) [hereinafter *IFAB LAWS 2020/21*], <https://static-3eb8.kxcdn.com/files/document-category/062020/zQvVIAswsZLqrOH.pdf> [<https://perma.cc/3NPF-4D3S>].

3. John M. Culkin, *A Schoolman's Guide to Marshall McLuhan*, SATURDAY REV., Mar. 1967, at 51, 70, <https://webpace.royalroads.ca/llefevre/wp-content/uploads/sites/258/2017/08/A-Schoolmans-Guide-to-Marshall-McLuhan-1.pdf> [<https://perma.cc/HZY6-XT7A>].

4. Winston S. Churchill, U.K. Prime Minister, *A Sense of Crowd and Urgency*, Address Before the House of Commons (Oct. 28, 1943), in 7 WINSTON S. CHURCHILL: HIS COMPLETE SPEECHES 1897–1963, at 6869, 6869 (Robert Rhodes James ed., 1974).

5. See Lee Rainie & Janna Anderson, *Code-Dependent: Pros and Cons of the Algorithm Age*, PEW RSCH. CTR. (Feb. 8, 2017), <https://www.pewresearch.org/internet/2017/02/08/code-dependent-pros-and-cons-of-the-algorithm-age/> [<https://perma.cc/FLU9-QKKX>].

6. "Quis custodiet ipsos custodes?," usually translated as "who watches the watchmen?," comes from the Roman poet Juvenal.

7. See *David Hartley*, MEMORY ALPHA, https://memory-alpha.fandom.com/wiki/David_Hartley [<https://perma.cc/4PUS-PN64>] (last visited Dec. 13, 2020).

widespread form of play worldwide.⁸ Its cultural and commercial significance is undeniable. Its relevance to broader questions of social, cultural, and political organization has been explored at length, even by coaches. The legendary Liverpool manager Bill Shankly once said, “Somebody said that football’s a matter of life and death to you, I said ‘listen, it’s more important than that.’”⁹

In the center of the game stands the soccer referee, the quintessential solitary human decision maker. The referee has long used tools of one sort or another: the whistle, the flag, and more. Now the referee also uses a machine-based technology: the Video Assistant Referee, or “VAR.”¹⁰

The question here is this: what does close examination of VAR tell us about judging and judgment generally? The strengths, weaknesses, and meanings of VAR reveal something useful and important about the roles that AI and expert systems play in other contexts and the roles that they should play.

Those issues are increasingly urgent. Should courts rely on robot judges?¹¹ Should banks rely on algorithmic credit scoring?¹² Should social media use automated content moderation?¹³ Should insurers and online marketplaces use computerized private dispute resolution systems?¹⁴ Should weapons systems and military strategy be grounded in AI?¹⁵ Complex algorithmic systems are embedded in the design of

8. See STEFAN SZYMANSKI & ANDREW S. ZIMBALIST, NATIONAL PASTIME: HOW AMERICANS PLAY BASEBALL AND THE REST OF THE WORLD PLAYS SOCCER 1–2 (2005). “Soccer,” as the sport is usually known in North America and Australia, is called “football” and cognates (such as futbol and Fußball) in most of the world. Both names originated in and were common in England for much of the twentieth century, so soccer is the original English and football is the even older original English. See STEFAN SZYMANSKI & SILKE-MARIA WEINECK, IT’S FOOTBALL, NOT SOCCER 2 (2018). One’s choice of “football” or “soccer” is fraught if ultimately meaningless. This article uses soccer because the author grew up with soccer.

9. Mark Jones, *Bill Shankly’s Famous ‘Life and Death’ Misquote and What Liverpool Icon Really Meant*, MIRROR, <https://www.mirror.co.uk/sport/football/news/bill-shanklys-famous-life-death-21784583> [<https://perma.cc/FF3G-6KEQ>] (last updated Mar. 31, 2020, 3:35 PM).

10. See IFAB LAWS 2020/21, *supra* note 2, at 141–48.

11. See Eugene Volokh, *Chief Justice Robots*, 68 DUKE L.J. 1135, 1158 (2019).

12. See *generally* FRANK PASQUALE, THE BLACK BOX SOCIETY: THE SECRET ALGORITHMS THAT CONTROL MONEY AND INFORMATION (2015).

13. Compare Dan L. Burk, *Algorithmic Fair Use*, 86 U. CHI. L. REV. 283, 307 (2019) (arguing that using algorithms in social media would create immense difficulties), with Niva Elkin-Koren, *Fair Use by Design*, 64 UCLA L. REV. 1082, 1100 (2017) (distinguishing difficulties in social media algorithms from difficulties in other areas).

14. See Rory Van Loo, *The New Gatekeepers: Private Firms as Public Enforcers*, 106 VA. L. REV. 467, 511 (2020).

15. See Gordon Cooke, *Magic Bullets: The Future of Artificial Intelligence in Weapons Systems*, U.S. ARMY (June 11, 2019), https://www.army.mil/article/223026/magic_bullets_the_future_of_artificial_intelligence_in_weapons_systems [<https://perma.cc/W6DF-7KTZ>].

objects and processes of public administration, producing so-called smart speakers such as Amazon's Echo, exercise monitors like the FitBit,¹⁶ and smart cities.¹⁷ Market exchange may be mediated by different sorts of human-machine blends, including smart contracts and blockchain technologies.¹⁸ Expert humans in various settings, including law practice, are learning that their expert judgments may be displaced by the output of expert systems.¹⁹ The ability to design and use tools helps to define humanity. At what point do humans undermine themselves? When do the tools cross normative lines?

These examples pose questions about the character of machine decision-making, and they necessarily pose questions about the character of human decision-making, too.²⁰ The questions are as long-standing as they are broad. Today's interest goes back at least as far as early interest in human-computer interaction in computer networks,²¹ the launch of cybernetics (the study of machine control and communications in social and technical systems) in the late 1940s,²² and to industrialization of machine manufacturing during the later Industrial Revolution.²³ Defining the territory is itself a challenge; labels proliferate. Contemporary researchers have called the relevant domain automated or augmented decision-making (ADM),²⁴

16. See Natasha Dow Schüll, *Self in the Loop: Bits, Patterns, and Pathways in the Quantified Self*, in A NETWORKED SELF AND HUMAN AUGMENTICS, ARTIFICIAL INTELLIGENCE, SENTIENCE 25, 26 (Zizi Papacharissi ed., 2019).

17. See Ellen P. Goodman & Julia Powles, *Urbanism Under Google: Lessons from Sidewalk Toronto*, 88 FORDHAM L. REV. 457, 478 (2019).

18. See Spyros Makridakis, Antonis Polemitis, George Giaglis & Soula Louca, *Blockchain: The Next Breakthrough in the Rapid Progress of AI*, in ARTIFICIAL INTELLIGENCE: EMERGING TRENDS AND APPLICATIONS 197, 203–04 (Marco Antonio Aceves-Fernandez ed., 2018).

19. See Daniel N. Kluttz & Deirdre K. Mulligan, *Automated Decision Support Technologies and the Legal Profession*, 34 BERKELEY TECH. L.J. 853 (2019).

20. See JULIE E. COHEN, BETWEEN TRUTH AND POWER: THE LEGAL CONSTRUCTIONS OF INFORMATIONAL CAPITALISM 247–49 (2019); KATE CRAWFORD, THE ATLAS OF AI (forthcoming Apr. 2021); BRETT M. FRISCHMANN & EVAN SELINGER, RE-ENGINEERING HUMANITY (2018).

21. See J. C. R. Licklider, *Man-Computer Symbiosis*, HFE-1 IRE TRANSACTIONS ON HUM. FACTORS IN ELECS. 4 (1960); M. MITCHELL WALDROP, THE DREAM MACHINE: J.C.R. LICKLIDER AND THE REVOLUTION THAT MADE COMPUTING PERSONAL (2001).

22. See NORBERT WIENER, CYBERNETICS: OR, CONTROL AND COMMUNICATION IN THE ANIMAL AND THE MACHINE (1948).

23. See E.J. HOBBSAWM, INDUSTRY AND EMPIRE: FROM 1750 TO THE PRESENT DAY 152–56 (Chris Wrigley ed., Penguin Books 1999) (1968).

24. See JAMES LARUS, CHRIS HANKIN, SIRI GRANUM CARSON, MARKUS CHRISTEN, SILVIA CRAFA, OLIVER GRAU, CLAUDE KIRCHNER, BRAN KNOWLES, ANDREW MCGETTRICK, DAMIAN ANDREW TAMBURRI & HANNES WERTHNER, INFORMATICS EUR. & ASS'N FOR COMPUTING MACH. EUR. POL'Y COMM., WHEN COMPUTERS DECIDE: EUROPEAN RECOMMENDATIONS ON MACHINE-LEARNED AUTOMATED DECISION MAKING, 2 (2018), <https://europe.acm.org/binaries/content/assets/public-policy/ie-euacm-adm-report-2018.pdf> [<https://perma.cc/6WDW-S9CN>].

algorithmic governance,²⁵ algorithmic adjudication,²⁶ hybrid intelligence,²⁷ and cyborg justice,²⁸ among other things.

This Article takes a deep dive rather than a big swing. Its focus is not primarily decision-making in the mind of the individual football referee, and not whether the referee's reliance on video review renders the referee more or less objective or accurate (one set of interests, addressed further below), or more or less human or humane (a second set of concerns, also addressed further below). The question here is how VAR affects the law and related governance of soccer, both in the moment of a match and across all of soccer's local and global settings. The example is intended to illuminate how human-machine decision-making offers justice, and other things, whether in a dispute between two parties or in a social system, or both.

The thesis of the Article is that the socio-legal and socio-technical landscapes at stake in human-machine combinations are polycentric. They are organized in multiple, adjacent, and sometimes overlapping domains of mostly autonomous systems of conduct and control. There is nothing novel in looking at social and technical context to make sense of questions of algorithmic decision-making specifically or justice generally.²⁹ Nor is there novelty in the related idea of algorithmic governance as a complex, adaptive system, in which emergent order arises from dynamic interactions

25. See Matthew B. Crawford, *Algorithmic Governance and Political Legitimacy*, 3 AM. AFFS. J. 73 (2019).

26. See David Freeman Engstrom & Daniel E. Ho, *Algorithmic Accountability in the Administrative State*, 37 YALE J. ON REGUL. 800, 815 (2020).

27. See Zeynep Akata, Dan Balliet, Maarten de Rijke, Frank Dignum, Virginia Dignum, Gusztai Eiben, Antske Fokkens, Davide Grossi, Koen Hindriks, Holger Hoos, Hayley Hung, Catholijn Jonker, Christof Monz, Mark Neerincx, Frans Oliehoek, Henry Prakken, Stefan Schlobach, Linda van der Gaag, Frank van Harmelen, Herke van Hoof, Birna van Riemsdijk, Aimee van Wynsberghe, Rineke Verbrugge, Bart Verheij, Piek Vossen & Max Welling, *A Research Agenda for Hybrid Intelligence: Augmenting Human Intellect with Collaborative, Adaptive, Responsible, and Explainable Artificial Intelligence*, COMPUTER, Aug. 2020, at 18, 19.

28. See Rebecca Crootof, "Cyborg Justice" and the Risk of Technological-Legal Lock-In, 119 COLUM. L. REV. F. 233, 235 (2019).

29. Recent scholarship has drawn attention to context as a central component to understanding human-machine combinations generally and algorithmic decision-making specifically. See Amnon Reichman, Yair Sagy & Shlomi Balaban, *From a Panacea to a Panopticon: The Use and Misuse of Technology in the Regulation of Judges*, 71 HASTINGS L.J. 589, 593–94 (2020); Andrew D. Selbst, danah boyd, Sorelle Friedler, Suresh Venkatasubramanian & Janet Vertesi, *Fairness and Abstraction in Sociotechnical Systems*, 2019 ASS'N FOR COMPUTING MACH. CONF. ON FAIRNESS, ACCOUNTABILITY, & TRANSPARENCY 59, 59, <https://dl.acm.org/doi/pdf/10.1145/3287560.3287598> [<https://perma.cc/SJ8F-WW78>]. The meaning of justice in the algorithmic administration of the rules of sport has been considered elsewhere as well. See HARRY COLLINS, ROBERT EVANS & CHRISTOPHER HIGGINS, *BAD CALL: TECHNOLOGY'S ATTACK ON REFEREES AND UMPIRES AND HOW TO FIX IT* (2016).

among multiple agents.³⁰ The novelty here lies in how polycentric governance itself gives that order important, contextual shape and system.

Soccer is a complex polycentric social system. This statement expresses literally a proposition that is suggested metaphorically in the public administration literature, in which the phrase “ecology of game theory” refers to policy processes as complex, adaptive systems.³¹ Applied specifically to soccer, “[t]wo soccer teams in a match represent a complex system whose global behavior depends in subtle ways on the dynamics of the interactions among the players.”³² Jean-Paul Sartre once wrote, to similar effect, “[i]n a football match, everything is complicated by the presence of the opposite team.”³³

Adding VAR to soccer refereeing means disrupting a certain polycentric soccer equilibrium, or, possibly, restoring one. One might make that point slightly differently and more precisely. With some exceptions noted below, this Article refers to VAR and the VAR system as the blend of human and machine capabilities that now officiate many professional and international soccer matches. The equilibrium provided by human refereeing is being replaced by VAR.³⁴ How that equilibrium is changing casts the game and its partial governance by machine in a specific light relative to the referee; to the players and teams; to coaches, managers, and other staff; to owners, investors, advertisers, sponsors, and broadcasters; and to billions of fans and observers, both passionate and casual—that is, to society at large, both in its attention to football and in its indifference. It is not that VAR changes or restores the game itself so much as VAR changes how the game informs the identities and behaviors of all of those people. Thinking hard about how VAR does that, and in what respects the

30. See John Danaher, Michael J Hogan, Chris Noone, Rónán Kennedy, Anthony Behan, Aisling De Paor, Heike Felzmann, Muki Haklay, Su-Ming Khoo, John Morison, Maria Helen Murphy, Niall O’Brochain, Burkhard Schafer & Kalpana Shankar, *Algorithmic Governance: Developing a Research Agenda Through the Power of Collective Intelligence*, 4 BIG DATA & SOC’Y, no. 2, 2017, at 1, 2, <https://journals.sagepub.com/doi/pdf/10.1177/2053951717726554> [<https://perma.cc/8UDH-SM7H>].

31. See Ramiro Berardo & Mark Lubell, *The Ecology of Games as a Theory of Polycentricity: Recent Advances and Future Challenges*, 47 POL’Y STUD. J. 6, 6 (2019).

32. Luca Pappalardo, Paolo Cintia, Alessio Rossi, Emanuele Massucco, Paolo Ferragina, Dino Pedreschi & Fosca Giannotti, *A Public Data Set of Spatio-Temporal Match Events in Soccer Competitions*, SCI. DATA 1 (Oct. 28, 2019), <https://www.nature.com/articles/s41597-019-0247-7.pdf> [<https://perma.cc/5M94-DDS5>].

33. 1 JEAN-PAUL SARTRE, CRITIQUE OF DIALECTICAL REASON 473 n.35 (Jonathan Rée ed., Alan Sheridan-Smith trans., New Left Books 1976) (1960).

34. See Sam Knight, *The Disastrous Arrival of Video Replay in English Soccer*, NEW YORKER (Nov. 2, 2019), <https://www.newyorker.com/news/letter-from-the-uk/the-disastrous-arrival-of-video-replay-in-english-soccer> [<https://perma.cc/2VZ7-UZSK>].

changes are just (or justified) or not, offers a case study that may be useful in thinking about other human-machine decision-making combinations in law and in law-like settings.

Soccer provides the case study largely because of its social, cultural, and economic scales.³⁵ Soccer offers nearly unrivaled global theater. Soccer is also deeply personal. I have been playing, coaching, refereeing, watching, and generally obsessing about soccer for more than fifty years. I was introduced to the game in the late 1960s as part of the very first, small wave of American suburban children to be recruited into organized play. As newcomers, we competed alongside (and sometimes in) leagues composed of long-standing social clubs and athletic clubs, especially ones anchored in émigré communities.³⁶ I had the enormous good fortune to watch a series of global soccer legends play on American pitches. My competitive career ended long ago, and I never played professionally. But much of the interpretation in this Article is based on my own experience. Both soccer-expert readers and soccer-naïve readers will discount accordingly.

Organizationally, descriptions and discussions of soccer are blended below with equivalent, complementary, and brief descriptions and discussions of related law and governance concepts. Detailed descriptions of referees and the game are interwoven with broader portraits of soccer as context and system. As with all governance systems, competition and cooperation in soccer are defined not only by laws and rules but by many additional systems and practices.³⁷ The referee and the referee's role are central, but despite outward appearances, the referee does not govern or decide alone, even on the pitch.

Part II introduces the problem of refereeing and the VAR system, using a brief illustration. Parts III and IV offer close narrative descriptions of the flowing patterns of soccer, including refereeing. Part V consolidates those observations into a more orderly, if informal, model of soccer as a polycentric social world. Parts VI and VII use the model described in Part V to ask questions specifically about referees, VAR and technology, and algorithmic decision-making generally, ultimately

35. See DAVID GOLDBLATT, *THE BALL IS ROUND: A GLOBAL HISTORY OF FOOTBALL*, at x–xiv (2006); SIMON KUPER & STEFAN SZYMANSKI, *SOCERNOMICS: WHY ENGLAND LOSES, WHY GERMANY AND BRAZIL WIN, AND WHY THE US, JAPAN, AUSTRALIA, TURKEY—AND EVEN IRAQ—ARE DESTINED TO BECOME THE KINGS OF THE WORLD'S MOST POPULAR SPORT* (2009).

36. See Derek Van Rheenen, *The Promise of Soccer in America: The Open Play of Ethnic Subcultures*, 10 *SOCGER & SOC'Y* 781 (2009).

37. See David Pozen, *What Are the Rules of Soccer?*, *BALKINIZATION* (June 19, 2019), <https://balkin.blogspot.com/2019/06/what-are-rules-of-soccer.html> [<https://perma.cc/Z8HE-3NUZ>] (citing Frederick Schauer, *Editor's Introduction* to KARL N. LLEWELLYN, *THE THEORY OF RULES 1* (Frederick Schauer ed., 2011)).

bookending this Article with further illustrations of the VAR system in action. Part VIII concludes with some recommendations and speculation about algorithmic decision-making and soccer's futures.

II. VAR AT WORK

A. *VAR up Close*

An attacking player for the home team races downfield, toward the opposing goal. A referee trails, running at a diagonal to the direction of play, head swiveling to keep track of the player on the ball, the attackers and defenders ahead of the play, and an assistant referee running down the sideline. Another attacker, in possession of the ball in midfield, sees the teammate angling toward open space and thrusts the ball forward. The timing is exquisite. The attacker controls the ball with a light touch, eludes a defender, and strikes the ball powerfully toward the goal. The goalkeeper is beaten. The net billows backward with the ball's impact. The attacking players sprint around the field in joy, falling together into an ecstatic heap near the corner flag. The stadium erupts with cheers, applause, and song.

In an instant, all goes quiet. The players halt. On the giant video screen mounted in the stands, the words "Checking Goal" and a VAR logo appear. The referee, having seen nothing untoward in the play, had glanced toward the assistant referee, looking for a flash of color from the assistant's raised flag that would signal "offside" or a foul by an attacking player. There was none. Now the referee on the field stands alone, mute, appearing to listen to information coming through an earpiece. Thirty seconds elapse. A minute. Ninety seconds. The referee raises an arm to its full vertical position, blows the whistle, and with the other arm points to the goal. The giant screen reads, "No Goal / Offside." The goal has been disallowed. Why? There is no further account or description, to the players or to the public. The referee gave the signal, but who made the decision? There is only a video record, but absent extraordinary circumstances there is no further appeal or review that might affect the outcome of the game—match results are final. The defending team restarts play with an indirect free kick. The game continues.

The hypothetical above illustrates the very ordinariness of referee decision-making in modern sport. Imperfect information sometimes leads to errors. Technology may correct those errors but at some modest cost to the rhythms of the sport. In that sense, VAR, like most related "replay" technologies in professional sport, is a tool of the referee's trade, no more or less significant in its own way than the

whistle and the thick yellow and red cards that the referee uses to signal player and coach cautions and ejections.³⁸ Those tools establish and signal the referee's role and authority, confirm what has happened and why, and offer efficient and clear calls of "in" and "out," "correct" and "incorrect," and "right" and "wrong," and to fix errors promptly, before harm is done.

In a different sense, VAR makes visible and threatens to disrupt a little-noted equilibrium of human-centered governance that defines soccer as sport and cultural practice. Soccer is competition and cooperation, on the pitch and off; soccer is drama; soccer is individual and collective identity; soccer is business, for good and for ill. Human judgment and the possibility of error are organic and fundamental to all of these things, both in the internal story of soccer's evolution, development, and day-to-day practice and in the external understanding of soccer's place in broader contexts. For players, observers, and even referees, human judgment and the possibility of error create the potential for disappointment, loss, or worse. In the sporting world and in soccer, they also create the possibility of surprise and joy. They are what the former Commissioner of Major League Baseball (and President of Yale) A. Bartlett Giamatti referred to when he invoked simultaneously the ancient Greek view of athletic competition as "the possibility of triumph," married in modern life to the late Victorians' view of sport as "cherishing a character that effaces itself in a team."³⁹

Maintaining or disrupting equilibria is neither good nor bad in itself, but assessing either one requires carefully disentangling values, principles, and practices. Is the VAR system anything other than ordinary? Introducing and understanding VAR requires introducing soccer itself, then drilling down from a broad overview to a specific application.

B. The Stakes of VAR and Soccer

By almost any measure, soccer is the world's most widespread, economically important, and culturally significant sport, and perhaps its most important shared cultural practice of any sort.⁴⁰ Fédération

38. See IFAB LAWS 2020/21, *supra* note 2, at 68–69.

39. A. BARTLETT GIAMATTI, *Yale and Athletics, in* THE UNIVERSITY AND THE PUBLIC INTEREST 77, 77, 81 (1981).

40. A statement of that breadth is almost inherently a matter of opinion animated by casual observation, some speculation, and a little data. See NIELSEN SPORTS, WORLD FOOTBALL REPORT 2018, at 5–6 (2018), https://niensensports.com/wp-content/uploads/2014/12/Nielsen_

Internationale de Football Association (FIFA), the international organization that supervises international and professional soccer and most amateur soccer membership, has a membership of 211 affiliated federations and associations.⁴¹ That outnumbers the membership of the United Nations.⁴² Soccer is also one of the world's most long-standing and widespread cultural practices, a normative universe of substantial size, history, and complexity.⁴³

Focusing on the big money, commercially documented aspects of soccer means missing out on much of its impact and significance. Playing, watching, and otherwise participating in soccer-related activity—even arguing over the game at a family picnic—dominates social and cultural life across ages, generations, and genders in all but a handful of countries around the world; China, India, and the United States are the most notable (though changing) exceptions.⁴⁴ That may come as a surprise to fans of professional sports in the United States. To soccer observers, it is a notable departure from historic practices and evidence of a significant broadening of the game's impact.

In the United States, soccer may not have the cultural visibility of American football, but it is vastly more popular by nonfinancial measures, and participation is more broadly distributed, particularly in the social lives of younger families.⁴⁵ Recreational and youth soccer is perhaps even more widespread in the United States than in Germany or the United Kingdom.⁴⁶ Major League Soccer, a stable, top division professional league, has been playing and expanding in the United

World-Football-2018-6.11.18.pdf [https://perma.cc/627T-GN6C]; see also FRANKLIN FOER, HOW SOCCER EXPLAINS THE WORLD: AN UNLIKELY THEORY OF GLOBALIZATION (2004).

41. See *FIFA Member Associations*, FIFA, <https://www.fifa.com/associations/> [https://perma.cc/HHB9-DU32] (last visited Dec. 14, 2020).

42. See *Member States*, UNITED NATIONS, <https://www.un.org/en/member-states/> [https://perma.cc/FP2U-ME5B] (last visited Dec. 14, 2020).

43. See Mike Crocombe, *The Origin, History, and Invention of Soccer*, LIVEABOUT, <https://www.liveabout.com/who-invented-soccer-3556873> [https://perma.cc/DC7S-AF6Z] (last updated July 22, 2019).

44. See GOLDBLATT, *supra* note 1, at 2.

45. See FÉDÉRATION INTERNATIONALE DE FOOTBALL ASS'N, BIG COUNT 2006: STATISTICAL SUMMARY REPORT BY ASSOCIATION (2006) [hereinafter FIFA BIG COUNT 2006], <https://resources.fifa.com/image/upload/big-count-summary-report-association-520044.pdf?cloudid=vrnjcga kvf7nds6sl5rx> [https://perma.cc/K9KV-YEHT]; Alex Johnson, *Soccer by the Numbers: A Look at the Game in the U.S.*, NBC NEWS, <https://www.nbcnews.com/storyline/fifa-corruption-scandal/soccer-numbers-look-game-u-s-n365601> [https://perma.cc/3XRS-Z5EB] (last updated May 27, 2015, 7:18 PM).

46. See FIFA BIG COUNT 2006, *supra* note 45.

States since 1996.⁴⁷ Soccer has a long history as a vehicle for male identity and exclusivity, but in the United States, across much of Western Europe, and increasingly in Africa and South America it has become an extraordinary vehicle for and emblem of gender equity and resistance to patriarchy on the pitch and off.⁴⁸

For all of those reasons, and perhaps especially because of its reach globally and locally, soccer is well justified as a research subject in itself and as a use case for broader questions of governance of and by human-machine blends. VAR is significant because soccer is significant. As Mitchell Berman proposed, “we can make progress on the central jurisprudential task of explaining how legal norms gain their contents (or are what they are) by exploring how the norms of sports and games gain theirs (or are what *they* are).”⁴⁹ Others, famously, have appeared to dismiss analytic interest in sports. John Rawls, for example, distinguished justifying the rules of a specified social practice, such as baseball or chess, from justifying the social practice itself.⁵⁰ The former was vastly less important than the latter. He was exploring the dynamics of utilitarianism, a rather different project than what is offered here. Rawls himself wrote that “legal and legal-like arguments” are more likely defined by practices (that is, the rules) than not.⁵¹ From the perspective of explaining and justifying what referees do in soccer, soccer is importantly and usefully “legal-like.” A notable metaphorical linkage binds interest in the play of the game to a central project of modern social theory: the role of *play* in the constitution of the self and in understanding meaning in human cognition and behavior.⁵²

Meg Jones and Karen Levy bring these themes together in their paper, examining technologies of automated enforcement of sporting

47. See Michael LoRé, *Soccer's Growth in U.S. Has International Legends Buzzing*, FORBES (Apr. 26, 2019, 12:16 PM), <https://www.forbes.com/sites/michaellore/2019/04/26/soccers-growth-in-u-s-has-international-legends-buzzing/#5748c3c17f1a> [https://perma.cc/C74V-GS8F].

48. See Andrei S. Markovits & Steven L. Hellerman, *Women's Soccer in the United States: Yet Another American 'Exceptionalism'*, 4 SOCCER & SOC'Y 14 (2003).

49. Mitchell N. Berman, *Of Law and Other Artificial Normative Systems*, in DIMENSIONS OF NORMATIVITY: NEW ESSAYS ON METAETHICS AND JURISPRUDENCE 137, 140 (David Plunkett, Scott J. Shapiro & Kevin Toh eds., 2019); see Mitchell N. Berman, “*Let 'em Play*”: A Study in the Jurisprudence of Sport, 99 GEO. L.J. 1325 (2011).

50. See John Rawls, *Two Concepts of Rules*, 64 PHIL. REV. 3, 16 (1955).

51. *Id.* at 32 n.27.

52. See JULIE E. COHEN, CONFIGURING THE NETWORKED SELF (2012); Clifford Geertz, *Deep Play: Notes on the Balinese Cockfight*, DAEDALUS, Winter 1972, at 1; Francis J. Mootz III, *At Play in the Fields of the Law*, in THE PHILOSOPHY OF PLAY (Jeremy Sampson ed., forthcoming 2021).

rules in American football, baseball, golf, and tennis.⁵³ They refer to “six sociocultural values of imperfect enforcement: drama, adversity, custom, integrity, humanity, and dignity,” arguing that “[c]onsideration of these values in the sports context might fruitfully inform our understanding of public attitudes toward automation in other domains.”⁵⁴ This Article offers a different interpretation of the source and meaning of controversies about mechanization of sport officiating. Does the possibility of human error in officiating preserve a kind of humanistic “sporting chance” on the field, to summarize their thesis? Sure. But in soccer at least, as the balance of this Article explains, there is much more at stake. Next, Part III begins with a broad look at soccer and governance.

III. WHAT IS SOCCER?

The basic elements of a standard soccer match are specified in detail in the sport’s official rule book, known since its beginning as the “Laws of the Game.”⁵⁵ A large, rectangular field, roughly two acres in area, is divided into two halves with a goal at each end.⁵⁶ Two opposing teams, usually composed of eleven players each, face off, each team defending one goal and attacking the other.⁵⁷ The players vie to control a round, inflated ball that is a little less than nine inches in diameter and are forbidden from advancing or controlling the ball toward the goal during play with any part of their arms.⁵⁸ Colloquially, we know soccer as a sport in which players kick the ball, but in fact, any part of the body may be used, and often is, other than the arms.⁵⁹ Over a given period of time, a default ninety minutes in total, each team’s object is to score more goals than their opponent by playing the ball into the goal

53. See Meg Leta Jones & Karen Levy, *Sporting Chances: Robot Referees and the Automation of Enforcement*, We Robot 2017 (Nov. 29, 2018) (unpublished manuscript), <https://ssrn.com/abstract=3293076>.

54. *Id.* For an account of machine-aided decisions in sport and robot referees that focuses less on play or officiating itself and more on the referee’s authority in the eyes of fans and other observers, see COLLINS ET AL., *supra* note 29. The related literature is growing, mostly in philosophy. See S. Seth Bordner, *Why You Don’t Have to Choose Between Accuracy and Human Officiating (But You Might Want to Anyway)*, in PHILOSOPHICAL ISSUES IN SPORT SCIENCE 84 (Emily Ryall ed., 2020); Christopher Johnson & Jason Taylor, *Rejecting Technology: A Normative Defense of Fallible Officiating*, 10 SPORT, ETHICS & PHIL. 148 (2016); Richard Royce, *Refereeing and Technology – Reflections on Collins’ Proposals*, 39 J. PHIL. SPORT 53 (2012); Emily Ryall, *Are There Any Good Arguments Against Goal-Line Technology?*, 6 SPORT, ETHICS & PHIL. 439 (2012).

55. See IFAB LAWS 2020/21, *supra* note 2, at 12.

56. See *id.* at 35–38.

57. See *id.* at 49, 87–88.

58. See *id.* at 45, 104–06.

59. See *id.* at 104–06.

defended by the other team.⁶⁰ A single “center” referee patrols the field, usually with an assistant referee monitoring each sideline and sometimes with additional assistants positioned near each goal.⁶¹ The formal roles of the center referee are to keep time, keep score, monitor player comings and goings, and stop play and award possession of the ball when a player commits an offense.⁶²

A. Soccer as Ideal

This brief description is both an imagined normative ideal, what soccer is or should be,⁶³ and a set of functional attributes defined by positive rule and customary use. In both expressive and functional terms, modern soccer has a distinctive culture and history generated by individuals and collectives both on the field (players, training, games, and tournaments or “cups” within soccer) and off (investment in facilities, equipment, team and competition organization, marketing, news reporting, history, and other storytelling).⁶⁴

In short, to borrow from economics jargon, soccer may be characterized by its “inputs”—that is, as sets of expected practices and performances relative to players, coaches, fans, referees, and other roles. Those “inputs” or resources, and opportunities to develop and deploy skills relevant to those resources, are poorly distributed in the real world across any number of dimensions. At this point in the description, the reasons for the inequality are unimportant.

Soccer may also be characterized by the “outputs” that it generates: goals on the field, results in the league table; money for players; more money for owners, sponsors, and broadcasters; and personal and cultural identity for fans and communities. Not to be overlooked are opportunities for personal and professional advancement and success (along many different dimensions) and individual and collective joy, celebration, and validation, all of which may be internal to the game’s culture (pleasure as a soccer fan or as a player, relative to one’s identity within the sport itself) and also external to that culture (pleasure relative to one’s identity in the world at large). Soccer’s dark sides are omnipresent. Not only is joy offset more

60. See *id.* at 83–84, 93–94.

61. See *id.* at 65–68, 75–81.

62. See *id.* at 66–68.

63. This imaginative, idealized understanding of soccer is not unlike the national and transnational communities described in BENEDICT ANDERSON, *IMAGINED COMMUNITIES: REFLECTIONS ON THE ORIGIN AND SPREAD OF NATIONALISM* (rev. ed. 2006).

64. The best single volume modern history of soccer as sport, culture, and business is likely GOLDBLATT, *supra* note 35.

often than not by disappointment and even anger, but more important, soccer has long been characterized by bigotry and violence among fans, players, and even governments; corruption on the field and off; and legacies of political, cultural, and colonial hegemony.⁶⁵ The professional game is simultaneously inspiring and exploitative.

Last, soccer may be characterized as sets of distinctive processes by which the inputs become outputs and by which the outputs feed back into soccer as inputs and feed into social worlds beyond soccer. This begins with player training and competition, which reproduce the conditions of soccer's birth (people kicking things in groups) and also advance them in evolutionary ways.⁶⁶ It likewise begins with and circles back to formal organizations: clubs, leagues, tournaments, and federations and associations. Formal organizations at multiple levels may be supported or even controlled by the state via tax subsidies or direct grants, as is the case in France;⁶⁷ financially and organizationally supported by community membership;⁶⁸ and heavily underwritten at the top levels of competition by broadcasters, marketers, and sponsors,⁶⁹ many of whom serve as communication and cultural bridges between football as a social world and other social worlds—business, entertainment, and culture of other sorts.

Combining these brief accounts, soccer takes its inputs and generates its outputs via a soccer-specific cluster of activities, actions, and behaviors, using the outputs to fuel a new cycle of inputs and other impacts on the broader world. Soccer is a game. It is also a social world that consists of the practices, histories, and concepts that define each of those things—embodied and expressed both in the daily play and administration of the game and in the broader, continuing transnational and global aggregation of soccer-related performances and activities that span years, decades, and now centuries.

Soccer is never completely detached from non-soccer life nor ordinary ranges of human interests and capabilities. Soccer players and teams, for example, bring their individual and collective non-soccer talents and weaknesses to the field. Nonetheless, soccer is both a

65. See *id.* at 546–60, 614–19.

66. See Crocombe, *supra* note 43.

67. See Mahfoud Amara, Ian Henry, Jin Lang & Kazuo Uchiumi, *The Governance of Professional Soccer: Five Case Studies – Algeria, China, England, France and Japan*, 5 EUR. J. SPORT SCI. 189 (2005).

68. See *German Soccer Rules: 50+1 Explained*, BUNDESLIGA, <https://www.bundesliga.com/en/news/Bundesliga/german-soccer-rules-50-1-fifty-plus-one-explained-466583.jsp> [<https://perma.cc/KZL5-PKTT>] (last visited Dec. 15, 2020).

69. The commercial value of soccer at both domestic and international levels has begun to spill over into changes in trademark law as well as marketing practice. See Mark A. Lemley & Mark McKenna, *Irrelevant Confusion*, 62 STAN. L. REV. 413, 413 (2010).

distinctive normative ideal, the subject of passionate literary embraces at once elegant, as in Uruguayan writer Eduardo Galeano's history of the game, *Soccer in Sun and Shadow*,⁷⁰ and popular, as in Nick Hornby's memoir of growing up with Arsenal, *Fever Pitch*.⁷¹ Soccer is spectacle, drama, power, and politics. Soccer may be individually and collectively therapeutic.⁷² It may also be a source and vehicle for extraordinary and deeply traumatic corruption and violence.⁷³ Soccer is moments in time, groups of people in an open space, perhaps a field, kicking a ball among themselves. Soccer is play. This "definition" of soccer, if it can be called that, is purposefully broad and vague. One well-known soccer historian suggested that the only thing that unifies all forms of soccer through the ages and around the world is the fact that the ball is round.⁷⁴

B. Soccer and Governance

To understand the meanings and functions of soccer, specifics matter more than generalities. Because the topic is governance, begin with the roles of law in soccer. For example, labor and employment law specifies who plays and who is paid. The European Court of Justice in its so-called *Bosman* ruling in 1995 decided that professional players in Europe could not be contractually bound to their teams beyond the period specified in their contracts, abolishing "reserve" practices by clubs and leagues and opening a pan-European labor market for football players.⁷⁵ Governance incorporates law; governance means the set of practices and processes by which individuals and groups coordinate and collaborate to solve problems of collective interest.⁷⁶ Governance operates across the full range of problems and challenges that accompany maintaining a social system from micro through macro scales, with reference to the system and its parts as both normative ideals and suites of functions. Governance includes regulation, technology, and social norms. It can be observed and described in part in informal terms and in part in formal terms.

70. EDUARDO GALEANO, *SOCCER IN SUN AND SHADOW* (Mark Fried trans., 2013).

71. NICK HORNBY, *FEVER PITCH: A FAN'S LIFE* (1992).

72. See Emilio Depetris-Chauvin, Ruben Durante & Filipe Campante, *Building Nations Through Shared Experiences: Evidence from African Football*, 110 AM. ECON. REV. 1572 (2020).

73. See GOLDBLATT, *supra* note 1, at 29–33; GALEANO, *supra* note 70, at 218–21, 230–31.

74. See GOLDBLATT, *supra* note 35, at 3–18.

75. Case C-415/93, *Union Royale Belge des Sociétés de Football Ass'n (ASBL) v. Bosman*, 1995 E.C.R. I-4921.

76. See Stuart P. Green, *The Universal Grammar of Criminal Law*, 98 MICH. L. REV. 2104, 2112 (2000) (citing DONALD E. BROWN, *HUMAN UNIVERSALS* (1991)).

For soccer, governance means people and processes deciding what “is” football and what is not, what is part of soccer and what is not, and who is part of soccer and who is not. These are social norms and customs when they are expressed in practice, but they are anchored in human imaginations. In both a systematic sense at a large scale and an idiosyncratic sense at a personal scale, soccer is both what we see in front of us and the shared references to the game that we carry in our minds. To many, soccer is simultaneously the game played by teams of six-year-old children in front of their parents in a community park; the game played by teams of international superstars in a European or South American stadium and beamed by satellite and cable to hundreds of millions of viewers and listeners worldwide; and the agglomeration of those games and thousands of similar ones in competitions and casual gatherings on a global scale, over more than a century.

To various interests and observers, small-sided games,⁷⁷ robot soccer,⁷⁸ and beach soccer⁷⁹ either may “be” soccer, may represent soccer, may claim legitimate membership in the world of soccer, or may not. A game in which the ball is advanced and controlled by both hands and feet, such as team handball, or a game in which the ball is not round, such as Australian rules football, is not “soccer.” History teaches that this informal governance is normative territory, not simply functional nor ontological. Behind the question of what soccer is lie inevitable questions about what soccer ought to be. As Andrei Markovits explains, women playing the game is “soccer” to many, an entirely different “soccer” to some, and not “soccer” at all to others.⁸⁰ Women today are partly participating in versions of the game and social world first staked out in the late nineteenth century, and they are partly resisting that game and social world, cultivating their own distinctive game and social world.⁸¹

Formally, soccer is governed by and within clubs, associations, leagues, and cups, each of which is, itself, a complex collection of

77. See FOOTBALL ASS'N, SMALL SIDED FOOTBALL LAWS OF THE GAME (2012), http://www.thefa.com/~media/files/pdf/the-fa-2013-14/fa-rules-2013-14/fa-ssf-laws-of-the-game_2012.ashx.

78. See Mireille Silcoff, *The World Cup of Robot Football: No Need for Humans to Worry (Yet)*, GUARDIAN, <https://www.theguardian.com/science/2018/jun/26/the-world-cup-of-robot-football-no-need-for-humans-to-worry-yet> [<https://perma.cc/XR94-YEUN>] (last updated Oct. 23, 2018, 12:00 PM).

79. See *The History of Beach Soccer*, FIFA (Aug. 31, 2020), <https://www.fifa.com/beachsoccerworldcup/news/the-history-of-beach-soccer#rio-de-janeiro-2005-where-it-all-began-2813059> [<https://perma.cc/EK27-2UZ8>].

80. See ANDREI S. MARKOVITS, *WOMEN IN AMERICAN SOCCER AND EUROPEAN FOOTBALL: DIFFERENT ROADS TO SHARED GLORY* (2019).

81. See *id.*

informal and formal governance. Many of these organizations have complex formal and informal governance relationships with marketers, sponsors, broadcasters, and equipment suppliers.

Simultaneously, soccer is governed by the Laws of the Game. The Laws are a specification, handbook, and interpretive guide for participants.⁸² The Laws define the attributes of the pitch (Law 1); the ball to be used (Law 2); and fair and unfair play (Laws 11 and 12).⁸³ The Laws of the Game determine the inappropriate uses of players' arms and hands relative to advancing the ball (Law 12, "Handling the Ball"); describe an unfair tackle used to dispossess a player of the ball (Law 12, "Direct Free Kick"), and so on.⁸⁴ The Laws define the number of players and their roles, particularly the role of the goalkeeper (Law 3), and the mechanisms specified for resolving conflicts, including conflicts between players (rough play, in Laws 12, 13, and 14).⁸⁵ They define conflicts between teams (Law 10, on competition to score goals). They define conflicts between players, teams, coaches, and fans, on the one hand, and the Laws of the Game themselves (Law 5), on the other hand.⁸⁶ The Laws formally define the roles of the referee (Law 5).⁸⁷ Players and coaches may be punished by leagues and federations after the fact for behavior that takes place during a match, but the relevant rules and standards begin with the Laws as their normative framework.

C. *The Socio-Legal Laws of the Game*

The Laws themselves are of interest here, rather than organizational hierarchies within or between clubs or power dynamics among soccer associations, broadcasters, sponsors, and FIFA (for example) or the curiosities and biases of soccer's labor markets. The Laws are what the referee is meant to apply. Today, the Laws are where humans meet machines.

The Laws have a history. The modern game of soccer was codified in the late nineteenth century in England and Scotland out of various versions of so-called "mob" football that were common in rural communities and later in working-class towns and villages.⁸⁸ Different sets of formal rules for football competed for hegemony during the nineteenth century. What became modern soccer was often

82. See IFAB LAWS 2020/21, *supra* note 2, at 11–13.

83. See *id.* at 34–46, 98–116.

84. See *id.* at 104–06, 112.

85. See *id.* at 48–54, 102–26.

86. See *id.* at 64–73, 92–96.

87. See *id.* at 64–73.

88. See GOLDBLATT, *supra* note 35, at 19–82.

indistinguishable from what became modern rugby, and matches between rival clubs were at times officiated according to the rules specified by the home team.⁸⁹

In 1863, members of the Football Association (FA) developed and adopted a set of rules during a meeting at the Freemasons' Tavern, Lincoln's Inn Fields, in London, which emerged as the victor in this informal competition. Historians generally acknowledge this date as football's founding moment.⁹⁰ The ball was to be round, not ovoid, distinguishing Association Football, the source of the elite slang "soccer," from rugby football (the source of its cousin, "rugger").⁹¹ In their attempts to play the ball, players were largely barred from kicking each other (so-called "hacking").⁹² This choice distinguished the FA's rules, derived substantially from an existing set of "Cambridge rules" assembled by the Cambridge University Football Club, from the competing "Sheffield rules" produced and implemented by the Football Club in Sheffield.⁹³ To this day, the Laws are relatively few in number and relatively simple in plan and execution. There were thirteen Laws to begin with.⁹⁴ There are seventeen Laws today, which are published together with interpretive guidance.

The FA rules were eventually universalized through the creation of an international body charged with administering the Laws, the International Football Association Board (IFAB) in 1886.⁹⁵ The original IFAB members, each with one vote in decisions regarding amendments (because the Laws change from time to time), were England, Scotland, Ireland, and Wales.⁹⁶ Today, with the creation of FIFA as soccer's global administrator in 1904 and FIFA's admission to IFAB membership in 1913, FIFA has the same voting power within the IFAB as the other associations—currently England, Scotland, Wales, and Northern Ireland—put together.⁹⁷ The IFAB remains soccer's central

89. See *id.* at 28–37; TONY COLLINS, *RUGBY'S GREAT SPLIT* 10 (2d ed. Routledge 2006).

90. See *History of the Laws of the Game: Birth of Modern Football (1863 - 1970)*, IFAB, <https://www.theifab.com/history/laws> (last visited Oct. 28, 2020).

91. See SZYMANSKI & WEINECK, *supra* note 8, at 41; Carlos Reyes Stoneham, *The Soccer Ball*, *SOCCER POL.* (Feb. 12, 2015), <https://sites.duke.edu/wcwp/2015/02/12/the-soccer-ball/> [<https://perma.cc/2V7V-9CR9>].

92. See SZYMANSKI & WEINECK, *supra* note 8, at 39.

93. See GOLDBLATT, *supra* note 35, at 30–32.

94. See *Unlucky 13: Revisit the Original Laws of the Game*, FIFA WORLD FOOTBALL MUSEUM (Mar. 14, 2016), <https://www.fifamuseum.com/en/stories/blog/lucky-13-the-original-laws-of-the-game-2610292/> [<https://perma.cc/L4FK-G87U>].

95. See *History of the IFAB: Institution and Integration with FIFA (1886 - 1914)*, IFAB, <https://www.theifab.com/history/ifab> (last visited Oct. 28, 2020).

96. See *id.*

97. See *id.*

authoritative body regarding the Laws and associated interpretive guidance, previously known as “Additional Instructions” and now folded into the Laws.⁹⁸ FIFA, which governs almost all organized soccer around the world, mandates that the Laws be used in organized play, but FIFA permits a certain degree of local variation in national federations and associations and in leagues and cups.⁹⁹

The Laws are administered locally on the field. Referees are trained by local, national, and international soccer authorities and receive education via their own informal and formal refereeing associations.¹⁰⁰ In all of those respects, the evolving forms of soccer governance are embodied in the evolving practices of soccer and in human officials themselves. The 1863 Laws of the Game described a competition that was more “rugby-like” than its twentieth-century and twenty-first-century versions.¹⁰¹ The modern game is the product of more than a century’s worth of tinkering in conference rooms and on the field.¹⁰² Like all systems of law and regulation, the Laws are not untethered from other interests or values, but they are not simply vessels for those values, either.

Generally, changes have been made to preserve and advance soccer’s core normative commitments, both functional and expressive. These include both the essential identity of the game—a round ball, advanced primarily without the use of the hands and arms—and attributes deemed appropriate to fair and nonviolent play. For example, the original laws mostly ban “hacking,” defined specifically as “kicking an adversary on the front of the leg, below the knee,” and permit “charging,” defined specifically as “attacking an adversary with the shoulder, chest, or body, without using the hands or legs,” standards that survive to the present day, principally in Law 12, on fouls and

98. See IFAB LAWS 2020/21, *supra* note 2, at 21.

99. See FÉDÉRATION INTERNATIONALE DE FOOTBALL ASS’N, FIFA STATUTES 12 (2020), <https://img.fifa.com/image/upload/viz2gmyb5x0pd24qrhrx.pdf> [<https://perma.cc/9HKN-UGTJ>] (“Each member association shall play association football in compliance with the Laws of the Game issued by The IFAB.”); Steve Menary, *The Non-FIFA Renegades*, ROADS & KINGDOMS: THE FAR POST (Apr. 7, 2014), <https://roadsandkingdoms.com/2014/the-non-fifa-renegades/> [<https://perma.cc/G7FX-5UY6>].

100. See *Referees: Professional Game Match Officials Limited (PGMOL) Group Officiate All Premier League Matches*, PREMIER LEAGUE, <https://www.premierleague.com/referees> (last visited Dec. 16, 2016); *The Referees’ Association*, REFEREES’ ASS’N, <https://www.the-ra.org/about> [<https://perma.cc/4629-WYRT>] (last visited Dec. 16, 2020); *Referees’ Committee*, FIFA, <https://www.fifa.com/who-we-are/committees/committee/1882029/> [<https://perma.cc/NN8M-5XU9>] (last visited Dec. 16, 2020); PRO. REFEREE ORG., <http://proreferees.com/> (last visited Dec. 16, 2020).

101. See *History of the Laws of the Game*, IRISH SOCCER REFEREES SOC’Y CORK BRANCH, <http://isrscork.com/laws/history-laws-game/> [<https://perma.cc/7JPS-CWHK>] (last visited Dec. 16, 2020).

102. See GOLDBLATT, *supra* note 35.

misconduct.¹⁰³ An offside rule was included in the original Laws to discourage attacking players from taking up positions on the field deemed to be exploitative, but it was substantially revised in the late 1860s in order to speed up play.¹⁰⁴ The revised rule took something close to its modern form.¹⁰⁵ It has been tweaked from time to time since then in the interests of disciplining play that takes what is deemed to be unfair advantage.¹⁰⁶

In 2005, the offside rule was amended to clarify that a player in an offside position is guilty of an offside offense only if the player plays or touches the ball, or has the exclusive opportunity to play or touch the ball, with a part of the body with which the player is entitled to touch the ball—that is, other than with the arms or hands.¹⁰⁷ That seemingly trivial change has proved to be more difficult to enforce than one might imagine and has had a deep impact on the game, in that it essentially ended the power of defenders to step forward and “trap” attacking players behind their line.¹⁰⁸

Recent innovations that seem to have improved the quality of soccer considerably include barring the goalkeeper, otherwise designated as the only player on each team permitted to use arms and hands to advance the ball during play, from doing so to control balls played back to them intentionally by teammates (1992).¹⁰⁹ Players are now forbidden from tackling opposing players from behind (1998).¹¹⁰ The former change picked up the pace of play. The latter reduced the risk of serious injury.

Several important features and echoes of this history stand out today in governance terms.

103. PAUL BROWN, *THE VICTORIAN FOOTBALL MISCELLANY* 43 (2013); see IFAB LAWS 2020/21, *supra* note 2, at 103, 107.

104. See BROWN, *supra* note 103, at 42; GOLDBLATT, *supra* note 35, at 36; *History of the Laws of the Game*, *supra* note 101.

105. See *History of the Laws of the Game, Birth of Modern Football (1863 - 1970)*, *supra* note 90.

106. See Jonathan Wilson, *The Question: Why Is the Modern Offside Law a Work of Genius?*, *GUARDIAN* (Apr. 13, 2010, 5:31 AM), <https://www.theguardian.com/sport/blog/2010/apr/13/the-question-why-is-offside-law-genius> [<https://perma.cc/87R2-S22Y>].

107. See *id.*

108. See *id.*

109. See Adam Hurrey, *Football Was (Re)invented in 1992: The Early Chaos of the Backpass Law*, *ESPN* (Aug. 9, 2017), <https://www.espn.com/soccer/english-premier-league/23/blog/post/3175840/premier-league-chaos-when-backpass-law-invented-in-1992> [<https://perma.cc/QU2A-V65Y>].

110. See *FIFA to Crack Down on Tackle from Behind*, *FIFA* (Mar. 6, 1998), <https://www.fifa.com/who-we-are/news/fifa-crack-down-tackle-from-behind-70380> [<https://perma.cc/Y52A-LTQS>].

1. Fair and Foul

First, “fairness” and the details of the Laws, and the definition and governance of soccer as an organized activity, give explicit normative shape to soccer’s descriptive, functional attributes. Soccer governance at all levels comes with “rightness” and “wrongness” that is sometimes blunt and explicit, both celebratory and punitive. “Rightness” is embodied in the practical idea and the normative ideal that soccer on the pitch is substantially self-governing among players and teams.¹¹¹ Players should police themselves to a substantial degree.¹¹² The 1863 Laws, for example, made no mention of officials supervising play.¹¹³ When referees were introduced (a development described fully in the next Section), they retained the general mandate to enforce “fairness” on the field rather than merely to adjudicate the line between permitted and unpermitted play.¹¹⁴

The scope of “wrongness” in soccer begins in concepts of formalized competitive sport in England in the late 1800s that are anchored in late Victorian and Edwardian eras and class- and gender-specific ideals of ethical, team-first masculinity, gentlemanliness, and amateurism.¹¹⁵ To a sizable degree then and even echoing today, the Laws of the Game are substantially open-textured, to encourage those attributes to develop through play within broad boundaries and to sanction behavior that clearly crosses them.¹¹⁶ Demonstrations of fair play and skill, mostly performed at the outset by unpaid, gentlemen players,¹¹⁷ were intended to provide vehicles for teams’ and players’ own moral improvement and also to model proper virtue and behavior for observers, at home and abroad. Soccer was civilizing, both metaphorically and literally, in the imperial mindset of

111. See ERIC DUNNING & KENNETH SHEARD, *BARBARIANS, GENTLEMEN AND PLAYERS: A SOCIOLOGICAL STUDY OF THE DEVELOPMENT OF RUGBY FOOTBALL* 71–72 (Routledge 2d ed. 2005).

112. See *id.*

113. See BROWN, *supra* note 103, at 42–43.

114. See IFAB LAWS 2020/21, *supra* note 2, at 65.

115. See ASA BRIGGS, *VICTORIAN PEOPLE: A REASSESSMENT OF PERSONS AND THEMES 1851–1867*, at 152 (1955); DUNNING & SHEARD, *supra* note 111, at 61–62; THOMAS HUGHES, *TOM BROWN’S SCHOOL DAYS* (1857). Hughes fictionalized and Briggs, and later Dunning and Sheard, documented how football (in their cases, rugby football) relied on rules and fields of play as institutional settings where boys developed ideals of sportsmanship, fair play, team spirit, and character for later life. See BRIGGS, *supra*, at 152–53; DUNNING & SHEARD, *supra* note 111, at 71; HUGHES, *supra*, at 107–10.

116. See, e.g., IFAB LAWS 2020/21, *supra* note 2, at 11–12.

117. See DAVID GOLDBLATT, *THE GAME OF OUR LIVES: THE MEANING AND MAKING OF ENGLISH FOOTBALL* 6 (2015).

the time.¹¹⁸ In short, everyone was intended to be in on the performance, players and observers alike. Remedies now recognized as the yellow card caution and red card ejection were first introduced to the Laws in 1881. Ejections were appropriate for “violent conduct.”¹¹⁹ Cautions followed “ungentlemanly behaviour.”¹²⁰

“Rightness” and “wrongness” and the broad discretionary territory that lay in between undoubtedly reflected and inscribed wealth, power, and class dynamics. The game that originated in towns and among working people was domesticated by elites for elites.¹²¹ The FA that adopted the Laws and expanded their purview via the IFAB was for practical purposes an association of public school-educated gentlemen in London taking control of the game in the face of soccer’s origins mostly in Scotland and in England’s working-class north.¹²² The Cambridge rules, from a university town, trumped the Sheffield rules, from an industrial town.¹²³ The original home countries’ membership of the IFAB reflected a comparable upper-class and middle-class investment. Though the home countries were not members at its founding, FIFA likewise represented moneyed and powerful interests taking control of what was, in the beginning, a people’s game.

On the field, toward the end of the nineteenth century, self-governing amateur gentlemen players were replaced by working people who were paid to play.¹²⁴ Professionals, rather than amateurs, became the norm.¹²⁵ The former were presumed to need the discipline of a third-party monitor, since they lacked that discipline themselves.¹²⁶ The referee’s role, conceptually, was not only to recognize goals and discipline offenders. The referee embodied the hierarchy of central top-down control of soccer, enforcing from above an elite sense of propriety. Throughout soccer’s history, relations among players and the referee have never been distinct from larger power and wealth relations

118. See CHRIS BOLSMANN & DILWYN PORTER, *ENGLISH GENTLEMEN AND WORLD SOCCER: CORINTHIANS, AMATEURISM AND THE GLOBAL GAME* 4 (2018).

119. See W. G. GRACE ET AL., *OUTDOOR GAMES AND RECREATIONS: A POPULAR ENCYCLOPAEDIA FOR BOYS* 537 (G. Andrew Hutchison ed., 1892).

120. See *id.*

121. See GOLDBLATT, *supra* note 117, at 6.

122. See *id.* at 7; JONATHAN WILSON, *INVERTING THE PYRAMID: THE HISTORY OF SOCCER TACTICS* 3 (Nation Books 2d trade paperback ed. 2018) (2008).

123. See WILSON, *supra* note 122, at 5–6.

124. See GOLDBLATT, *supra* note 117, at 6–7.

125. See *id.*

126. See *id.* at 7; *cf.* DUNNING & SHEARD, *supra* note 111, at 118 (explaining that professional rugby players could not be expected to show the “good faith” and self-control of amateurs because their livelihoods are at stake).

among individuals, social groups, and both state and private authority.¹²⁷

Notorious examples abound of the exclusionary effects of soccer's emphasis on gentlemanly play and the role of elites. One clear illustration is the treatment of women in English soccer. After an early explosion of interest in the game by English women in the late 1800s and some tremendous successes both on the field and at the gate by some women's soccer clubs, in 1921 the FA banned women's teams from playing matches at grounds run by FA clubs.¹²⁸ The women's game in the United Kingdom limped along, marginalized. The ban was only lifted in 1971.¹²⁹ By contrast, women's soccer in the United States owes its extraordinary success since the mid-1980s partly to the absence of a historical reserve of elite male control over soccer in the United States and partly to the enactment of Title IX, part of the Education Amendments Act in 1972, an unequivocal victory of the US movement to achieve gender equity via law.¹³⁰ The celebratory culture that surrounds the US national women's soccer team obscures the extent to which women in soccer represent resistance to dominant narratives and power structures that organize soccer as a masculine preserve, both in the United States and around the world.¹³¹

An additional case is the strikingly unequal distribution of economic and political power within modern professional and international soccer, which is due partly to conscious attention to the form of the game on the pitch and inattention to its organizational and institutional implications; partly to historical patterns building on themselves; and partly (in a small number of salient cases) to global financial flows spilling into soccer businesses. To this day, two of the most successful and powerful English clubs, Liverpool (competitively) and Manchester United (commercially), are based in cities with strong historical working-class identities. Influxes of broadcasting revenue and investment from outside the United Kingdom since the mid-1990s have dramatically reshaped the historical identities of both clubs on the global stage, turning both into international brands and economic powerhouses.¹³² Money and soccer at this level have a purposely recursive relationship: as massive investment has poured into English

127. See GALEANO, *supra* note 70, at 25–40.

128. *The History of Women's Football in England*, FOOTBALL ASS'N, <https://www.thefa.com/womens-girls-football/history> [<https://perma.cc/JX9D-JVVZ>] (last visited Oct. 28, 2020).

129. See *id.*

130. See DEBORAH L. BRAKE, *GETTING IN THE GAME: TITLE IX AND THE WOMEN'S SPORTS REVOLUTION* (2010).

131. See MARKOVITS, *supra* note 80, at 18–19, 116–27.

132. See GOLDBLATT, *supra* note 117, at 16–17.

soccer from abroad, the global economic, political, and cultural influence of modern English Premier League soccer has soared.¹³³ Related, less dramatic stories can be told with respect to commercially and competitively powerful soccer clubs in Germany, France, Italy, and Spain.

2. The Players' Roles

On the field itself, the idea of substantially self-governed fair play persists in an ethic that players themselves should determine the form and style of the game to a substantial degree. Governance in this sense happens among the competitors. Relative to coaches, soccer players' historical experience has been to take direction during training and in the form of game-time instructions as to team positions or formations on the field, but to govern play during matches on their own.¹³⁴ Top-level soccer managers and coaches have long achieved some competitive success and come under criticism for claiming the power not only to set players in their initial positions but also to micromanage how players move on the field and how they move the ball among themselves.¹³⁵

In that governance context, the referee has long played a relatively modest role. When referees were introduced in 1881, their role was defined in discretionary terms, a framing that continues today. The critical standard governing free kicks based on rough play, Law 12, begins: “[a] direct free kick is awarded if a player commits any of the following offences against an opponent in a manner considered by the referee to be careless, reckless or using excessive force.”¹³⁶ Representative fouls are listed next; that same Law gives definitions of “careless,” “reckless,” and “excessive force.”¹³⁷ But these are standards within standards, all expressly subject to what is “considered by the referee.”¹³⁸ Soccer on the field and in the Laws is *play* above all, and it is *play* subject to broad discretionary governance by both players and officials.

Ideas of anticompetitive play and fair behavior have been modernized in the Laws through amendments collectively adopted for

133. See GOLDBLATT, *supra* note 1, at 78, 338–40, 412, 422, 470.

134. See WILSON, *supra* note 122.

135. See GOLDBLATT, *supra* note 35, at 188–92, 446–47.

136. IFAB LAWS 2020/21, *supra* note 2, at 103.

137. See *id.*

138. *Id.*

“the Good of the Game” by FIFA and the IFAB beginning in 1990.¹³⁹ Despite minor refinements, the Laws remained largely unchanged through most of the twentieth century.¹⁴⁰ “Good of the Game” updates began with a change to the offside rule that modestly but importantly realigned a governance balance between attacking play and defensive play.¹⁴¹ Also, for the first time, the so-called professional foul, an accepted practice in which a defender denied an attacker a clear goalscoring opportunity without attempting to play the ball (but, in a presumably gentlemanly way, did so nonviolently), was to be punished by ejection in addition to the award of a free kick.¹⁴² That change granted the referee a discretionary power that had previously been managed via a player-defined and player-enforced social norm.¹⁴³ (A professional foul was accepted by players because it was understood not to invite retaliation, so the change in the Laws prompted researchers to determine whether the new punishment deterred its use, as intended.¹⁴⁴) Additional modern amendments described earlier are part of the same “Good of the Game” program.

FIFA also carries on its now long-standing “Fair Play” program, supplementing in-game enforcement of the Laws with prizes for individuals, clubs, and communities that live up to documented “Fair Play” ideals and standards.¹⁴⁵ The program serves as a worthwhile, if modest, effort to rein in on-field violence and off-field bigotry. It also echoes soccer’s historical pattern of wealthy and powerful governors imposing an elite standard of fairness on remote others.

The emphasis on fairness and fair play comes with reservations. Fairness in practice includes few substantive standards other than what the referee and the players collectively subscribe to at any given moment in a game or in soccer history. Soccer fairness is at once internal to the practices and cultures of the sport and borrowed from society at large, which means that fairness standards are fragile at best, and fairness as an overarching governance standard goes only so far.

139. See *Ten Dates That Changed the Game (1925-present)*, FIFA (Feb. 25, 2004), <https://www.fifa.com/news/ten-dates-that-changed-the-game-1925-present-90935> [<https://perma.cc/JUX5-CGL7>].

140. See *id.*

141. See *id.*

142. See *History of the Laws of the Game: Professional Foul and Simulation (1990 - 2000)*, IFAB, <https://www.theifab.com/history/laws> (last visited Dec. 16, 2020).

143. See David Wall, *He Had to Bring Him Down!*, in *SOCCER AND PHILOSOPHY: BEAUTIFUL THOUGHTS ON THE BEAUTIFUL GAME* 130, 130–31 (Ted Richards ed., 2010).

144. See M. Wright & N. Hirotsu, *The Professional Foul in Football: Tactics and Deterrents*, 54 *J. OPERATIONAL RSCH. SOC'Y* 213 (2003).

145. See *Origins and Development of Fair Play*, FIFA (Aug. 26, 1997), <https://www.fifa.com/news/origins-and-development-fair-play-72004> [<https://perma.cc/X46C-ZGJZ>].

On and off the field, the explicit Victorian spirit of gentlemanliness and the civilizing power of sport has been all but erased from the public version of the game.¹⁴⁶ Today, soccer is clearly dominated by a modern version of the ancient Greeks' emphasis on winning in athletics, at almost any cost, and by little else.¹⁴⁷

The spirit of fairness on the field and off should not be overstated even as a uniform or consistent baseline. Some elements of the Laws have from the start regulated misconduct specifically and directly. Changes to soccer's Laws, in the spirit of the "Good of the Game," have encouraged the referee to intervene more than in the past and to discipline players more aggressively.¹⁴⁸ Governance is a messy, evolving business, with changing blends of aspiration and embodiment. The ethics and values of sport both internally and externally (that is, both among players and between players and outsiders) include regulating and exploiting human performances for dramatic, which is to say, emotional, commercial, and often political, effect. In her dramatic work *Sports Play*, Elfriede Jelinek anticipates Mireille Hildebrandt's commentary on the role of adjudication in law and technology contexts: governance is performative, for the benefit of observers as well as competitors.¹⁴⁹

3. Soccer Justice

Bringing this discussion back to refereeing, soccer's Laws of the Game were formulated and have evolved largely independent of the modern bureaucratic and hierarchical impulses that dominate rules and refereeing in team sports organized initially in North America: baseball, basketball, ice hockey, and above all, American football. Organized team sports in the United States grew up at the same time that US industrialists were blanketing the country with rail, financing their empires with enormous integrated financial bureaucracies, and filling the landscape of sport with baseball, basketball, and American football.¹⁵⁰ Criticism of modern playing

146. See *Ten Dates That Changed the Game (1925-present)*, *supra* note 139.

147. See Peter Singer, *Why Is Cheating OK in Football?*, *GUARDIAN* (June 29, 2010, 5:30 AM), <https://www.theguardian.com/commentisfree/2010/jun/29/cheating-football-germany-goal-keeper> [<https://perma.cc/3G82-X3CC>].

148. See *Ten Dates That Changed the Game (1925-present)*, *supra* note 139.

149. See ELFRIEDE JELINEK, *SPORTS PLAY* (Penny Black trans., 2012); Mireille Hildebrandt, *Law as Computation in the Era of Artificial Legal Intelligence: Speaking Law to the Power of Statistics*, 68 *U. TORONTO L.J. (SUPPLEMENT 1)* 12, 18–20 (2018).

150. See ANDREI S. MARKOVITS & STEVEN L. HELLERMAN, *OFFSIDE: SOCCER AND AMERICAN EXCEPTIONALISM* 52–98 (2001); RICHARD WHITE, *RAILROADED: THE TRANSCONTINENTALS AND THE MAKING OF MODERN AMERICA* 26–35, 203–12 (2011).

tactics imposed by some soccer managers and coaches emanates partly from resistance to individual personas and partly from resistance to the bureaucratized, centralized, authoritative coaching style that prevails in many other modern team sports.¹⁵¹

Rules of many sports other than soccer are largely codes, prescribing and proscribing behavior across a full range of possibility. Competitive fairness and equality of opportunity on the playing field (and the court and the ice) are largely deemed to be implied by virtue of the impartial application of the detailed set of specific binaries. The ball (or puck) or player is in bounds or out of bounds. Players may do this and may not do that. This action is lawful or valid, and that action is not. Baseball, in many respects soccer's historical US analog, relies on the "Official Baseball Rules," whose foreword characterizes them as a "code of rules."¹⁵²

The Laws of soccer are different. The Laws do embed a strong underlying sensibility of fairness and fair play. In their interpretation and application by players and referees, they are also intended and understood to produce a kind of soccer justice.¹⁵³ Like any rules or standards for sport, the Laws are not law, but they are law-like. They do not produce true justice but instead justice within soccer as a social world, and perhaps (as Part IV suggests) justice at the intersection of soccer as a social world and other, overlapping social worlds. Soccer justice does not necessarily imply fairness or merit. It implies degrees of chance, judgment, and discretion as well. The French anthropologist Christian Bromberger observed of soccer: "The spectre of chance, which is rarely conceptualized as probability, and from which emerges a sense of destiny, hangs over these sporting encounters, reminding us with brutal honesty that merit alone is not always enough to get ahead."¹⁵⁴

Soccer governance entails fairness and justice; it entails chance as well. How does that happen? Next, Part IV explores the referee's governance roles in more detail.

151. See FEAR AND LOATHING IN WORLD FOOTBALL 242–47 (Gary Armstrong & Richard Giulianotti eds., 2001); Milorad Gačević, *The Rise and Fall of José Mourinho*, SPORTIFICO (Mar. 2019), <https://www.sportifico.com/profeed/708-the-rise-and-fall-of-jose-mourinho/> [<https://perma.cc/29LQ-NFJS>] (last visited Dec. 16, 2020).

152. See OFF. OF THE COMM'R OF BASEBALL, OFFICIAL BASEBALL RULES, at iv (2019), https://content.mlb.com/documents/2/2/4/305750224/2019_Official_Baseball_Rules_FINAL_.pdf [<https://perma.cc/6QYU-J2KW>].

153. See LAURENT DUBOIS, THE LANGUAGE OF THE GAME: HOW TO UNDERSTAND SOCCER 207 (2018); Juan Antonio Simón, *Between Scepticism and the Long-Awaited Quest for "Football Justice,"* in THE USE OF VIDEO TECHNOLOGIES IN REFEREEING FOOTBALL AND OTHER SPORTS 3, 17 (Manuel Armenteros, Anto J. Benítez & Miguel Ángel Betancor eds., 2020).

154. Christian Bromberger, *Football as World-View and as Ritual*, 6 FRENCH CULTURAL STUD. 293, 297 (1995).

IV. THE SOCCER REFEREE

The practice of a solitary referee policing the soccer pitch and regulating play per the Laws has a history all its own. The idea of a “judge over the parties” for a game of “foteball” dates to the sixteenth century, at least,¹⁵⁵ but the idea of a more fully realized officiating function emerged two centuries later, as the game took on more standard forms. Gentlemen being what they were thought to be in the mid-1800s, it was common for players to call their own fouls via the captain of each team.¹⁵⁶ Later, soccer matches came to be officiated by two officials, called umpires, one provided by each team.¹⁵⁷

The idea of the referee as a neutral, impartial solo actor emerged partly for reasons of effectiveness, as a role required to resolve disputes between the umpires. The referee was formally introduced in 1881 as a sideline official to adjudicate their disputes.¹⁵⁸ This was partially for cost reasons, as what had been the cost of paying for private services was assimilated into the cost of participating in the FA’s provision of public goods, and partially for legitimacy reasons. Fans learned to love—and to pay admission to see—matches that they believed were honestly contested and adjudicated. In 1891, the referee took to the field of play, and the umpires were converted to linesmen, today called assistant referees.¹⁵⁹ In many of these respects, the English apparently learned from their American baseball counterparts, who played exhibition games in England from time to time during the 1870s and 1880s.¹⁶⁰ Baseball’s National League introduced paid umpires in the late 1870s.¹⁶¹

155. See *Referees and Match Officials*, FOOTBALL STADIUMS, <https://www.football-stadiums.co.uk/articles/referees-and-match-officials/> [<https://perma.cc/N73U-D3RN>] (last visited Jan. 14, 2021).

156. See GORDON THOMSON, *THE MAN IN BLACK: A HISTORY OF THE FOOTBALL REFEREE* 8–12 (1998).

157. See *id.* at 12–18.

158. See *The Football Association*, BELL’S LIFE IN LONDON, Feb. 5, 1881, at 10, [https://commons.wikimedia.org/wiki/File:Football_Association_\(Bell%27s_Life_in_London\)_1881-02-05.png](https://commons.wikimedia.org/wiki/File:Football_Association_(Bell%27s_Life_in_London)_1881-02-05.png) [<https://perma.cc/F7UG-WQ2L>].

159. See *History of the Laws of the Game: Birth of Modern Football (1863 - 1970)*, *supra* note 90.

160. See SZYMANSKI & ZIMBALIST, *supra* note 8, at 26–27.

161. See *Umpiring Timeline*, MLB, <https://www.mlb.com/official-information/umpires/timeline> [<https://perma.cc/FFV2-YE6J>] (last visited Dec. 17, 2020).

A. *The Roles of the Referee*

On the field, the referee embodies multiple roles and exercises multiple functions relative to a variety of audiences. To players and coaches, the referee is the unquestioned authority figure, standing for applications of the Laws, identifying violations, enforcing punishments, adjudicating right and wrong, and protecting player safety and match integrity. The referee should be omniscient, capable of exercising discretion to continue play or to stop it according to the outline specified initially by the Laws and embodied in the referee's experience and good sense.

The referee is an expert problem solver and dispute resolver, someone who is trained to surveil the field, absorb enormous quantities of observational, qualitative data, and judge alone whether, when, and how to interrupt play in order to put the game on some "proper" course.¹⁶² Individual referee performance is part and parcel of a professional culture of refereeing, one that is perceived in overlapping but distinct ways by different communities of interest. In the words of the former Dutch star Ruud Gullit, players may believe that referees "try to be objective robots, but of course they are only human."¹⁶³ Humanity has many sides; those who do not share the pitch may be less accepting. The referee is part "tyrant who runs his dictatorship without opposition," in Galeano's evocative phrase,¹⁶⁴ and part traffic manager, keeping time, interrupting more or less frequently to ensure that game time is maximally allotted to the ball being in active play. Formal stoppages and signals may be blended with informal referee-to-player communications. Many hope that the substance and style of the referee's performance ensures that the game is as "positive" as it ought to be, rather than needlessly plodding, mean-spirited, or violent.¹⁶⁵

To fans, investors and owners, sponsors, advertisers, media observers, and others, the referee is all of these and even more: the embodiment of knowledge of the Laws and their application, impartiality, the ethics and rules of match fairness, game integrity, and the traditions and cultures of the game. The referee often will not meet

162. See Peter Catteeuw, Werner Helsen, Bart Gilis & Johan Wagemans, *Decision-Making Skills, Role Specificity, and Deliberate Practice in Association Football Refereeing*, 27 J. SPORTS SCIS. 1125, 1127, 1133 (2009).

163. RUUD GULLIT, *HOW TO WATCH SOCCER* 49 (Sam Herman trans., 2016).

164. GALEANO, *supra* note 70, at 10.

165. See Graham Poll, *Talking Football: Positive Signs as Referees Become the New Managers*, TELEGRAPH (Aug. 16, 2000, 12:00 AM), <https://www.telegraph.co.uk/sport/football/4767104/Talking-Football-Positive-signs-as-referees-become-the-new-managers.html> [<https://perma.cc/JF5M-ZQMF>]. The author was a well-known English soccer referee. See *id.*

all marks on each of these objectives, but there are informal guides. It is said that the less one speaks of the referee after a match is complete, the better the referee's performance.¹⁶⁶ The referee should be an all-controlling commander of the game, "devastatingly powerful," to the French anthropologist Christian Bromberger,¹⁶⁷ but simultaneously absent from participants' and observers' imaginations. Perhaps the game was played faultlessly, or perhaps every judgment and behavior of the referee aligned precisely with everyone's expectations.

Referees communicate with players and coaches on the field not only with the whistle but also with regular person-to-person conversation, often unheard in the stands. The referee is guiding the players and the game informally without needlessly interrupting its flow. By contrast, fans and other observers usually hear only the referee's whistle and see a modest number of arm and hand signals and the occasional flash of the yellow card and red card.

The role of the referee, as well as the specific embodiment of that role in a particular match, is therefore expression as well as function, part of the theater of soccer. For decades, to distinguish themselves from players, referees almost always wore black or white shirts, to contrast with team uniforms.¹⁶⁸ Red shirts were used at times.¹⁶⁹ Blazers were common.¹⁷⁰ Beginning in 1994, to help both players and fans identify the referee on the field, FIFA permitted referees for the first time to wear colored shirts that contrast with those of the teams.¹⁷¹ The referee now often cuts the most striking sartorial presence on the field. Professional leagues work with sportswear companies in designing custom referee uniforms.¹⁷² The sartorial shift, together with the introduction of yellow and red cards (in 1970), means that the referee is now present, visually, in a way that contrasts strikingly with the referee's historically expected absence.

As befits that change in their visual identity, certain referees acquire stature among the public that transcends their role on the field, where their quirks and personalities may already be known to players

166. See DUBOIS, *supra* note 153, at 209.

167. Bromberger, *supra* note 154, at 297.

168. See *Soccer Equipment History*, EPIC SPORTS SOCCER, <https://soccer.epicsports.com/soccer-equipment-history.html> [<https://perma.cc/BFK9-FBKG>] (last visited Dec. 17, 2020).

169. See *id.*

170. See *id.*

171. See *USA '94: A World Cup of Firsts*, FIFA WORLD FOOTBALL MUSEUM (May 4, 2016), <https://www.fifamuseum.com/en/stories/blog/usa-94-a-15th-world-cup-full-of-firsts-2610677/> [<https://perma.cc/7XXM-S2V5>].

172. See *No More Diadora After 26 Years - Legea Serie A 19-20 Referee Kits Released*, FOOTY HEADLINES (Sept. 2, 2019), <https://www.footyheadlines.com/2019/09/no-more-diadora-after-26-years-legea-serie-a-19-20-referee-jerseys.html> [<https://perma.cc/32B5-5RC8>].

and coaches. They may have a particularly stylish look and manner of commanding the field and delivering their judgments. Referees have occasionally become sporting stars by matching appearance, presence, and game management talent. Among soccer fans around the world, Italian Pierluigi Collina is a refereeing legend.¹⁷³

B. *The Judgments of the Referee*

To many players and observers, such performative qualities are beside the point. The referee's role and duty is to adjudicate right and wrong. Was a goal scored, or not? Was the ball in play, or not? Was the player offside, or not? Did the player handle the ball (use the arm or hand inappropriately to advance the ball), or not? The Laws of soccer require their share of those judgments. As Gullit's comment suggests, all involved know well that the referee may be an expert in ways that others are not, and that, by virtue of that expertise, the referee may see things that others may not, but those expert capabilities are limited by human capabilities. By virtue of their humanity, referees are not always capable of seeing the ball and all relevant players in real time, at speed, processing all of those sources of information in time to come to an informed and effective resolution, and deciding whether to whistle a play dead.

Gaps between what the referee might be called to do and what the referee is capable of doing are particularly salient with respect to the performative role of the referee generally and with respect to a key, specific feature of soccer refereeing: persuasion. The Laws are filled with standards and guidelines for play and for officiating that invite the referee to use discretion consistent with the norms that define the game: underlying normative ideals of fairness and player safety. The referee's persuasive role, critical at all times, includes communicating on the field and off of it that the referee's discretion is being exercised impartially and fairly.¹⁷⁴

173. See Stuart Horsfield, *Pierluigi Collina: The Outlier in Black*, THESE FOOTBALL TIMES (Oct. 14, 2019), <https://thesefootballtimes.co/2019/10/14/pierluigi-collina-the-outlier-in-black/> [<https://perma.cc/7HMH-3EK6>]; Jack Kenmare, *Pierluigi Collina: The Greatest Referee in Football History*, SPORT BIBLE, <https://www.sportbible.com/football/reactions-news-legends-pierluigi-collina-named-the-greatest-referee-in-football-history-20191016> [<https://perma.cc/45KW-RH28>] (last updated Oct. 17, 2019, 12:10 AM); PIERLUIGI COLLINA, THE RULES OF THE GAME (2004).

174. See Mikel C. Mellick, Scott Fleming, Peter Bull & Esther J. Laugharne, *Identifying Best Practice for Referee Decision Communication in Association and Rugby Union Football*, FOOTBALL STUD., Apr. 2005, at 42, 43; Jan ter Harmsel, *Why Effective Communication Is the Key to Being a Successful Football Referee*, DUTCH REFEREE BLOG (Jan. 19, 2014), <https://www.dutchreferee.com/effective-communication-key-successful-football-referee/> [<https://perma.cc/ERM9-W64T>].

That essential framework has been in place implicitly since 1863, when the game was supervised by umpires, and explicitly since the Laws were updated in 1891 to call specifically for a single, neutral referee.¹⁷⁵ Referees are expected to be correct rather than incorrect, a binary decision, and right rather than wrong, an open-textured question of soccer ethics.

The relatively open character of the game as played and officiated is both cause and effect of the brevity and simplicity of the Laws as stated, rather than a necessary byproduct of variable human behavior and imagination. “Open” means that the form and application of the Laws define a broad space for play, both literally and conceptually, within which the players’ imaginations guide their performances. The Laws define the scope of the referee’s powers in general, discretionary terms. Laws 12 through 17 of the Laws adopted in 1891 gave the referee essentially absolute, unilateral, unreviewable power to stop play for any reason at any time to “enforce the rules and decide all disputed points.”¹⁷⁶ The 1891 version of Law 10 is representative of the underlying standard.

Neither tripping, hacking, nor jumping at a player shall be allowed, and no player shall use his hands to hold or push his adversary. No player may charge an opponent from behind, unless such opponent be not only facing his own goal, but is, in the opinion of the referee, *wilfully* impeding his adversary while in that position.¹⁷⁷

Even today, as the Laws have been updated and made more rule-like, the referee is still expected to be data collector, analyst, and interpreter of what happens on the field, not simply an embodied so-called executive function that mechanically applies rules to a given set of facts, or, in the words of a former FIFA Secretary, a combined “prosecutor, judge, and executor.”¹⁷⁸ A player may be in an offside *position* but does not commit an offside *offense* unless the player interferes with play, interferes with an opponent, or gains an advantage.¹⁷⁹ A handball might not be penalized if it was inadvertent or unavoidable—that is, if the player did not possess a certain mental state.¹⁸⁰ A violent tackle in the penalty area may trigger a penalty kick, but the referee must decide that such a drastic remedy is proportionate

175. See *The Revised Rules of Association Football*, ATHLETIC NEWS, June 15, 1891, at 5, [https://commons.wikimedia.org/wiki/File:Revised_Rules_of_Association_Football_\(Athletic_News\),_1891-06-15.png](https://commons.wikimedia.org/wiki/File:Revised_Rules_of_Association_Football_(Athletic_News),_1891-06-15.png) [<https://perma.cc/NM7J-4376>].

176. See *id.*

177. See *id.*

178. Joseph S. “Sepp” Blatter, *quoted in* GEORGE VECSEY, EIGHT WORLD CUPS: MY JOURNEY THROUGH THE BEAUTY AND DARK SIDE OF SOCCER 55 (2014).

179. See IFAB LAWS 2020/21, *supra* note 2, at 99–101.

180. See *id.* at 104.

to the culprit's malicious intent, to the harm caused, or both.¹⁸¹ Cautioning and ejecting players is within the referee's purview, but it is effectively standardless.¹⁸² Official timekeeping is in the hands and on the watches of the referee, not the scoreboard operator; the referee is permitted to extend each forty-five-minute half of a standard match by a discretionary amount of time that is intended to compensate for time lost to stoppages in play.¹⁸³ The referee may elect not to stop play following a violent tackle if the victim's team has retained the ball and has an opportunity to score.¹⁸⁴ In such a case, the referee may play the advantage, a judgment not defined in the Laws, and discipline the perpetrator at some later point in time.¹⁸⁵

Players, coaches, fans, and others are fully aware that the history and culture of soccer encourage the practices of discretionary enforcement by the referee that reinforce and advance soccer's norm of open play. That awareness is key. Because of the game's relatively open character, the referee's authority requires collective acknowledgement and acceptance by the players and others, even while players routinely test that authority on the field. One might analogize the referee to a judge in a common-law system, although in soccer there is no codification of a corpus of decisions by referees. Yet players lobby for the referee's intervention—defenders raise a single arm in the air as the ball is played past them, an almost involuntary signal meant to attract the referee's intervention for a possible offside offense. Players remonstrate with the referee theatrically if play is stopped following an aggressive tackle, pleading for or against a yellow or red card being issued to the offender.

In certain soccer cultures (such as Italy, famously, or notoriously), remonstrations with the referee, or *arbitro* (and *arbitra*), are often expected as part of the operatic quality of the game.¹⁸⁶ Pleading is usually regarded as performative rather than persuasive. Not only does the referee have no duty to consider the pleas but excessive pleading (overacting, one might say) may result in a player's ejection.¹⁸⁷ In Italy and elsewhere, players have long tried to take advantage of limitations on the referee's capabilities and of the breadth

181. See *id.* at 103, 112, 123.

182. See *id.* at 66, 109–11.

183. See *id.* at 66, 69.

184. See *id.* at 83.

185. Law 5 authorizes the referee to play an advantage. See IFAB LAWS 2020/21, *supra* note 2, at 66, 204. IFAB's advice to referees provides a series of guidelines for doing so, which includes advice to consider "the atmosphere of the match." See *id.* at 204.

186. See JOHN FOOT, *CALCIO: A HISTORY OF ITALIAN FOOTBALL* (2006).

187. See IFAB LAWS 2020/21, *supra* note 2, at 110–11.

of the referee's discretionary power by "flopping," or trying to deceive the referee into stopping play and punishing an accused perpetrator.¹⁸⁸ "Deception," also called "simulation," is an offense in itself, often punished by a caution or ejection, that demands a degree of insight by the referee into the mind of the offender.¹⁸⁹ Simulation causes harm to the integrity of the game itself as well as to opposing players or teams, calling to mind the idea of "ungentlemanly behaviour" that motivated adoption of the referee's power to caution players.¹⁹⁰

The aggregation of the forms, practices, and embodiments of soccer refereeing, or what was referred to above as a version of soccer justice on the field of play, is enacted for and by referees, players, teams, and fans, for themselves and for the world at large. Soccer is not a fully separate social realm; soccer justice is defined in part with reference to norms specified in the Laws and the history of the game and also in part with reference to broader norms of a just society. All in all, players have little choice in the end but to trust that a referee will administer those blended norms impartially, fairly, and consistently within a given match, and to endure the risk that they will not. Equivalent trust and endurance must prevail with respect to a given referee's performance from one match to the next, and from one referee to another within a given league or tournament. The normative ideal of "soccer" is built on these expected consistencies: that this match will resemble the next in salient structural and performative respects, that the values and performances that define this match will resemble those that define the next, and so on. Officiating has become part of the game's identity.

Soccer justice does not come easily. All followers of the game know that soccer is, in many respects, unfair. Expectations regarding accuracy and consistency are regularly tested. Referees in international matches may be accused of bias in favor of countries that share a continent or FIFA region with one playing the match. Corruption (accusations of match fixing) is sometimes sourced not only to gambling interests, fans, and occasionally players but also to national governments.¹⁹¹ More common illustrations involve referees accused of

188. See Eric Levenson, *Dissecting American Soccer's Hatred of the Flop Is a World Cup Tradition*, ATLANTIC (June 16, 2014), <https://www.theatlantic.com/culture/archive/2014/06/dissecting-american-soccers-hatred-of-the-flop-is-a-world-cup-tradition/372839/> [https://perma.cc/L2YC-UCAA].

189. See IFAB LAWS 2020/21, *supra* note 2, at 110–11.

190. See GRACE ET AL., *supra* note 119, at 537; Levenson, *supra* note 188.

191. See Steve Price, *World Cup 2018: Ghana Referee Bribes Scandal Shows FIFA's Flaws*, FORBES (June 8, 2018, 12:36 AM), <https://www.forbes.com/sites/steveprice/2018/06/08/world-cup-2018-ghana-referee-bribes-scandal-shows-fifas-flaws/#1e60b5503d46> [https://perma.cc/S46H-Z7YB]; *Ghana FA Dissolved, Risks FIFA Ban Ahead of 2026 WCup Vote*, USA TODAY, <https://www.usatoday.com/story/sports/soccer/2018/06/07/ghana-risks-fifa-ban-ahead-of->

poor judgment or inattention, or those who seem to enjoy a bit too much the opportunity to perform in the limelight that comes with officiating high-level matches.¹⁹²

Soccer justice is sometimes blind, even catastrophically so, relative to expectations defined by soccer itself and to expectations defined by norms of a just society. There are simple officiating errors. Some of these are significant to match outcomes; others corrupt the sport by giving the appearance of bias favoring players or teams with money, status, and other power.¹⁹³ There are referees whose failure to enforce discipline effectively means that they simply lose control of the game. Certain plays and games stand out. In the so-called Battle of Santiago, a 1962 World Cup match between Chile and Italy, the police had to intervene to calm the teams more than once.¹⁹⁴ During a World Cup semifinal match in 1982, the West German goalkeeper Harald (Toni) Schumacher assaulted a French player after the ball had passed them both, rendering the Frenchman unconscious and short of three teeth. The referee did not penalize Schumacher, and Germany won the match.¹⁹⁵ Perhaps the most notorious example of referee error is the “Hand of God,” the instrument of a goal scored by the Argentine striker Diego Maradona in a 1986 World Cup semifinal against England with his fist, positioned so close to his head that the referee believed that Maradona had scored the goal legitimately.¹⁹⁶ After the match, Maradona admitted his tactics indirectly by affirming to reporters that the goal was struck not by his head but instead by the “Hand of God.” Maradona scored a second goal that is still celebrated as among the finest ever scored on a solo run, and Argentina won the match 2–1. Divinely inspired or not, Argentina went on to win the title.

2026-world-cup-hosting-vote/35805545/ [https://perma.cc/N8UP-MP6L] (last updated June 7, 2018, 6:42 PM).

192. See Vijay Murali, *Top 22 Worst Refereeing Decisions in World Football History*, BLEACHER REP. (Oct. 30, 2011), <https://bleacherreport.com/articles/915954-top-22-worst-refereeing-decisions-in-world-football-history> [https://perma.cc/7DQM-MGE8].

193. See William A. Birdthistle, *Football Most Foul*, 10 GREEN BAG 2D 159, 168 (2007).

194. Sam Lopresti, *Italy World Cup Rewind: Infamy at the Battle of Santiago, 1962*, BLEACHER REP. (Feb. 28, 2014), <https://bleacherreport.com/articles/1976117-italy-world-cup-rewind-infamy-at-the-battle-of-santiago-1962> [https://perma.cc/6B2R-YW7P].

195. See Scott Murray, *World Cup Stunning Moments: Patrick Battiston Loses His Teeth*, GUARDIAN (May 20, 2018, 9:23 AM), <https://www.theguardian.com/football/blog/2014/may/27/world-cup-25-stunning-moments-patrick-battiston> [https://perma.cc/N5YT-Q5YV].

196. See Scott Murray, *World Cup Stunning Moments: Diego Maradona’s Hand of God*, GUARDIAN (Apr. 12, 2018, 5:03 AM), <https://www.theguardian.com/football/blog/2014/apr/08/world-cup-moments-maradona-hand-god> [https://perma.cc/U6N8-ER9N].

C. The Socio-Technical Referee

The referee operates in a context that has both social and technical dimensions. To all audiences, the soccer referee has long been isolated and alone, both on the field of play and as the sole interpreter and enforcer of the rules, to a degree that is nearly unmatched among officials elsewhere in professional sport. Virtually all organized team sports are officiated by teams or crews of officials. Different members of those teams may be assigned different roles or functions, but at best the senior or lead official has a “first among equals” standing among colleagues, to players and coaches, and to outside observers. Often, each of those team members has the power to render final judgments during play. Soccer is unusual in that the referee, sometimes called the “center” referee, has traditionally stood and run alone on the field. All assistant referees stand or run along the sidelines (“touch” lines, in soccer) or end lines. They may suggest and signal by voice and gesture. Only the center referee has the power to make and enforce judgments.

Nevertheless, the burden of responsibility and accountability does not fall solely on the referee’s shoulders. Referees and their decisions are embedded in a less than salient matrix of training, evaluation, collegiality, and technology, ensuring (if the system works effectively) that the referee’s judgments are constrained appropriately by the Laws and by soccer-appropriate practices and expectations. For many years, some leagues and federations sanctioned the use of referee pairs on the field, unaided by assistants (then called “linesmen”). That system is no longer permitted by FIFA. Instead, referees are typically teamed with two assistant referees, one running up and down each sideline and communicating with the others primarily via flags—one red, for the senior assistant, and the other yellow. In many professional matches and in international play, a fourth official stands on the sideline at midfield, administering player substitutions, calming the coaches, and publicly signaling time added by the center referee to the end of a half of play. Additional assistant referees may monitor the goal lines.

The flags confirm that technology matters in communications among officials, between officials and players, and with fans, both in person and via broadcast or stream. The whistle itself is a significant piece of officiating technology, so much so that one almost forgets how functional and foundational it is until one observes a competitive team sport where officials do not use whistles, such as cricket or baseball. Soccer referees adopted whistles during the 1870s, though the precise

date of their first use is unclear.¹⁹⁷ Before that time, soccer umpires waved handkerchiefs to signal offenses, just as American football officials now throw weighted hankies, called “flags.” With the development of reliable and lightweight wireless communications, referees and their assistants now wear microphones and earpieces during games so that they can communicate with each other vocally. “Smart” watches have replaced ordinary and sport-specific watches for keeping time on the field.¹⁹⁸ In recent years, referees have used a special white vanishing foam to mark distances that opposing players must respect when free kicks are awarded.¹⁹⁹

The soccer referee is not expected to routinely explain officiating judgments publicly on a case-by-case basis. The justification for calling fouls or cautioning or ejecting players is not announced on the field. A limited set of hand and arm signals exists, endorsed by the IFAB, primarily to communicate with players (the signals are used even when there is no substantial population of in-person observers) and secondarily to communicate with fans and others. The referee’s arm pointed at the center circle signifies that a goal has been scored. The arm pointed at the penalty spot signifies the award of a penalty kick. The arm pointed straight upward in advance of a free kick indicates that this is an indirect kick, which requires touches by two players before a valid goal may be scored. The absence of the upward arm indicates that this is a direct kick, including a penalty, which can result in a goal in a single strike.

The yellow and red card technology used for cautions and ejections improves the communicative effect of the referee’s punishment in multiple ways. It reinforces the potential deterrent effect of the referee’s action in the moment to the players at hand by shaming them in the eyes of their peers and the fans in the way that oral delivery of the punishment might not. It also amplifies the potential deterrent effect of the shaming beyond the scope of a particular game. For the benefit of fans and other observers, using a colored card clarifies the implications of the referee’s judgment to warn or expel a participant. It is noteworthy that the colored cards were first deployed concurrently

197. See Martin P. Wilson, *Acme Thunderer - Story of the Referee’s Whistle*, M-DASH MISCELLANY MAG. (Apr. 24, 2011, 8:46 PM), <https://m-dash.co.uk/acme-thunderer-story-referees-whistle>.

198. See Dusan Johnson, *Meet the Official Smartwatch of FIFA World Cup 2018*, GADGETS & WEARABLES (Mar. 22, 2018), <https://gadgetsandwearables.com/2018/03/22/the-big-bang-referee/> [<https://perma.cc/FFZ2-5GWN>].

199. See Tariq Panja, *FIFA in Hot Water over Foam*, N.Y. TIMES (Dec. 15, 2017), <https://www.nytimes.com/2017/12/15/sports/soccer/fifa-foam-spray-lawsuit.html> [<https://perma.cc/PM2E-P8BP>].

with the initial broad use of color in television broadcasting for international soccer: the 1970 World Cup finals.²⁰⁰

It is reasonable to assume that the lack of public accounting of fouls and other actions is due to the expectation that the rules and their interpretation are sufficiently well-known to both players and observers, on account of their relative simplicity, and that no explanation is necessary. The referee is engaged in a kind of unspoken, tacit dialogue with players on the field and observers off of it, in which patterns of play and referee behaviors are part of a shared syntax. That syntax can be as mystifying and exclusionary to the casual observer as rituals of American football or baseball are to others.

It is also plausible to assume that aside from cautions and ejections, the absence of specific accounting for referee decisions is consistent with soccer's traditional focus on collective rather than individual performance and on open play, governed substantially by players themselves, rather than multiple, frequent stops and starts and prescriptions from coaches and managers. In ice hockey or basketball, for example, individual players who commit fouls or infractions suffer temporary exclusion from the game. Soccer players who engage in so-called persistent infringement of the Laws by engaging in a pattern of repeated but nonviolent fouls may continue to do so unless and until the referee decides that the player has exceeded some unspecified threshold. Then, a caution may be warranted, and perhaps even ejection.²⁰¹

Players themselves are not “technologies” of rule enforcement except in some theoretical sense, but they are instruments of governance in systematic ways. The run of play itself is evidence of self-governance by players on the field rather than coaches' scripts or directions in the Laws. Player-based norms and practices might be characterized as complementary to the referee's judgments, so that officials and players cooperate in producing governance on the field. Simultaneously, player-based norms and practices might be characterized as oppositional, so that players affirmatively, if subtly, resist the referee. Governance on the field is as much the product of player-referee conflict as it is the product of player-referee cooperation. Players police themselves in some critical cases, whether the referee likes it or not.

200. See Jimmy Stamp, *Who Invented the Yellow Card?*, SMITHSONIAN MAG. (July 8, 2014), <https://www.smithsonianmag.com/arts-culture/who-invented-yellow-card-180951915/> [<https://perma.cc/J76W-7FZ3>]; *FIFA World Cup 1970: Programme Information*, BBC, <https://www.bbc.co.uk/mediacentre/proginfo/2014/23/fifa-world-cup-1970> [<https://perma.cc/3HUA-DNCT>] (last visited Oct. 30, 2020).

201. See IFAB LAWS 2020/21, *supra* note 2, at 109, 111, 113, 153.

From a cooperative standpoint, at times players enforce pro-social norms that remedy gaps both in human referees' capabilities and in the text of the Laws. The best-known example consists of players voluntarily protecting players injured during the run of play, a norm that was unaddressed by the Laws themselves. When a player is injured during play and rendered immobile, even if the referee has not stopped play by blowing the whistle, the team in possession of the ball is expected to voluntarily put it out of play across one of the sidelines in order to stop the match and permit the injured player to receive treatment. In the case of a voluntary stoppage on account of injury, when the player has been removed, play resumes with a throw-in. The team taking the throw-in is universally expected to return it to the team that put the ball out of play, rather than keeping and playing the ball themselves, as reward and recognition for the act of generosity. (The universality extends to fans, players and coaches for both teams, and the referee.) Complying with the norm is also an expression of the expectation that the same favor will be returned and paid forward in the future, in this game or future games.

Fans in attendance participate in and reinforce this system. When the player performs to expectations, it is common to hear the fans applaud loudly, regardless of whether the players involved in returning the ball to their opponents are members of the home team or the visiting team. In the rare case when the norm is not observed, one hears loud boos.

Similar norm-based judgments are evidenced by occasional, if rare, decisions by teams that have been awarded a penalty kick by the referee on account of a flagrant offense committed in the penalty area, nearest the goalkeeper. The beneficiary team has been known, at times, to decide for itself that the referee's judgment was unjust and to miss the ensuing kick intentionally.²⁰²

From a competition and resistance standpoint, player self-governance is manifestly expressed in the social norm by which coaches and peers expect players to play "to the whistle." That means that they are expected to continue play even if they observe an offense and to stop only when the referee intervenes, knowing that the referee

202. Examples are available on YouTube. See Guardian Football, *Galatasaray Youngster Sets Incredible Example of Fair Play in Football*, YOUTUBE (Mar. 26, 2019), <https://www.youtube.com/watch?v=bopZieM0T3I>; Aero Soccer, *Sample of Fair Play: Penalty Miss on Purpose*, YOUTUBE (Oct. 6, 2015), <https://www.youtube.com/watch?v=UtZA6n9jnb4>; LiiKent, *Fair Play! Wieghorst Misses a Penalty on Purpose*, YOUTUBE (Nov. 21, 2012), https://www.youtube.com/watch?v=mKPBIS3_BSo.

may not do so.²⁰³ Victims of alleged rough play learn to lobby referees by falling on the field following a rough tackle, if possible stopping short of simulation. In the flow of play in a professional match, one observes what amounts to a continuous dance among players on opposing teams and the referee, as play continues, potential fouls are committed, and both players and the referee judge via voice, gesture, and body language whether and how to signal that a stoppage in play has been earned. Sometimes, the judgment not to stop play is essentially instantaneous. Sometimes, both referee and players pause, either because the call is close or because a stoppage is so obviously appropriate that the whistle need not be heard at once.

In that dance, referee decisions are not commonly consultative, either relative to assistant referees or relative to players. Whether or not to award a goal or a penalty kick, for example, are decisions left by the Laws and by tradition to the referee's sole discretion. They have long been, in the run of a match, both literally and figuratively unreviewable.²⁰⁴ Referee performance may be monitored by third-party "referee assessors" acting on behalf of the league or the relevant federation,²⁰⁵ but assessment reports are prepared and used only in contexts outside of games to promote or discipline particular referees, not (barring a question of referee corruption) to change game outcomes.²⁰⁶ In-game judgments have been sacrosanct. The referee's role is a part of the normativity of soccer, the so-called shape of the system of soccer as a whole, as well as one of its functional attributes.

That has long been the case even and especially where the referee appears to have gotten a judgment wrong. This is the moment in an account of history and cultural practice in which one wonders whether a machine would do this job better, alone or somehow in tandem with a human being. Below, that instinct and the foregoing account of soccer and its referees become parts of a broader question. Generally, what are the problems and barriers associated with constructing and deploying an appropriately designed problem-solving and dispute-resolution mechanism in this particular setting? In soccer, the baseline practice has been to entrust referees with a significant

203. Unlike players in some other sports, soccer players have no "right to be punished." See Markus Dirk Dubber, *The Right to Be Punished: Autonomy and Its Demise in Modern Penal Thought*, 16 LAW & HIST. REV. 113 (1998).

204. See Birdthistle, *supra* note 193, at 168.

205. See *Assessment: Referee Program*, U.S. SOCCER, <https://www.ussoccer.com/referee-program/resource-center/assessment> (last visited Oct. 30, 2020).

206. See *Referee Assessment Report*, UNITED SOCCER ASS'N, <http://usa-soccer.org/referee-assessment-report/> [<https://perma.cc/8VJF-RTHV>] (last visited Dec. 17, 2020).

degree of discretion in regulating the normative goals of soccer as a social practice, both in the specific game and in competition generally.

To the small inventory of the soccer referee's strategies and devices, a new public signal has been added. The referee blows the whistle to stop play then outlines a large box, an imaginary computer monitor, by moving both arms in tandem, each arm drawing half of the outline of the box in midair.²⁰⁷ VAR has been invoked. Next, Part V builds a framework for putting these details into systematic perspective.

V. MODELING THE SOCIAL WORLD

The narrative to this point sums up in broader to narrower terms the complex blend of function and expression that constitutes "soccer." That blend is soccer as a social world. This Part converts that narrative into something more systematic, a contextual model of that social world that can be interrogated in various ways, both to investigate specific questions and to determine the utility of the model in other settings. The general goal and the specific questions at hand have to do with governance: how are social worlds governed, for better and for worse? Specifically, who knows what about individual and social behaviors, and how; who decides what to do with that information, and how; and what standards and other values are used to encode the results of both inquiries into actionable rules, standards, and technologies.

Relative to governance concerns, a useful model of a social world offers several important things. It offers grounds for exploring questions concerning epistemology, with implications for autonomy, privacy, and bias. It offers grounds for exploring questions concerning social trust, power, and authority, with implications for institutional design, oversight, and the rule of law. It offers grounds for exploring questions concerning both sociological and normative legitimacy, that is, justification, meaning both acceptance of systems by communities and alignment of systems with interests in fairness, equity, self-determination, opportunity, and capability. It offers grounds for assessing changes to any of those things.

For example, when the human-centered decision-making system of soccer refereeing is changed through the introduction of the technology-centered system known as VAR, how do we identify and assess what has changed, and what has not, in relevant social worlds?

The narrative has emphasized refereeing as a key governance dimension of soccer, and it has done so because the question at hand

207. See IFAB LAWS 2020/21, *supra* note 2, at 72, 148.

focuses on the partial mechanization of the referee's role. Other key dimensions of soccer might serve as well to anchor the story, if for different purposes: ritual rather than governance,²⁰⁸ money rather than competition and cooperation, international relations and politics rather than law. One might focus primarily on players and organizations, marketing, fans and supporters, or even equipment design and production.²⁰⁹

Soccer is exemplary of other social worlds only in a rough sense, and interrogating the former in order to learn how to interrogate the latter requires paying attention to both similarities in structural kinships and differences in world-specific details. A referee on a soccer pitch is no more a direct stand-in for a judge in a courtroom than soccer and its Laws are precise stand-ins for complex systems of public and private laws and regulation in governments, businesses, public spaces, or international relations. Adding VAR to the socio-legal character of soccer governance and the socio-technical roles played by a referee does not map directly to adding an algorithm to a judge's portfolio of tools, let alone to displacing a judge entirely or using an algorithm to enforce some public or corporate policy via extrajudicial means. If this Article's review of soccer history and practice is illuminating, it illuminates by a series of analogies rather than by expressing a specific identity.

This Part briefly specifies a model of governance, which draws on the features of the narrative provided so far. The concluding Parts of this Article rely on the model to assess the case of VAR and the soccer referee. In future work, the model can be elaborated and refined in multiple respects.

A. The Laws, the Law, and Polycentricity

Working through the last two Parts of this Article in reverse sequence, one can generalize a series of levels or layers for soccer that, when combined, outline a governance model that can be applied across other domains at both micro and macro scales. The kernel of the model is the social science concept of polycentricity.

Generally, polycentricity means that governance of social systems is best described as having multiple, systemically linked centers and sponsors of order, giving those systems important degrees of stability, adaptability, resilience, and effectiveness in dealing with

208. See John Alt, *Sport and Cultural Reification: From Ritual to Mass Consumption*, 1 THEORY, CULTURE & SOC'Y 93 (1983).

209. See Michael J. Madison, *The Football*, in A HISTORY OF INTELLECTUAL PROPERTY IN 50 OBJECTS 319 (Claudy Op Den Kamp & Dan Hunter eds., 2019).

complex social problems.²¹⁰ (A system may be defined as a collection of actors and resources that are coordinated over time to produce some patterned result.²¹¹) Some sources of order may be state-supplied or directed, some collectively self-governed, and even some may be guided by machine and automated. Their agglomeration into a larger order is systematic, not idiosyncratic, but their agglomeration is largely organic and coordinated by multiple actors concurrently rather than directed from the outside or above.

Polycentricity is a long-standing social science term, first deployed by Mihály (Michael) Polanyi and Vincent Ostrom,²¹² later embedded in the work of Elinor Ostrom,²¹³ and now having something of a renaissance among social scientists, consistent with broader interest in institutional pluralism in governance studies.²¹⁴ Interest in the meanings and applications of polycentricity has grown in recent years. Scholars have observed flaws in the market as a governance mode, gaps and biases in state-supplied order, and strengths of community self-governance are increasingly apparent.²¹⁵ None of these governance modes is a sure solution; each has both strengths and weaknesses. The concept of polycentricity has been elaborated, stretched, and reinterpreted accordingly. For present purposes, this Article adheres to a simple formulation. Polycentricity means, descriptively, a system-level equilibrium with multiple centers of decisional power and governance. Some or all of those centers may be systems in themselves.²¹⁶

210. See Elinor Ostrom, *Beyond Markets and States: Polycentric Governance of Complex Economic Systems*, 100 AM. ECON. REV. 641, 643 (2010) (quoting Vincent Ostrom, Charles M. Tiebout & Robert Warren, *The Organization of Government in Metropolitan Areas: A Theoretical Inquiry*, 55 AM. POL. SCI. REV. 831–42).

211. See DONELLA H. MEADOWS, THINKING IN SYSTEMS: A PRIMER 2 (Diana Wright ed., 2008).

212. See Berardo & Lubell, *supra* note 31, at 8; cf. Lon Fuller, *The Forms and Limits of Adjudication*, 92 HARV. L. REV. 353, 371 (1978). Fuller borrowed the idea of a “polycentric” situation from Polanyi but applied it only to framing complex social problems either for adjudication, for direction by the state, or for resolution via bargains. That narrow range was at odds with the openness to different governance modalities that characterized the Ostroms’ work and that the text evokes here.

213. See Elinor Ostrom & Michael Cox, *Moving Beyond Panaceas: A Multi-Tiered Diagnostic Approach for Social-Ecological Analysis*, 37 ENVIR. CONSERVATION 451, 454 (2010).

214. See Martha Finnemore & Kathryn Sikkink, *International Norm Dynamics and Political Change*, 52 INT’L ORG. 887, 888 (1998).

215. See GOVERNING KNOWLEDGE COMMONS 5, 12–13, 35, 38 (Brett M. Frischmann, Michael J. Madison & Katherine J. Strandburg eds., 2014).

216. See Paul D. Aligica & Vlad Tarko, *Polycentricity: From Polanyi to Ostrom, and Beyond*, 25 GOVERNANCE 237, 247 (2012).

Polycentricity is neither good nor bad in itself, though there is evidence of its effectiveness in solving collective action problems in providing public goods, such as public administration.²¹⁷ But polycentricity can be a powerful framing device, and ignoring it in governance conversations (whether based in law, policy, or technology) in favor of strong commitments to centralized state-directed regulatory interventions or market-based solutions (such as “better” market-provided products and services) can lead to ineffective interventions in the name of social good, or worse. Elinor Ostrom’s Nobel-recognized research on commons governance for shared resources is in part an exemplary demonstration of the empirics of polycentricity.²¹⁸

Formal definitions of polycentricity require that those centers of order within a system be fully autonomous of one another. Recently, more elastic elaborations of the concept focus less on the formal independence of different decision-making centers and more on their alignment in an overall self-organizing complex social system.²¹⁹ This is an explicitly institution-focused perspective. Individuals matter, of course, but the individual is not the exclusive focus of attention, and individual interests, roles, and functions matter significantly because of how they combine into complex patterns, or ecologies.²²⁰ The point of polycentricity lies in how it directs analysts to focus on the design, construction, and operation of governance centers as parts of larger social systems.

Some governance centers in a polycentric system operate at or within smaller scales and are nested within larger centers. Some centers coexist not in hierarchical relationships but in overlapping or semiautonomous lateral relationships. The identity of each center prompts questions about its own complexity relative to the social problems that governance at the corresponding level is meant to address: its internal organization (centralized, decentralized, formal, informal, and so on) and its external relationships and accountability relative to other centers (hierarchical, lateral, overlapping; autonomous, semiautonomous, plenary review, and so on). What pathways, linkages, and spillovers exist among different governance centers? What are their respective conceptual and material sources of

217. See POLYCENTRIC GOVERNANCE AND DEVELOPMENT: READINGS FROM THE WORKSHOP IN POLITICAL THEORY AND POLICY ANALYSIS (Michael D. McGinnis ed., 1999).

218. See Ostrom, *supra* note 210, at 642.

219. See Aligica & Tarko, *supra* note 216, at 260.

220. See Elinor Ostrom, *Polycentric Systems as One Approach to Solving Collective Action Problems*, in CLIMATE CHANGE AND SUSTAINABLE DEVELOPMENT: NEW CHALLENGES FOR POVERTY REDUCTION 17 (M.A. Mohamed Salih ed., 2009).

power and influence? What results or outcomes do they produce, and how do those results or outcomes feed back into the same or different governance centers? In that regard, in what respects can a polycentric system be conceived and described as a system, and possibly as a set of systems within a system, rather than simply a process? What criteria, external or internal, are deployed to assess the legitimacy of the system, its elements, and its impacts?

Polycentricity is useful in helping to describe complex, evolving social worlds and ecologies. Polycentricity begins as a conceptual framework, but it can deliver solutions to a practical problem: How do we describe and justify governance in complex social worlds, possibly bringing forward questions of moral as well as functional acceptability?²²¹ How do we establish frameworks, processes, and substantive norms by which people of plural and diverse identities, goals, and moral outlooks, as individuals and groups, cooperate in order to coexist and eventually thrive? How do we design or otherwise produce valuable and productive governance systems and veer away from or reform harmful ones?

A polycentric approach to modeling governance should be distinguished from strategies for dealing with social complexity that are anchored explicitly in assigning priority to advancing individuals' interests and identities. These are often derived in one of several possible ways from liberal political philosophy, such as utilitarianism, or one or more versions of a "capabilities" approach to human flourishing. They typically rely on adjudicative and other dispute resolution mechanisms that are anchored in reasoned deliberation by appropriately situated individuals.²²²

For a concrete illustration of the difference, one may look at the use of algorithms in decision-making contexts and ask whether their design and administration are consistent with underlying normative values that we associate generally with individuals situated in the liberal tradition, such as personal dignity, autonomy, and capability.²²³ The question is whether use of the technology is justified within some legal practice or related system of order. One assumes that the liberal individual is the system's subject and object and asks broadly, and in multiple ways, whether the system respects those values.²²⁴ We ask

221. See generally Gerald Gaus, *What Might Democratic Self-Governance in a Complex Social World Look Like?*, 56 SAN DIEGO L. REV. 967 (2019); Gerald Gaus, *The Complexity of a Diverse Moral Order*, 16 GEO. J.L. & PUB. POL'Y 645 (2018).

222. See *The Common Good*, STAN. ENCYC. OF PHIL. (Feb. 26, 2018), <https://plato.stanford.edu/entries/common-good/> [<https://perma.cc/5TWB-SVQN>].

223. See AMARTYA SEN, *THE IDEA OF JUSTICE* 83 (2009).

224. See *id.* at 83–86.

about the dignity, autonomy, and capabilities of the liberal individual when algorithmically augmented decision-making is examined via constitutional norms of due process: impartiality, inclusion, consistency, explainability, and, at times, accounting of substantive fairness.²²⁵ Institutions, organizations, and practices build on the foundations that follow that examination.

A different and also important perspective is available. In the real world, liberal individuals are situated in institutions and social context, often precisely because individual understandings and identities shape a multiplicity of evolving embodiments of liberal values, and people need to live and work in groups to collaborate and solve problems.²²⁶ Individuals do not merely cooperate and encounter conflicts within a given institution or system; institutions and systems themselves offer multiple and sometimes conflicting visions and mechanisms of coordination and dispute resolution.

Social and economic theory can take institutions and practices not only as products of governance choices made to advance individual interests but as potentially autonomous or semiautonomous actors, with their own sets of internal values, norms, and practices, including those directed to epistemology, communication, behavior, and decision-making.²²⁷ These are obviously critical to social life. We can study them as law, as in the design of the institutions of government itself, and as law-like, as in the design of governance. The line between the two is often blurry and can be captured, described, and assessed in the language of complex social systems as systems, with inputs and impacts of different sorts at multiple scales simultaneously, and with feedback loops and other dependencies among them and within them.²²⁸ A modeling approach that foregrounds all of those things is attractive and useful in light of the complexity of actual social life. Polycentricity offers such an approach.

B. Soccer as a System of Systems

As a polycentric social system, soccer itself is a magnificent expression of both individual and systemic order and disorder, with player, team, and officiating roles, rituals, and performances that are

225. See *supra* notes 11–18 and accompanying text.

226. See Michael J. Madison, *Social Software, Groups, and Governance*, 2006 MICH. ST. L. REV. 153.

227. See DOUGLASS C. NORTH, INSTITUTIONS, INSTITUTIONAL CHANGE AND ECONOMIC PERFORMANCE 59 (1990).

228. See MEADOWS, *supra* note 211; Christian Turner, *Models of Law*, 2018 U. ILL. L. REV. 1293, 1302–03.

specified foundationally by historical, cultural, and social norms of play. Play on the field in a specific match is a system of localized beliefs and behaviors. That match is grounded within the collective of matches through history that is itself a system, the collection of related beliefs and behaviors referred to as “soccer.” We may think of these systems as specific and general cases of the so-called rules of the game,²²⁹ that are grounded in part in the Laws of the Game. Refereeing, drawing on the Laws and expressing them in practice, is a system in both game-specific settings and throughout soccer that exists within and also alongside the play of the game and soccer’s other attributes.

To generalize in governance terms, both individual autonomy and collectives as agents drive the sport, in both specific matches and across time, with sizable degrees of fluidity, unexpected behaviors, and substantial limits on information relevant to individual and collective decision-making. Individual beliefs and performances may be motivated by constraints and capabilities associated with the human imagination, training, material affordances of equipment and the playing surface, and the Laws, as interpreted and applied. Individual expression of these sorts is also affected by national or local culture, coaching influences, or other things, as well as sheer opportunity. The residue of individuality is so substantial, by general consensus, that some commentators suggest that individual moves on a soccer pitch achieve levels of human creativity that justify designating them as copyrightable works. Soccer players are arguably autonomous authors.²³⁰ These are individuals governing themselves and being governed by external authorities.

On the field, individual contributions are combined into and nested within group governance in distinctive ways. Formally, of course, individual players are combined into teams and leagues. In many countries, subsidiary, less competitive leagues are nested below higher tiers so that winning teams are promoted from below at the end of the league season and losing teams are relegated from above.²³¹ Regardless of their league standing, professional clubs are members of national federations or associations. Those national organizations are

229. See Douglass C. North, *Institutions*, 5 J. ECON. PERSPS. 97, 98 (1991).

230. See Jonathan Griffiths, *Dematerialization, Pragmatism and the European Copyright Revolution*, 33 OXFORD J. LEGAL STUD. 767, 770–71 (2013).

231. The promotion-relegation system serves partly to preserve a certain level of competitive interest in soccer among players and fans because newly promoted teams typically receive a substantial economic windfall by virtue of participating in a higher tier, and also partly to compress the economic value of the most successful teams. Even a modest risk of relegation means that top performing soccer teams are worth less in market terms than their counterparts in sports without relegation systems. In short, soccer governance is modestly redistributive. See KUPER & SZYMANSKI, *supra* note 35, at 88–91.

members of the international governing body, FIFA, which sets global standards of play, coordinates international play, and now manages related marketing and broadcasting. They also participate in governance by regional bodies, such as the Union of European Football Associations (UEFA) in Europe. Those are technically subsidiary to FIFA but reserve and exercise substantially greater power relative to league organization and regional competitions.

Expressively and functionally, governance by and of soccer's collectives has important informal attributes as well, consisting largely of distinctive team-, club-, and even nation-specific performance that spans a range that complements the range of individual performance. Soccer celebrates teams for their expressive transcendence as well as their competitive success, along with individual players of extraordinary skill. The Brazilians of the 1960s and World Cup champions in 1970 gave us the idea that soccer was *o jogo bonito*, or the Beautiful Game.²³² The Dutch system of Total Football, pioneered on the pitch under the leadership of Johan Cruyff in the 1970s, featured an attractive and influential adaptive pattern of play, with individuals not tethered to specific roles or positions.²³³ The Magical Magyars, the national team of Hungary in the 1950s, are still remembered for their style and success.²³⁴

Collective governance of this sort is both product of and prompt for individual identity and influence. The gifts of a player such as Lionel Messi have little meaning or value outside of his play for Barcelona, and Barcelona's successes during Messi's tenure would have been impossible without Messi and other players of shared temperament and talent.²³⁵ The governance system that is collective performance in specific matches and across time is the product of the players. The players are also organized by and through governance at the collective level.

When one looks at the game as a supporter or fan rather than as a player or coach, a similar and related governance blend of the personal and the collective is apparent in both informal and formal ways. This is often particularly pronounced in countries with long-standing soccer traditions that associate clubs and towns. In some countries, one is said

232. See DAVID GOLDBLATT, *FUTEBOL NATION: THE STORY OF BRAZIL THROUGH SOCCER* vii, 251 n.2 (2014).

233. See DAVID WINNER & FRANKLIN FOER, *BRILLIANT ORANGE: THE NEUROTIC GENIUS OF DUTCH SOCCER* (2008).

234. See DAVID BAILEY, *MAGICAL MAGYARS: THE RISE AND FALL OF THE WORLD'S ONCE GREATEST FOOTBALL TEAM* (2019).

235. See JONATHAN WILSON, *THE BARCELONA INHERITANCE: THE EVOLUTION OF WINNING SOCCER TACTICS FROM CRUYFF TO GUARDIOLA* (2018).

essentially to be born into the fact of supporting a local club, so that individual, collective, and team identities are deeply rooted in place and history.²³⁶ Fan organizations may be well organized and formal, political and even violent, and sometimes both.²³⁷ In other words, fans govern their own contributions to soccer and what they take from it, both collectively and personally, and that governance is entangled with other forms of order: formal and informal supporters' groups relative to clubs and teams themselves, to other supporters' groups of the same or rival clubs, and to the state.

Formal, positive law itself extends from society at large into the worlds of soccer at national and sometimes regional levels, blending with internal soccer-specific administration by clubs and federations. The play of the game is nested within broader social systems of governance, and the particulars of those systems affect many of the details of the day-to-day administration of the sport. Labor, employment, enterprise, commercial, and unfair competition and antitrust laws for soccer players and organizations vary from country to country.²³⁸ In England, the Football Association is a private company that supervises organized soccer in several divisions.²³⁹ The top domestic division was formerly the First Division but was reorganized in the mid-1990s into a separate private company, the Premier League, which is owned by the twenty member teams of that league during any particular season.²⁴⁰ In France, the French Football Federation is subordinate to the national government, in the form of the Ministry of Youth Affairs and Sports, giving the government a distinctive and sometimes confusing governance role relative to league and club organizations.²⁴¹ In Germany, ownership of top division clubs, in the league known as the Bundesliga, is heavily regulated to protect ownership of clubs by individual supporter organizations and exclude the possibility of control by large-scale corporate and state interests.²⁴² Broadcasting rights and sponsorships vary between federations and

236. See Bromberger, *supra* note 154, at 303.

237. See TIM PARKS, *A SEASON WITH VERONA: TRAVELS AROUND ITALY IN SEARCH OF ILLUSION, NATIONAL CHARACTER AND—GOALS!* (2002).

238. See *WHO OWNS FOOTBALL?: MODELS OF FOOTBALL GOVERNANCE AND MANAGEMENT IN INTERNATIONAL SPORT* (David Hassan & Sean Hamil eds., 2011).

239. See *Who We Are: The FA Structure*, FOOTBALL ASS'N, <http://www.thefa.com/about-football-association/who-we-are/structure> [<https://perma.cc/A2SX-MV7V>].

240. See *About the Premier League*, PREMIER LEAGUE, <https://www.premier-league.com/about> [<https://perma.cc/PJ97-G5RW>].

241. See Elian Peltier, Tariq Panja & Rory Smith, *How French Soccer Fell Apart*, N.Y. TIMES (June 12, 2020), <https://www.nytimes.com/2020/06/12/sports/soccer/france-ligue-1-soccer.html> [<https://perma.cc/5PML-MVYD>].

242. See *German Soccer Rules: 50+1 Explained*, *supra* note 68.

leagues with respect to how legal exclusivities are marketed and revenues are collected and possibly shared. When the French national team meets Germany on the field, or when leading Parisian club Paris St. Germain meets leading German club Bayern Munich, the players are competing on a level field of play with a common set of Laws and norms of play, but they are situated in distinct, if linked, governance matrices defined by the law.

To return to refereeing, the beliefs and behaviors of the referee, together with the Laws of the Game, comprise a system of their own. That system defines the conditions of play, so it might be said that individual governance and collective governance are nested within them, combining to form what was referred to earlier as the rules of the game. In a different and equally important sense, the play of the game and collective governance commonly take cultural precedence over refereeing as such. Fans watch the game, not the referee. Match results identify the winning team, not the referee's performance. It might be said that governance by and through the referee, and the community of referees through time, is nested within the broader social world of soccer as a whole.

Both perspectives are valuable; neither is uniformly better nor correct. The point is that referees and their performances constitute a system that is both partially autonomous of and interdependent with other systems and that, jointly, produce soccer in a specific match and as a cultural practice. The referee's performance in a specific game helps to govern and define that game. In the aggregate, those game-specific performances govern and define soccer as a whole. Player, team, league, federation, supporter, sponsor, and broadcaster contributions do the same, at micro and macro levels. As Julie Cohen wrote, humans need play, conceptually and emotionally as well as physically,²⁴³ and that means looking to and understanding opportunity and conditions for play and its limitations. That need for play applies throughout this system of systems, to players, referees, fans and supporters, and others. In each instance, play for individuals and for groups takes shape within evolving and sometimes unsettled frameworks of rules, norms, expectations, experience and history, practices, and law.

C. Visualizing Soccer as a Social World

Picture soccer as a polycentric system broadly as a spongy, flexible sphere (that is, a three-dimensional object) whose size and

243. See COHEN, *supra* note 52, at 32–57.

shape are defined by the Laws and by soccer's normative expectations, its history, and its collective practices and social norms.²⁴⁴ Soccer insiders may be reminded of a quotation from the German manager Sepp Herberger, who led West Germany to the World Cup title in 1954: "The ball is round. The game lasts 90 minutes. This much is fact. Everything else is theory."²⁴⁵ The spongy shell of the sphere signifies that it is practical and intelligible to speak of soccer, like any other complex social world, as not entirely autonomous of other social worlds, including physical reality, but not entirely of them, either.

The sphere begins with some elasticity, retaining its elementary shape over time, as well as plasticity, sometimes durably distorting or extending. The sphere is intercut internally with horizontal layers of different thicknesses and widths, bottom to top: youth soccer, amateur soccer, and professional soccer, perhaps with sublayers in between, where each layer is a sort of governance "center" that consists of additional "centers": individual players and other actors, many of them formed into teams, clubs, leagues and competitions.

Each layer is abuzz with individual and collective activity relative to that layer, diffusing and absorbing knowledge and influence via blends of conceptual, material, functional, and expressive attributes. Some links among individuals and entities are tighter and some are looser. Some are more formal, some less so. Even within a given layer, some of those connections will be hierarchical, some not. The boundaries of each layer may be more or less porous, and both the boundaries and their relative porosity may change over time. The boundary between amateur soccer and professional soccer is usually robust, but the roles of amateurs and professionals in different competitions have shifted back and forth through history.

The sphere is likewise intercut internally with vertical slices of various characters, also centers of centers, likewise round and having various widths, signifying related conceptual, material, functional, and expressive attributes and representing connections among the horizontal layers. The vertical slices also represent semiautonomous governance centers of their own that span the horizontal layers. Like those horizontal layers, some of these are largely internal to the world of soccer, such as FIFA, national federations, and subsidiary soccer organizations. Some are formal, such as those organizations. Others are

244. Spheres of different sorts figure prominently but abstractly in sociological research. See KENNETH ALLAN, *CONTEMPORARY SOCIAL AND SOCIOLOGICAL THEORY: VISUALIZING SOCIAL WORLDS* (2d ed. 2011).

245. Stanislaw G. Pugliese, *Preface* to *FOOTBALL AND THE BOUNDARIES OF HISTORY: CRITICAL STUDIES IN SOCCER*, at vi (Brenda Elsey & Stanislaw G. Pugliese eds., 2017) (quoting Josef (Sepp) Herberger, manager of West Germany, champions of the 1954 World Cup).

partly formal and partly conceptual, such as officiating. Vertically oriented slices include communities, countries, regions, and similar geographic interests both small and large; and other identities and interests of different sorts. Still others are principally conceptual, such as shared histories and stories that players and supporters tell to maintain their identities and relationships.

Some vertical slices, again having various widths and breadths, extend beyond the boundaries of the sphere, in part, weave together with the internal slices, such as federations, in representing both connections among the horizontal layers and also connections between the social world of soccer and other, adjacent identities and social worlds: equipment and technology suppliers; media and marketing; labor, employment, and trade law; finance, international relations, leisure, and entertainment sectors, industries, and communities; and normative values of various sorts, such as fairness, equity, and justice, among other things. The practices, expectations, and experiences of women in soccer represent one of these crosscutting vertical slices, touching all aspects of the game itself but also intersecting importantly with interests and practices beyond it.

Each layer and slice is animated internally by practices and values of individuals and collectives, meaning that each layer and slice consists of its own (potentially polycentric) system, with its own sources and systems of individual and institutional power, adaptability, and evolution and its own equilibrium. Those sources and systems may operate at multiple scales simultaneously, from the micro level of diverse individual motivation, agency, interpretation, and strategies for cooperation and competition; to the intermediate level of collective action and group dynamics; to the macro level of cultural patterns and institutional evolution.

One should imagine the possibility of conceptual directional arrows signifying communication, power, and other output moving from lower levels to higher levels. One should also imagine similar arrows extending downward from higher to lower levels and arrows extending between slices. The roughly circular shape of each layer and slice and the spherical shape of the entire model embody a critical feature: the feedback-driven character of the entire system and each layer and slice within it.

In other words, the energy of each layer and slice is partially expressed in temporally linear terms, games producing outcomes, for example; partially in recursive terms, games and outcomes reproducing the identity of that layer, for example; and partly in complex terms that express the relatedness and togetherness of relevant phenomena without specifying their roles or influences too tightly. Both productive

and harmful spillovers from one layer to the next, from one slice to the next, and even between layers and slices are to be expected. Late nineteenth-century English soccer learned a lot about building a professional sports league from its counterpart, early American baseball. Organized soccer originated in England and Scotland and spread around the world initially largely via the habits and interests of empire, in the form of English civil servants and the global affairs of English businesses.²⁴⁶

Finally, and despite the implicitly planetary character of the spherical image, there is no necessary core to the model or to the systems-within-systems polycentric concept that it is meant to embody. Like a soccer ball, the inside is a secure bladder, inflated to a certain pressure with air. It has a conceptual boundary, which defines its overall spherical shape. The sphere is given momentum by applications of energy from the outside—in soccer, a player’s foot; in the model, both money and intrinsically motivated contributions of time, expertise, and emotion. The sphere interacts with forces beyond it. In soccer, those include principles of aerodynamics and physics; in the model, those include values of sport in society. The sphere is partly plastic and partly elastic; it may be reshaped under pressure, but it may also be restored to its original shape. Real soccer balls may absorb moisture and get heavy in wet conditions; they may be permanently damaged or, with modern materials, may retain their shape and weight. The sphere may be connected or networked to other technologies as modern soccer balls may be with embedded sensors, making it a so-called smart sport, responsive to external conditions in all kinds of novel ways. The metaphor and conceptual imagery can be extended and modified almost endlessly.

The visualization and the related questions are inspired by but are not built directly on research on multidimensional networks specifically and multiplex or multilayer networks generally.²⁴⁷ But the model here is intended to describe ideational concerns, power, control, and normativity as well as roles and social functions within and across communications networks. Spheres and layers and slices begin the modeling process. The primitive visualization extends it, prompting

246. See GOLDBLATT, *supra* note 35, at 85–170.

247. See generally Noshir S. Contractor, Peter R. Monge & Paul M. Leonardi, *Multidimensional Networks and the Dynamics of Sociomateriality: Bringing Technology Inside the Network*, INT’L J. COMMC’N, Apr. 2011, at 682 (2011); Martijn J. Burger, Bert van der Knaap & Ronald S. Wall, *Polycentricity and the Multiplexity of Urban Networks*, 22 EUR. PLANNING STUD. 816 (2014); Adam L. Hayes & Tyler A. Scott, *Multiplex Network Analysis for Complex Governance Systems Using Surveys and Online Behavior: Multiplex Analysis of Governance Networks*, 46 POL’Y STUD. J. 327 (2018).

other, helpful questions: where do the layers and slices and the overall dimensions of the sphere come from, and what widens them and narrows them? Are there spheres within spheres? Are some elements relatively fixed, or given, and others variable, or variable across a broader range? How do different layers and slices and their constituent actors justify their roles relative to questions of trust and authority?

The key point is simple. We can visualize a model of polycentricity that synthesizes a multiplicity of perspectives on a complex social phenomenon into a tractable object that can help analysts highlight governance problems and issues. Polycentricity points out the multiple sources of equilibria and ways in which those equilibria are disrupted, for better or for worse, putting the sphere out of shape to an acceptable or unacceptable degree. Which layers or slices should be the focus of interest? What scale of activity should attract interest? Should we focus on inputs, outputs, processes, or feedback loops relative to those layers or slices? Is there a normative shape to the result that ought to be safeguarded? Polycentricity puts complexity into context in a reasonably legible way. The sphere puts that conclusion into concrete form.

All of this comes at certain costs. A systematizing, institutional approach risks masking critical sources of heterogeneity in human interest, identity, motivation, and behavior beneath layers of perceived pattern and even uniformity. The approach comes with no generally accepted and strong, independent vision of the good, at either collective or individual levels, although suggestively, a vision of the good might be anchored in the self-governing, self-organizing properties of a pluralistic system itself.²⁴⁸ As Elinor Ostrom cautioned repeatedly in her work, this is no panacea. Polycentricity should be applied, regardless of method, with a great deal of intellectual (and other) humility.²⁴⁹

D. Human-Machine Hybrids in Polycentric Contexts

Having set out a polycentric approach to governance questions in general and having derived it and mapped it in part relative to soccer, this Article returns to the question of human-machine interactions and decision-making. Questions of human-machine combinations in public decisional settings such as judging, private regulatory settings such as credit scoring and platform moderation, and other rule enforcement

248. See Gaus, *What Might Democratic Self-Governance in a Complex Social World Look Like?*, *supra* note 221, at 1003–07.

249. See Elinor Ostrom, *A Diagnostic Approach for Going Beyond Panaceas*, 104 PROC. NAT'L ACAD. SCI. 15181 (2007).

settings such as smart cities and smart contracts can be described and evaluated under the rubric of polycentric governance. Significant opportunities and concerns relative to various human-machine combinations present questions of algorithmic justice and augmented enforcement relative to individual dignity and autonomy and institutional authority and legitimacy. Both individual and institutional attributes are features of systems, systems within systems, and systems overlapping with other systems.

Answering those questions in any particular context means approaching the task by analogy to what this Article proposes relative to refereeing in soccer. One should construct the relevant social world, including its internal systems (communities, groups, individuals, roles, interests, opportunities, and constraints; inputs, outputs, and values; formal and informal laws, norms, and expectations; sources of stability and instability); how those systems are coordinated to comprise that world; and how they construct connections between that world and others. Which decision-making centers are autonomous, which are semiautonomous, and which are neither, and how do those centers function in each instance, relative to that world and to social worlds beyond?

Socio-technical and socio-legal perspectives are critical tools in this project. If the challenge to be addressed is a challenge posed by a novel human-machine combination as it is in the soccer example, then that construct is the target domain for a series of specific questions: in what respects does the human-machine combination solve problems associated with, produced by, or endemic to that system-based construct—that is, deal with sources of disequilibria in the model as a whole or in part? In what respects does it create different problems or produce costs or harms? By what standards do we ask these questions and justify the answers?

Those few steps give a systematic character to research and recommendations in algorithmic justice and augmented decision-making domains.²⁵⁰ That research includes genuine substantial concerns over biases and power inequities in data collection practices that feed algorithmic systems.²⁵¹ It includes meaningful

250. On generalizability, see John Nay & Katherine J. Strandburg, *Generalizability: Machine Learning and Humans-in-the-Loop*, in RESEARCH HANDBOOK ON BIG DATA LAW (Roland Vogl ed., forthcoming May 2021), <https://ssrn.com/abstract=3417436>. On systematizing research on data and information, see Michael J. Madison, Brett M. Frischmann & Katherine J. Strandburg, *Constructing Commons in the Cultural Environment*, 95 CORNELL L. REV. 657, 664 (2010).

251. See SAFIYA UMOJA NOBLE, ALGORITHMS OF OPPRESSION: HOW SEARCH ENGINES REINFORCE RACISM 1–2 (2018).

questions about biases and power inequities in the design of algorithmic systems, in terms of the who (who designs, who supervises, who approves), the what (what code, what system architectures), the where (which governance systems are subjected to algorithmic treatment), and the how and the why (how and why it is, precisely, these systems persuade).²⁵² It addresses the lack of consistent standards for determining appropriate levels of transparency, consistency, and accountability with respect to how algorithmic systems are deployed and used in practice.²⁵³ It details the lack of explainability and reproducibility in computationally enabled processes and outcomes.²⁵⁴ It focuses on the lack of clear and consistent understandings and descriptions of problems associated with existing human-machine systems that ostensibly justify novel human-machine interventions. It sketches visions of humanity and humanism that are often underspecified but essential subtexts in current governance environments.

Yet that research is sometimes quite problem specific, making it difficult to imagine developing a more general usable vision. And it is sometimes so grounded in general, normative visions that it is difficult to build specific, durable, resilient functioning systems on their foundations. Part VI offers a middle ground, using a generalized polycentric approach to explore the challenges and opportunities of human-machine combinations in soccer refereeing in detail.

VI. VAR AND SOCCER JUSTICE

The call for a systems-within-systems, polycentric view of human-machine interaction is new only to a point. More important is the extended illustration here, soccer refereeing, to which this Part returns. In what respects does using a polycentric approach help in revisiting referees and VAR, and in what respects does the case of the soccer referee help in understanding the strengths and weaknesses of a polycentric approach?

A. VAR in Itself

VAR is in fact “the” VAR rather than only “VAR,” despite the usage earlier and common usage around soccer. Linguistically, VAR likely refers to a machine. In a telling bit of reverse anthropomorphism,

252. See Alexander Campolo & Kate Crawford, *Enchanted Determinism: Power Without Responsibility in Artificial Intelligence*, 6 ENGAGING SCI., TECH. & SOC’Y 1 (2020).

253. See Goodman & Powles, *supra* note 17, at 466–67.

254. See PASQUALE, *supra* note 12.

the language of soccer fans, players, administrators, broadcasters, and even scholars typically skips over the fact that *the VAR* is a human being—the Video Assistant Referee—a trained and licensed referee who is in a television studio rather than on the soccer pitch during a particular match. The VAR, sometimes assisted by an AVAR, or Assistant Video Assistant Referee, and by one or more technicians and video operators, can access feeds and recordings from multiple cameras positioned around a soccer stadium and review them, at regular speed and in slow motion, to participate in certain referee calls on the field, in near to real time.²⁵⁵

“Goal line” technology to determine whether a ball has fully crossed the goal line has been approved by the IFAB and FIFA since 2012, but only in 2018 was the Video Assistant Referee system approved by the IFAB and implemented broadly in domestic and international play.²⁵⁶ That was long after similar replay systems were adopted in American football, basketball, ice hockey, and baseball, reflecting the slow-moving culture of soccer’s formal governance and strong, historically grounded resistance to potentially disruptive change.²⁵⁷ Though long under consideration, the VAR system has been deployed broadly and swiftly in high profile settings. The men’s World Cup finals in Russia in 2018 was the first major international tournament to use a VAR system. VAR was also in place for the women’s World Cup finals in France in 2019.²⁵⁸ Top-division domestic leagues have implemented VAR technology in England, Germany, Italy, and Spain, among other places—the largest professional leagues by

255. See *Video Assistant Referees (VAR)*, FIFA, <https://football-technology.fifa.com/en/media-tiles/video-assistant-referee-var/> [https://perma.cc/BR45-ACKP] (last visited Dec. 17, 2020); *VAR at the 2018 FIFA World Cup*, FIFA, <https://football-technology.fifa.com/en/innovations/var-at-the-world-cup/> [https://perma.cc/V9V3-B66M] (last visited Dec. 17, 2020); IFAB LAWS 2020/21, *supra* note 2, at 141–48.

256. See *Historic Step for Greater Fairness in Football*, IFAB (Mar. 3, 2018), <https://www.theifab.com/news/historic-step-for-greater-fairness-in-football> [https://perma.cc/K2FN-9XA2]; Samuel Gibbs, *World Cup Goalline Technology: How Does It Work?*, *GUARDIAN* (June 6, 2014, 7:38 AM), <https://www.theguardian.com/technology/2014/jun/16/world-cup-goalline-technology-football-brazil-2014> [https://perma.cc/KG53-F7VX].

257. Representative of traditionalist attitudes is Tim Fontenault, *World Football: Why FIFA Should Not Implement Goal Line Technology*, *BLEACHER REP.* (May 9, 2011), <https://bleacherreport.com/articles/694637-world-football-should-fifa-implement-instant-replay-to-review-goals> [https://perma.cc/SK8H-U7QW]. Testing of what became the VAR system was approved in 2016. See Wayne Epps, Jr., *Testing a Replay System to Give Soccer Referees Another Set of Eyes*, *N.Y. TIMES* (July 20, 2016), <https://www.nytimes.com/2016/07/21/sports/soccer/testing-a-replay-system-to-give-soccer-referees-another-set-of-eyes.html> [https://perma.cc/XQK9-WY26].

258. See Sean Gregory, *What Is VAR? Soccer’s Video Review Is Making a Mess of the Women’s World Cup*, *TIME* (June 24, 2019, 6:36 PM), <https://time.com/5613165/var-womens-world-cup-soccer/> [https://perma.cc/8MTD-CHZD].

revenue and most salient with respect to media and fan attention, and by general understanding the highest quality in terms of standards of play.²⁵⁹

The technical specifications sanctioned by FIFA are standard across competitions, but variation in implementation is permitted from federation to federation, that is, from league to league.²⁶⁰ Play is recorded by video cameras mounted around the stadium. The footage is reviewable by trained referees located away from the pitch. They may be located elsewhere in the stadium or off-site in a central location. English Premier League VAR officials are stationed at the league's VAR Hub in London, for example.²⁶¹ The German Bundesliga stations its VAR reviewers in Cologne.²⁶² VAR officials can communicate with the center referee on the pitch by voice and by buzzer. Voice communications link earpieces worn by the center referee and the assistant referees; the buzzer is part of the referee's smart watch, which is also synchronized with automated goal line monitoring systems. Communication may be initiated at either end of the system. The center referee may ask for assistance from VAR officials; VAR officials may initiate a review on their own and contact the referee on the pitch. The referee may rely on the VAR's consulting and advising by voice alone, or the referee may choose to review video replays independently in an OFR, short for on-field review, or in an RRA, a designated referee review area adjacent to the pitch.

Neither players nor coaches have the power to solicit VAR input or review of a referee's judgments. The center referee maintains the power to render final judgments on the field. But the referee is also empowered to reverse a previously announced judgment after consultation with VAR officials. The referee may have stopped play and awarded a free kick; that decision may be reversed. The referee may

259. See Bobby Vincent, *The Two Big Differences in Premier League's Use of VAR Compared to Other Major European Leagues*, FOOTBALL.LONDON (Apr. 8, 2020, 6:00 PM), <https://www.football.london/premier-league/var-premier-league-most-used-18064430> [https://perma.cc/449A-6U2L].

260. As of July 1, 2020, FIFA took on responsibility for overseeing VAR implementations, taking over that role from the IFAB. FIFA's stated goal is to bring greater consistency to interpretations of the Laws of the Game. See *FIFA Referees Boss Steps in to Bring Order to VAR Chaos*, INSIDE WORLD FOOTBALL (July 10, 2020), <http://www.insideworld-football.com/2020/07/10/fifa-referees-boss-steps-bring-order-var-chaos/> [https://perma.cc/Q29F-DPKL].

261. *VAR Hub Explained*, PREMIER LEAGUE (July 30, 2019), <https://www.premier-league.com/news/1297446> [https://perma.cc/FH5N-SZDV].

262. *Soccer Rules: How VAR Video Assist Works in Germany*, BUNDESLIGA, <https://www.bundesliga.com/en/news/Bundesliga/soccer-rules-how-does-var-video-assist-work-in-germany-474105.jsp> [https://perma.cc/T38E-NH2L] (last visited Dec. 17, 2020).

have decided not to stop play or award a free kick; that decision, too, may be reversed.

Certain judgments are reviewed as a matter of course: whether a goal was scored and whether a goal was the product of unfair play, such as a player in an offside position; whether a player should have been ejected; and whether a penalty kick should have been awarded. Questions of mistaken identity, such as the case of a player being mistaken for another and being ejected in error, are reviewable by VAR. Other discretionary judgments are ordinarily not reviewed, including judgments to penalize a violent tackle (or not), to stop play for a handball, and advantage calls. On the whole, implementations of VAR are intended to draw distinctions between game-changing and potentially game-changing referee judgments, which are reviewed, and so-called ordinary referee judgments, which are not.

VAR engagement in the referee's decisions is governed formally by a standard of review: the VAR may "assist the referee only in the event of a 'clear and obvious error' or 'serious missed incident.'"²⁶³ In principle, machine assistance is offered not to ensure that every judgment is clearly correct, but to correct judgments that are clearly wrong.

In a sport that is as fluid as soccer often is, that line is unclear at best. What it means in practice is almost entirely unknown because official, authoritative accounts of specific reviews are rarely published, and it may be changeable as the capabilities of the technology evolve. In its current form, the VAR is one human being, aided by technology, assisting another human being. The former is unseen, novel, and represented publicly by screen-based text and video replays of match sequences; the latter is on display, on the pitch. But the current "referee-plus-the-VAR" human-machine blend is in many respects a short but significant step removed from "referee-plus-whistle-plus-assistant referees" human-machine blend. The subjectivity of expert human observation and judgment, enhanced by the center referee's possibly consulting other referees on the pitch, has been replaced by the arguably more objective blend of expert human observation enhanced by access to high-quality video recordings. That blend, rather than the video technology alone, is the VAR system.

Changes to the VAR system are likely to come and come swiftly, sharpening the question. Researchers in artificial intelligence and predictive analysis have been working for some time on bringing

263. IFAB LAWS 2020/21, *supra* note 2, at 77.

machine-learning techniques to sports broadcasting.²⁶⁴ Computer algorithms enriched with enough video data may be able to predict how patterns of play unfold, helping video producers assemble highlight sequences automatically and, perhaps, by matching video to referee judgments, refining an automated system of applying the Laws of the Game. One should not underestimate the possibility of spillovers from algorithmic application of referee judgments within the *FIFA* video game, a massively popular title published by Electronic Arts, into refereeing of actual human soccer matches. The VAR system was ere conceived initially as part of a program to “reinvent refereeing.”²⁶⁵ VAR technology may well improve to the point where human analysis could play a smaller or even nonexistent role in all refereeing.

The referee’s judgment is no longer sovereign right now. Augmented refereeing is here. Algorithmic refereeing is at the door.

B. The Problems That VAR Solves

This Section describes and assesses the VAR system in the context of soccer as a whole using a more analytic, systematic technique motivated by a focus on polycentricity and systems. The earlier narrative review of soccer remains substantively relevant because it offers a pool of key attributes for attention and analysis. The question is no longer context and interpretation writ large but instead description and justification in terms of a specific slice of soccer, the functions of the referee.

What problems does the VAR system solve, or purport to solve? They are, on the whole, related to the referee’s law-like roles in ensuring and providing soccer justice in a particular game and in a particular moment. Explanations and justifications of justice in this sense have a law-like character, in the specific sense that the usual suite of problems are those associated with processes and results of legal systems generally rather than anything specific to soccer: the referee’s judgments should be error-free, fully informed, consistent, predictable, impartial and unbiased, and explainable. In short, justice tends to have a specific and individually focused character, and the VAR system arguably does a better job of delivering it than the referee can deliver alone, even with human support.

264. See Laney Lewis, *How AI Will Change Live Sports Broadcasting*, IBM WATSON MEDIA (Sept. 28, 2017), <https://blog.video.ibm.com/ai-video-technology/how-ai-will-change-live-sports-broadcasting/> [https://perma.cc/UZ6T-733F].

265. João Medeiros, *The Inside Story of How FIFA’s Controversial VAR System Was Born*, WIRED (June 23, 2018), <https://www.wired.co.uk/article/var-football-world-cup> [https://perma.cc/3S76-DUQW].

1. Error Correction

At its best, the VAR system ensures that errors are promptly corrected and do not affect match outcomes. Even the most well-trained, highly motivated expert referee cannot be certain that every judgment is correct. In the Laws, in the culture and history of the game, and in the practical world of play, the referee's words and decisions traditionally go unquestioned and unreviewed. Errors can and have led to goals being given that should have been disallowed, players ejected who should have been allowed to remain on the field, and the reverse in both cases. The implications of errors may be far from trivial: match outcomes may depend on a referee's calls. Money and careers depend on them. Dignity and emotions are at stake, among both players and fans and supporters. When soccer is viewed objectively, it is reasonable to expect that a socio-technical referee should be accurate, punish what should be punished, reward what should be rewarded, and correct errors when the capability to do so exists.²⁶⁶

2. Information Gaps

With its television cameras and capacity for slow-motion replays while play is stopped, at its best the VAR system cures referees' information gaps. Referee errors are caused by many things, but the most fundamental and elementary of them is the fact that the referee literally cannot see everything on the field all at once, or with sufficient speed and breadth to see everything that matters, all the time.²⁶⁷

There is an abundance of sound and image. Almost none of it static; it is both moving and changing quickly in time and space. It is sometimes concentrated in a small portion of the pitch and sometimes distributed broadly across the entire space. Much of the activity that generates data for analysis and decision takes place at varying speeds with multiple actors: a ball that may be static and that may be struck at speeds of up to nearly eighty miles per hour, some quicker players, and some slower players. Activity by some key players is sometimes masked by activity of other players or is not perceivable with ordinary, or even extraordinary, capabilities supplied by human biology. The principle of offside captures a moment in time when the offending player is positioned too close to the goal relative to opposing players. But the referee can rarely see, let alone visualize, the relevant moment in time. An offside position is a static concept that has to be applied to a dynamic pattern. Certain judgments explicitly or implicitly require

266. See COLLINS ET AL., *supra* note 29, at 11–15; Royce, *supra* note 54, at 63.

267. See COLLINS ET AL., *supra* note 29, at 19.

that referees assess a player's state of mind. Players know that they are being watched. Players try to time their movements to anticipate and forestall an offside call. In other cases, they may try to deceive the referee by feigning injury or hiding motions with their arms or hands. Sometimes, they succeed.

In a manner of speaking, there is both too much data and too little data for the referee to process. The problem is not merely the quantity of data in itself, but its large volume and incompleteness relative to the scale and speed of the referee's all-too-human powers to interpret it and act appropriately on it.²⁶⁸

3. Consistency

At its best, the VAR system ensures that like offenses are treated alike within games. Within a given game, there is no record of decisions for the referee to rely on, other than the referee's notes of the identities of players cautioned and ejected. The referee has only memory to rely on (memory that may be trained by prior experience in patterns of play and judgments made) in ensuring that judgments made—for example, regarding a certain type of violent tackle or a possible offside offense—will be judged consistently at the beginning of the match and again at the end, or with respect to the victimized team and player regardless of which opponent is involved. Consistency operates within boundaries. As noted earlier in Section IV.B, it has long been assumed that many judgments by the referee are discretionary to begin with. Collins, Evans, and Hitchens refer to the “misplaced fetish with accuracy” that drives this view.²⁶⁹

Players and observers may bring an expectation of close-to-perfect referee consistency with them, regardless. At their extreme, these expectations coalesce into the idea that there is something like a mythical, “Platonic” game being played, with every foul and violation accurately assessed by the referee. Goals are scored only according to unambiguously valid criteria, and the correct team prevails. The referee ought not to be a source of variation in competitive outcomes, differentiating the referee from rain-slicked turf that causes a ball to skid or the product of an unfortunately mistimed or misdirected kick.

268. See Bordner, *supra* note 54, at 89.

269. COLLINS ET AL., *supra* note 29, at 81.

4. Predictability

At its best, the VAR system ensures that refereeing styles and strengths are reasonably predictable from referee to referee. Refereeing styles and strengths vary from person to person just as playing styles and strengths vary from person to person and from team to team. Some referees may be known to allow rough play on a consistent basis; other referees may discipline rough play more harshly and more swiftly. Some referees manage a game via a continuing informal dialogue with team captains, while others are taciturn during play, communicating with players only via the whistle and arm and hand gestures. Some referees are former players; some have experience derived from long service and exposure to (often fast-paced) play in high-level competitions. Other referees are comparative novices, both as to time in service and as to the quality of the matches they officiate. From one league to another, such differences may matter relatively little. Within a given league or tournament competition, those variations may have more impact. A given team may face a lenient referee in one game, then be punished severely for similar tactics by a harsh referee in the next.

One may be concerned about selective enforcement or bias by a referee, in that certain players or teams are treated differently via the judgments of human referees from game to game rather than within games, and that certain referees are systematically predisposed in favor of or against certain players, teams, or even players or teams from certain regions.²⁷⁰ Predictability, like consistency, operates within the boundaries of human capability and the norms governing referee judgments, so perfect predictability and invariability are not the goals. But indulging the referee's humanity, a collective epistemic humility, has to have some limits.²⁷¹

5. Impartiality

At its best, the VAR system ensures that refereeing judgments are based on behaviors on the field rather than on predispositions of the referee. Alleged referee bias may stem from a number of sources. The most explicit is corruption in the form of bribery or other coercion. Subtler but still corrosive are biases, both conscious and subconscious,

270. Bias of this sort has been studied in professional basketball. See Elia Morgulev, Ofer H. Azar, Ronnie Lidor, Eran Sabag & Michael Bar-Eli, *Searching for Judgment Biases Among Elite Basketball Referees*, FRONTIERS IN PSYCH., Dec. 2018, at 1, 1. On evidence of home-field bias by referees in football, see Luis Garicano, Ignacio Palacios-Huerta & Canice Prendergast, *Favoritism Under Social Pressure*, 87 REV. ECON. & STAT. 208 (2005).

271. See Johnson & Taylor, *supra* note 54, at 155.

for or against teams and clubs associated with particular towns, countries, and regions. The perception of bias may be as problematic as bias itself. When it assigns referees to matches in the quadrennial World Cup finals, FIFA tries to avoid conflicts between the identities of the referees working a given match and the identities of the countries and federations represented on the field.

Referees may also be prone to bias in favor of or against particular players. In professional basketball, research has shown that “star” players are more likely to be the beneficiaries of referees calling certain fouls, especially during critical stages of the game.²⁷² Referees may be biased against players who are known for a violent streak, a quick temper, or a flair for melodrama.

6. Explainability and Transparency

At its best, the VAR system ensures a reasonable level of explainability and transparency to critical referee judgments, so that players and observers know that decisions were reasoned rather than random. Soccer referees have long faced no expectation to explain their actions to players or others. Even if one assumes a high degree of shared understanding regarding the norms of play, the lack of explanation can still be galling and disruptive in the moment and more broadly, especially when game-determining judgments are involved. Soccer nostalgists and philosophers focus on the flow of the game, the drama of soccer, and its narrative value as entertainment.²⁷³ They, like players, teams, and others, have trusted or been expected to trust the role of the referee and the expertise of the human referee in any particular game. A literary sensibility may suggest that players and observers *need* the referee as a focal point. Without hate for the referee, there can be no love of the game.²⁷⁴

But it has always been a fragile trust, and the errors described earlier illustrate its occasionally dramatic costs. At an ordinary level, the lack of explicit accounting by the referee threatens trust in the referee and confidence in the integrity of the game. At the least, lack of information means that observers and players have to speculate regarding the reason for the penalty kick, ejection, or disallowed goal, even if they might be able to watch a video replay on a broadcast or

272. See Steven B. Caudill, Franklin G. Mixon & Scott Wallace, *Life on the Red Carpet: Star Players and Referee Bias in the National Basketball Association*, 21 INT'L J. ECON. BUS. 245 (2014).

273. See Knight, *supra* note 34; Ryall, *supra* note 54, at 445, 448.

274. See GALEANO, *supra* note 70, at 11.

stream. The VAR system offers some measure of informational equality. The referee can decide on the same record that others use for debate.

C. The Problems That Remain

It is not obvious that any or all of the problems identified are actually addressed by the VAR system, let alone solved. VAR does not necessarily operate at its best. And it is not obvious that all of the problems addressed by VAR are problems today in greater proportion than in years past. It is all but impossible to measure VAR's alleged success in any meaningful way. There are no standards or metrics one could readily use. The VAR system might be more accurate, consistent, or unbiased relative to what? What is the significance of problems not solved and errors uncorrected? Continuing debate and controversy about VAR in general and about VAR in specific instances suggest that the relevant questions are not settled. Perhaps they cannot be.²⁷⁵

It may be fairest to suggest that there is a class of cases in which VAR engagement has been received without much debate, where the error correction function of the VAR system performed properly, promptly, and swiftly in reaching the right result. There is also a class of cases in which VAR has been controversial because processing and decision-making times have been slow; where use of the system has needlessly interfered with the emotional flow of the game; where the implicit reasoning of the VAR system, as it has fed referee decision-making, has been unclear, and where the VAR system has reached judgments based on what appear to be overly rigid applications of the Laws.²⁷⁶

The first group of cases goes to the idea that VAR is simply another tool of an adjudicator, a sporting analog to experts, special masters, and even mediators appointed by judges to help them resolve complex cases. Delays and interruptions are appropriate at times in the service of the greater goals of accuracy and fairness. The second group goes to the idea that VAR delegates complex human judgments to unaccountable and misleading expertise and is therefore disruptive of the established identities of the game and those who care about it.²⁷⁷ In

275. See Bordner, *supra* note 54.

276. See Tariq Panja, *V.A.R. Check: In Premier League, Almost No One Is Happy*, N.Y. TIMES, <https://www.nytimes.com/2019/11/23/sports/premier-league-var-mike-riley.html> [<https://perma.cc/3LE9-8YXJ>] (last updated Nov. 25, 2019).

277. Similar ontologically motivated arguments have been offered and rejected in litigation concerning intersections between the rules and identity of sport and public law. See *PGA Tour, Inc. v. Martin*, 532 U.S. 661, 690 (2001) ("Under the ADA's basic requirement that the need of a

a sense, soccer is a social practice built on analog interpretations of human belief and behavior; the activity exists on a spectrum of possibility and acceptability. The VAR system appears to convert that analog interpretation into digital form, consisting of a binary of right and wrong.

It is tempting to focus on problems of accuracy, consistency, and predictability because those issues are newly salient by virtue of the capabilities of the VAR system and other instant replay systems in sports. Soccer survived for well over a century without video-assisted review of erroneous and possibly erroneous referee judgments. There is no reason to assume that soccer is in danger now. Yet, that statement may miss the trees for the forest. The game as a whole may have thrived in a certain equilibrium, but at the expense of potential unmeasurable harm done to the dignity and the bodies of individual players, fans, and communities worldwide.

There are reasons to suspect that problems with refereeing capabilities and performances are more substantial today than before, to suspect that the VAR system has not addressed them fully, and therefore to expect that the VAR system will grow in power and impact, or that human refereeing is inescapable to some degree, or both.

1. Capitalism and Bureaucracy

The VAR system adds layers of bureaucracy, complexity, and cost to a sport that is already influenced heavily by sometimes unwieldy and sometimes corrupt blends of commercial interests and quasi-governmental hierarchy that converge both privately and publicly in FIFA, soccer's increasingly powerful central global governor.²⁷⁸ Within a game, VAR judgments are sometimes announced agonizingly slowly, deflating players and fans who may simply want to know whether or not a goal is truly a goal. Communication protocols between the referee on the field and the VAR team elsewhere can be fast, but sometimes not fast enough. Sometimes the referee needs or wants to look at the video replay directly. The systems are expensive to build and run, meaning that they are comparatively affordable to better-financed professional leagues²⁷⁹ and that developers and vendors

disabled person be evaluated on an individual basis, we have no doubt that allowing Martin to use a golf cart would not fundamentally alter the nature of [PGA] tournaments.”)

278. See GOLDBLATT, *supra* note 1, at 401–28.

279. See Clarence Lakpini, *The Video Assistant Referee (VAR): The Patent-Protected Technology Changing the Face of Football*, IP UNIT, <http://ip-unit.org/2019/world-ip-day-the-video-assistant-referee-var-the-patent-protected-technology-changing-the-face-of-football/> [https://perma.cc/8XRN-BRBF] (last visited Dec. 18, 2020).

of VAR technology have both the ordinary incentives of market capitalism and the added rewards of the patent system to minimize their own expenses and to receive returns in as many ways as they can.²⁸⁰ The leading technology in the VAR system is the SMART platform, developed and patented initially by Hawk-Eye Innovations and now offered by Sony, Hawk-Eye's acquiror.²⁸¹ They have the added incentive (and burden) of complying with official technical standards for VAR, overseen by FIFA.²⁸² One should reasonably expect the VAR system in practice to expand in speed, complexity, and power, not necessarily because it must, but because it can, and because its doing so may be profitable.²⁸³

2. Player Capabilities

The VAR system may be less adaptable than human refereeing alone (despite humans' own limitations) relative to the changing character of play on the field. Any longtime observer of soccer is aware that the pace, power, and nuance of play across all levels of the game, including youth soccer and amateur soccer, has increased dramatically over the last thirty years. That increase can be partially attributed to new attention to fitness and diet and to improvements in equipment, field maintenance, and travel conditions. Player capabilities may have evolved negatively as well, the result of increased attention to concussive injuries suffered by soccer players. As more and more professional soccer is televised or made available online around the world, youth players are increasingly exposed to professionals playing

280. See Guillermo Martinez Arastey, *Application of Video Technology in Football Refereeing – VAR*, SPORT PERFORMANCE ANALYSIS (Nov. 6, 2019), <https://www.sportperformanceanalysis.com/article/application-of-video-technology-in-football-refereeing-var> [<https://perma.cc/W6WC-E5PK>].

281. See *Officiating and Goal-Line Technology: Leading Sports Innovation from Sony*, SONY, https://pro.sony/en_BD/solutions/solutions-hawk-eye [<https://perma.cc/58SX-W9J7>] (last visited Dec. 18, 2020). SMART is an acronym for “Synchronised Multi-Angle Replay Technology.” See *Revolutionising Sports Video Content Management*, HAWK-EYE INNOVATIONS, <https://www.hawkeyeinnovations.com/products/smart/smart-replay> [<https://perma.cc/6L55-THKW>] (last visited Dec. 18, 2020).

282. See *List of Inspected VAR and Communication Systems Providers*, FIFA, <https://football-technology.fifa.com/en/media-tiles/list-of-inspected-systems/> [<https://perma.cc/DN3R-QB64>] (last visited Dec. 18, 2020).

283. See *FIFA Establishes Working Group to Develop Next Steps for VAR Technology*, FIFA (Feb. 6, 2020), <https://www.fifa.com/who-we-are/news/fifa-establishes-working-group-to-develop-next-steps-for-var-technology> [<https://perma.cc/M3EU-3GLJ>]. The scope and pace of the expansion is not deterministic, but the associated inertia is a modest example of the larger developments sometimes characterized as the Fourth Industrial Revolution. See Klaus Schwab, *The Fourth Industrial Revolution*, FOREIGN AFFS. (Dec. 12, 2015), <https://www.foreignaffairs.com/articles/2015-12-12/fourth-industrial-revolution>.

cynically, trying to deceive the referee, and sometimes succeeding. Taken together, these changes, with more likely to come, focus attention on the referee's ability to track play effectively and ensure reasonable game-to-game and competition-to-competition consistency and predictability, both from a physical fitness standpoint and a cognitive capability standpoint. The limitations of human referees have been evident, but they may have been balanced in part by the discretionary and judgment-based character of the referee's role, in context. Human players have demonstrated their adaptability; human referees have adaptive capabilities as well. The VAR system may not be as adaptable.²⁸⁴

3. Gaps Between the Laws and VAR

VAR raises similar concerns about the adaptability of officiating relative to the Laws of the Game themselves. Certain rule changes in recent years seem to have added to the referee's growing cognitive burden. Tweaks to the offside rule, for example, now seem to require almost microscopic examination of the attacker's armpits to determine whether the player's "body" was positioned in advance of the defender, a shift that de-emphasizes traditional interest in whether an attacker obtained an unfair advantage and newly emphasizes an objective assessment of the position of the body in space.²⁸⁵ During a penalty kick, the goalkeeper has long been prohibited from advancing toward the kicking player before the kick is taken. Recent guidance from the IFAB and FIFA has encouraged newly strict enforcement of the rule, leading to confusion and mid-competition corrections.²⁸⁶ A temporal sequence is evident in both examples. The IFAB acts first, adjusting the Laws. The referee acts second, interpreting and implementing any changes with VAR technology at hand. So long as that sequence holds true, then VAR may always lag behind evolving versions of the Laws and related norms.

It is conceivable that in the future, the temporal sequence might be modified. The initiative to change the Laws, in their form or in their application, might come from VAR itself. Algorithms might supplement

284. See Richard M. Re & Alicia Solow-Niederman, *Developing Artificially Intelligent Justice*, 22 STAN. TECH. L. REV. 242, 270 (2019).

285. See Saj Chowdhury, *VAR: 'Armpit Offsides' Strike Again in the Premier League*, BBC SPORT (Dec. 28, 2019), <https://www.bbc.com/sport/football/50935709> [<https://perma.cc/E9H4-HZVW>].

286. See *FIFA Makes Penalty Shootout Rule Change Mid-Tournament*, CBC (June 21, 2019, 1:40 PM), <https://www.cbc.ca/sports/soccer/worldcup/fifa-world-cup-rule-change-1.5185214> [<https://perma.cc/9VJ5-3ULC>].

or even displace humans as interpreters of video data of game play. Algorithms feed on data, which are, in this context, video data of game play and referee judgments. Algorithmic results over time that deem a certain combination of factors on the pitch to consist of a foul (or not) might be adopted by the IFAB as guidance or even amendments to the Laws, in the sense that an algorithm might detect patterns of refereeing or of unfair play that are less susceptible to being seen or understood by unaided humans. In other contexts, researchers have speculated that using algorithms in decision-making contexts might encourage changing the substance of relevant rules so that they are more easily adjudicated automatically.²⁸⁷ Similarly, sports commentators have casually suggested that problems with VAR in practice illustrate problems with the Laws rather than problems with the design of the officiating system.²⁸⁸ One might even imagine “predictive VAR,” which would advise referees automatically and in advance that certain patterns of play are likely to lead to certain offenses.

That prospect is speculative. The point is that gaps inevitably exist between the capabilities of the VAR system and the Laws of the Game. Some might argue that the existence of that gap has normative value.²⁸⁹ Even only in a descriptive sense, both are subject to change. The gap might be narrower or broader. Is there an optimal gap, and does VAR change its character?

4. Internationalization

Will VAR standardize a game that has thrived, historically, on local variation? Should it? Even over the last thirty years, the internationalization of soccer has increased the commercial value of the game and distributed that commercial value (highly unevenly) across a much broader geography than before, and to China and other Asian countries in particular. US soccer fans have regular access to professional matches from Seoul to Istanbul to Buenos Aires, in addition to top-level domestic leagues in Western Europe, domestic men’s and women’s leagues in the United States, and both regional and global international tournaments, and that access includes only cable and satellite television providers. Signals travel not only to North America; they also travel from Europe to Africa, and to Southeast Asia,

287. See Re & Solow-Niederman, *supra* note 284, at 267–70.

288. See Rory Smith, *In Premier League, V.A.R. Exposes the Limits of the Laws*, N.Y. TIMES (Dec. 29, 2019), <https://www.nytimes.com/2019/12/29/sports/soccer/liverpool-wolves-VAR-premier-league.html> [https://perma.cc/3NTD-MKV3].

289. See Michael J. Madison, *Complexity and Copyright in Contradiction*, 18 CARDOZO ARTS & ENT. L.J. 125, 126–59 (2000); COHEN, *supra* note 52, at 239–41.

changing patterns of consumption and play around the world.²⁹⁰ The stakes of referee performance are displayed on much bigger and broader public stages than ever, and refereeing judgments affect bank accounts, create corruption risks, and trigger emotional investments across larger registers. VAR either may be unable to address consistency and predictability problems across such a wide range of performance, or it may end up imposing (or reinforcing) a uniformity of expectations that dilutes local flavoring of global soccer.

5. Cultural Expectations

The question of standardization hovers over VAR in at least one additional respect. VAR both reveals and conceals important attributes of what society wants and expects from soccer. Is VAR part of soccer's decades-long evolution, or does VAR signify coming disruptions and discontinuities?

In one key sense, the VAR system represents an evolutionary extension of the larger-scale cultural contest over the design and control of the game, from the diverse, unruly, decentralized popular to the controlled, disciplined, centralized elite, and back, that was alluded to earlier in the social identity of soccer as a sport. Soccer's original Laws of the Game were developed by Victorian elites in pursuit of capturing a people's game formally, on the field, and organizationally, in the boardroom. But the simplicity, flexibility, and fluidity of play that the Laws enabled proved precisely the ingredients needed for the game to take root and flourish in hundreds, if not thousands, of local varieties worldwide. The elite organizers of 1863 succeeded beyond their wildest imaginations, but they gave birth to a game at popular and local levels that has struggled ever since, often successfully, to break free of hierarchical governance and elite control, represented both organizationally and distantly (FIFA and other federations) and individually and locally (the referee). The referee's badge, representing the higher authority of the Laws, and the referee's discretion and judgment, accepting (to a point) the players' guidance of their own game, encapsulate the two sides of soccer's cultural logic.

The VAR system critiques, reacts to, makes salient, and then tries to constrain via machine the discretionary authority that has traditionally been part of the referee's role. VAR is an emblem and instrument of hierarchy and elite oversight of what happens among the people, locally. Perhaps that is as it should be. Perhaps soccer today is less clearly characterized by player self-governance on the pitch and by

290. See GOLDBLATT, *supra* note 1, at 29–79, 313–67.

supervision by the solitary discretionary official than it once was. Perhaps the stakes of soccer have gotten so great, in social, political, and commercial terms that a significant step up in central control is appropriate, and perhaps the Laws administered by a human referee are not culturally or competitively appropriate for a modern, bureaucratized, industrialized, and globally networked culture. Soccer is defined indirectly as a gentleman's game; the concept of "fair play" is both implicitly and explicitly part of soccer governance. That style and outlook may be simply outdated, both as cultural logics for large, sophisticated sports systems and also for large social systems of any sort.

That evolutionary perspective may be contrasted with a different, more challenging one. Framing the cultural question set up by VAR as another version of long-standing dualism between central, elite governors and local players and referees overlooks a massive third (and perhaps fourth and even fifth) set of interests: observers, including fans and supporters, broadcasters, sponsors, and all those around the world whose lives are affected by soccer even if their identities are not directly determined by it. Soccer may have simply become too big, and too important in too many ways, for its detailed mechanics and its cultural interpretations to be left to soccer insiders and soccer-specific historical traditions.

In defining and reflecting broader cultural expectations, sport sometimes leads nonsporting sectors by a hair. Sometimes, sport follows them. Play, as this Article has emphasized repeatedly, features prominently regardless. Few are not uniquely delighted by soccer on the pitch that seems to be conjured out of nowhere, such as a turn, flick, and goal by Lionel Messi. But fans, sponsors, investors, and politicians (evidenced by the ranks of senior government members who regularly attend World Cup final matches)²⁹¹ want more: they want to win. Observers may delight especially in players such as Messi not because he is a gifted player but because delight in gifted play seems so much rarer today than in decades past. Soccer observers want to see what they get and to get what they see; they want transparency, explainability, and objectivity in both respects. Fans, viewers, players, and coaches want to know not only that the rules work but also how they work. Inputs, outputs, and processes are expected to cohere in relatively clear, relatively linear ways.

Similarly, large, complex social systems, including sporting systems, are often expected today to proceed with levels and patterns of variety (play on the field, more or less scripted) and security and

291. See *id.* at 11–13.

stability (how the rules work) that mimic their nonsporting counterparts in industry, government, and the military. The relatively open and undefined character of soccer's Laws of the Game, born in the nineteenth century, seems to be out of step with twentieth-century and early twenty-first-century intuitions about the scripting of social life, about the uses of specification and order, and about the virtues of standardization. Those intuitions are derived from the tightly specified, Taylorized, and Fordized conditions of industrial production and work life.²⁹² They are reinforced by the fact that so much work and social life today is itself performed and consumed on screens.²⁹³ The kind of discretion afforded to the soccer referee might be thought to be well suited to helping soccer adapt to changing times. Or it might be thought to be an emblem and vehicle for inefficiency and bias, introduced in the first place by the elite designers of the game in 1863, and arguably (and ironically) remedied more than 150 years later by VAR, a technology designed and managed by the organizational descendants of those same elites.

D. Feedback Loops and the Future

The polycentric approach to governance that this Article recommends calls for an additional dimension for critique, focused on how the governance system (or system of systems) reproduces or otherwise affects itself via various feedback mechanisms. Identifying and critiquing problems that are solved and problems that remain are complicated by the ecological character of both. The VAR system changes the character of soccer and soccer governance as social systems even while it responds partially to their flaws.

Relatedly, a noteworthy, if sometimes implicit, feature of those reviews of VAR-related problems, solutions, and gaps is an unmistakable emphasis on the individual player and the individual referee. The individual is situated in context, to be sure, but is isolated nonetheless. There is an unmistakable emphasis on how player and referee judgments conform to specific expectations of rightness or accuracy, lead to specific outcomes, and align with normative commitments of different sorts regarding autonomy, dignity, and individual identity.

292. See MARY NOLAN, VISIONS OF MODERNITY: AMERICAN BUSINESS AND THE MODERNIZATION OF GERMANY 48 (1994); A MENTAL REVOLUTION: SCIENTIFIC MANAGEMENT SINCE TAYLOR (Daniel Nelson ed., 1992); SUSAN STRASSER, SATISFACTION GUARANTEED: THE MAKING OF THE AMERICAN MASS MARKET (1989).

293. See SHERRY TURKLE, ALONE TOGETHER: WHY WE EXPECT MORE FROM TECHNOLOGY AND LESS FROM EACH OTHER 11 (2011).

This focus on the individual aligns with conclusions by other scholars who have studied machine-based sports officiating. Meg Jones and Karen Levy, who examined tennis, golf, baseball, and American football, argue that “robot referees” in several sports threaten to deprive individual players of a humanistic “sporting chance” in the competition, the opportunity to make success, failure, and error their own.²⁹⁴ Harry Collins, writing about soccer, proposes to preserve to human referees the humanity defined by both philosophical and pragmatic impossibility of perfection.²⁹⁵ Larger-scale concerns of social trust, institutional authority, and legitimacy have been mostly submerged beneath the implicit syntax of individual rights and interests. References to justice generally or to sport-specific justice either have not entered the discussion or have been submerged beneath other considerations.

A systems view of the case, that is, a polycentric view of governance, offers a way to recover those concerns explicitly, to examine feedback-driven aspects of governance, and to diagnose human-machine blends such as the VAR system in fuller respects. There are two related ways to do that here. The first is to ask how deploying the VAR system affects behavior by referees, players, and observers. The second is to consider how the VAR system affects social trust, authority, and legitimacy with respect to soccer itself as a social world at different scales.

1. Referees

The VAR system unambiguously narrows the range and types of human judgment and expression that are built into the human referee’s role, relative to players, teams, fans, and others, and also relative to formal and informal sets of rules that define the game and the sport. VAR system reviews of offside and handball judgments bring degrees of objectivity and formalization to those issues, outcomes that are sources of both praise (for the objectivity) and condemnation (for the formalization).²⁹⁶ The Laws specify that a player in an offside position has not necessarily committed an offside offense because in some respect the player has not affected the play,²⁹⁷ but a referee on the field may be hard pressed to disagree with a video replay result showing that some part of an attacker’s body was advanced beyond the defender’s

294. See Jones & Levy, *supra* note 53.

295. See Harry Collins, *Applying Philosophy to Refereeing and Umpiring Technology*, in PHILOSOPHICAL ISSUES IN SPORT SCIENCE 77, 78–80 (Emily Ryall ed., 2020).

296. See *supra* notes 266–93 and accompanying text.

297. See *supra* notes 107–08 and accompanying text.

line, no matter how minimal the impact of the position on the play as a whole.

That narrowing of subjectivity relieves the referee of several burdens and imposes others. VAR relieves the referee of some of the burden of fallibility, which is typically reinforced by the burden of solitude. The referee is the final decision maker, the sole decision maker, and the solitary decision maker. Errors are the referee's alone. VAR changes that equation. To the referee, VAR is partly a fail-safe, an error-correcting device, and partly an unseen partner and companion. The VAR is also a kind of guardrail, allowing the referee to forego certain judgments in the moment, in the certainty that later video review at relative leisure is forthcoming. The scope and scale of these impacts vary not only with the human beings involved but also with variations in VAR implementations.

The VAR system diminishes the impact of the referee's fallibility, but it also makes that fallibility salient and explicit, perhaps most of all to the referee in a particular game and to referees generally. The VAR system both diminishes and compromises the role of the referee as the unquestioned, solitary authority administering the Laws of the Game on the field, choosing whether and how to consult the assistant referees. With the VAR system, the referee is neither alone in the decision-making, for VAR is intended to make its contribution whether or not the referee elects to consult the video reviewers, nor self-evidently the final decision maker. The referee's stress and anxiety are not necessarily diminished; they may have different sources and take different forms.²⁹⁸ The referee is no longer isolated; the referee is now constantly questioned.

In some settings, referees consulting VAR data routinely perform their role by stepping off the field and being seen to consult a nearby video monitor. In other settings, especially (to date) in the Premier League in England, the referee typically does not access a nearby monitor but instead stands on the field and engages only in an audio dialogue with the remote VAR.²⁹⁹ If the game is broadcast or streamed, the same footage may go out to remote viewers. The theatricality of the referee's consulting the video directly reinforces confidence in the integrity of the ultimate decision. The referee's

298. See Christopher Francis Baldwin, *Video Killed the Sports Referee: The Role of Video Replay Technology in Creating Anxiety and Stress Amongst Rugby League Referees*, 7 INT'L J. ARTS & SCIS., no. 6, 2014, at 305.

299. Premier League practice regarding VAR use is changing as referees and leagues get more experience with it. Simone Stone, *VAR: Premier League Referees Set to Use Pitchside Monitors*, BBC SPORT (Jan. 17, 2020), <https://www.bbc.com/sport/football/51145986> [<https://perma.cc/8HPU-BQJL>].

consultative performance may also in a sense advance the referee's stature as an active participant in the match, adding to the symbolic prominence achieved earlier when referees were given permission to wear bright uniforms. But the consultation has its costs. It enhances rather than trivializes the impact of VAR to note that the VAR system gives the referee a new, more public identity.

The opportunity granted to persuade by performance is crosscut by the fact that one cannot always determine whose performance ultimately matters. When VAR reviews a decision to give a goal, a penalty kick, or a red card, the final result is announced by the referee on the field. Is the referee making a final judgment? Or does the referee have someone, or something, looking over its shoulder? It is possible that VAR undermines the authority of the referee as the final judge of whether a wrong has been committed. The referee announces the result, but to all observers, who has truly made the decision?³⁰⁰

Even though VAR relieves the referee of some of the pressures of fallibility, there is still exposure of the fact that many of the decisions subject to VAR review are precisely the sorts of fairness- and judgment-inflected decisions that are by long-standing tradition embedded in the Laws of the Game, that are therefore deeply part of many soccer cultures, and that are by tradition delegated to the human referee's discretion. In some senses, VAR reviews the more complex, human, high-stakes, discretionary problems and does not review the more clearly computable, automatable low-stakes problems. In some respects, that is as it should be; one should want to get the big questions right. In some respects, it is exactly wrong. One should not try to force the technology to do work for which it is poorly suited, meaning judgments that explicitly call for assessments of intent or the scale of harm. VAR applications that routinely or too frequently adjudicate close calls may put its own legitimacy into question. Jan Zglinski argues similarly but distinctly that VAR has had a positive impact on refereeing with respect to rule-like elements of the Laws but much more limited success with respect to standard-like elements.³⁰¹

Examined within a polycentric approach, federations, leagues, teams, and referees are aware that these effects exist in the minds of players as well as in the minds of coaches and fans, and that the referee is expected to officially change their behavior and may also change their behavior in informal ways. Officially, where the VAR system is in use, the referee may be instructed to exercise discretion in favor of letting

300. See COLLINS ET AL., *supra* note 29.

301. See Jan Zglinski, *Rules, Standards, and the Video Assistant Referee in Football*, SPORT, ETHICS & PHIL.1, 2 (Dec. 17, 2020), <https://doi.org/10.1080/17511321.2020.1857823>.

play continue in the event of a questionable play, rather than exercising discretion to stop play immediately.³⁰² In the event of a violent foul or a goal that should be called back, the VAR system will intervene at the next stoppage in play, and the record can be corrected at that point. Informally, one may speculate that VAR has made referees more willing than before to award penalty kicks for violent play or handling the ball in doubtful situations, on the theory that the referee knows that VAR will necessarily step in and correct the record, if necessary. Some evidence suggests that VAR is changing the character of cautions and ejections, with video review and consultation turning some of the former into the latter. Perhaps watching harm done in slow motion makes the offense seem more serious.³⁰³

VAR is not simply imposing correct judgments on a record of error, that is, restoring and optimizing a refereeing equilibrium. It is potentially creating a new refereeing equilibrium altogether, one in which referees avoid making possibly erroneous calls by avoiding making any calls at all.

2. Players and Teams

The players and teams on the field cannot know what is in the mind of the referee, of course, but they are fully aware of the existence of the VAR system and can observe for themselves how the system is used. Several effects seem possible, and perhaps likely.

First, as the last Section confirms, the referee's role as unquestioned enforcer of the Laws has been diminished, both in itself, relative to the referee's additional roles as game manager and supervisor of the flow of play, and relative to the players themselves. The players and teams know that the referee knows that there is another authority in the formal governance system. Whether and how that knowledge affects the play of the game, or the players' demeanor relative to the referee's authority, remains to be seen. In a handful of instances, players have appealed to the referee on the field to review a play with VAR assistance by making the "box in the air" sign with their hands even without hearing the referee's whistle. The VAR system does not permit players to invoke referee review, but players can try. The

302. See Martha Kelner, *Leave It to VAR: World Cup Linesmen Told Not to Flag for Tight Offsides*, GUARDIAN (June 12, 2018, 1:58 PM), <https://www.theguardian.com/football/2018/jun/12/var-world-cup-referees-flag-offsides-pierluigi-collina> [<https://perma.cc/QNC5-KRMK>].

303. See Jochim Spitz, Koen Put, Johan Wagemans, A. Mark Williams & Werner F. Helsen, *Does Slow Motion Impact on the Perception of Foul Play in Football?*, 17 EUR. J. SPORT SCI. 748 (2017).

possibility of appeal, even of an informal sort, may diminish some elements of players' self-governance, or even enhance it.

Second, for generations, players converted functional limitations on the referee's capabilities into normative features of the players' roles in governance of the game. The fact that the referee cannot see everything and cannot enforce all of the Laws all the time, or chooses not to, gives the players degrees of freedom that have been incorporated into styles of individual and collective play, in different respects from time to time and from league to league. With the VAR system, players and teams now know that cameras may be watching and seeing things that the referee could not previously observe. Aggressive behavior that previously was part of the game because players knew that the risk of detection might be modest is now more likely to be punished. Players may play more conservatively as a result, avoiding questionable tackles that a referee might let pass but that VAR might call out.³⁰⁴ In some settings, particularly the notoriously tricky question of offside, players might play more aggressively, taking a chance that the referee would let play continue and VAR could not detect a violation of the Laws after the fact.³⁰⁵ Players may resort to more elaborate strategies to conceal bad acts and to deceive the referee than they attempted previously. Coaches may take advantage of VAR-prompted stoppages in play to give players instructions, communicating directly during games in ways that soccer's fluid structure rarely permits. Each outcome would change the sport on the field, though the extent of the change cannot be predicted. Cataloging all of the possible effects on play is likely impossible.

Third, players know that goals are likely to be reviewed by the VAR system in all but the most unambiguous cases. As a result, goal celebrations, collective and individual expressions of emotional release by both teams and fans that are quite unlike what one sees in most team sports (largely because of their relative rarity), are often deferred and muted. Players know that they must wait for VAR to say whether or not the goal is good. The cathartic value of soccer both in the moment and in broader, social terms may be diluted.

Live soccer is often emotion-laden entertainment, and VAR system reviews drain some critical emotional highs from the game. That may not be a bad thing, at least in all cases. Anything that tempers emotions in the moment based on the performance of accuracy

304. See Carlos Lago-Peñas, Ezequiel Rey & Anton Kalén, *How Does Video Assistant Referee (VAR) Modify the Game in Elite Soccer?*, 19 INT'L J. PERFORMANCE ANALYSIS SPORT 646, 651 (2019).

305. See *id.*

associated with VAR may diminish the likelihood of violence by disappointed and angry fans, especially violence directed at the referee. It is difficult to determine whether levelling off the emotional tenor of a match affects results on the field, but it is not unreasonable to suppose that a team on an emotional high either is at risk of letting down its guard prematurely—allowing an opponent to score—or that the emotional high carries from a post-goal celebration to further success and scoring. In either case, the VAR system may tip the balance at the players' feet as well as in their hearts and those of the fans.

3. Observers

In most respects, soccer fans and supporters are the least affected by VAR in functional terms and perhaps the most affected in expressive terms. After all, they are in the stands, in the pub, at the park, or at home, not on the field. But it is fans and supporters whose emotional investment in the sport carries its identity substantially from season to season, league to league, and generation to generation. The VAR system has introduced not only emotional disruption and functional delays into a game previously identified with well-understood flows on the field and off, but it has opened new fissures regarding the identity of the game.

One recalls a different but also disruptive innovation in soccer's conflict resolution governance systems, the American experiment with a tie-game-breaking "shoot-out" conducted in the North American Soccer League (NASL) in the 1970s and 1980s and revived briefly in the early years of Major League Soccer (MLS).³⁰⁶ The shoot-out, and other NASL rules innovations designed to make the game more attractive to American fans, failed to make a marketing impact, offended soccer purists (even though many players liked them), and distanced US soccer from the international soccer community. As a fan with an early emotional commitment to soccer as an international phenomenon, I found the shoot-out difficult to watch; it not only lacked the flow of the game, but for reasons that are difficult to capture in text, it also lacked the emotional tension that drives a tie-breaking exercise in "penalty" kicks. The rule change disappeared with the NASL and lasted only a few years with MLS.³⁰⁷

306. See Paul Doyle & Nick Miller, *The Joy of Six: Short-Lived Football Rule Changes*, GUARDIAN (Sept. 25, 2015, 5:00 AM), <https://www.theguardian.com/sport/2015/sep/25/joy-of-six-short-lived-football-rule-changes> [<https://perma.cc/P74C-H7AY>].

307. A similarly short-lived tie-breaking experiment was the so-called golden goal system used by FIFA in international play during the 1990s. See James Sweeney, *The Rise and Fall of the Golden Goal: How It Defined Tournaments and Created Legends*, THESE FOOTBALL TIMES (May 12,

Beyond arguably changing the identity of the game, the VAR system has more specific governance implications for observers, both those in the stadium and those watching on television, on computer monitors, and on other devices. In the stadium, the VAR system enlists the fans in the process of governance itself by bringing the facts and some of the video content of a VAR review onto big video displays in the stands. With a sole referee, the fans are necessarily passive, subordinate to the referee's judgment even if they are, formally, nearly the referee's equal in having access to the facts of what happened. They may boo the referee. Fans have been known even to attack referees.³⁰⁸

But decision-making authority is both informally and formally entrusted to the referee by fans as well as by the Laws. Once a VAR review is announced on stadium screens, the fans become governance participants of a sort, watching the screens as well as awaiting the final judgment of the referee. The screens do not show replays while the VAR review is underway but may do so if the referee's initial decision is overturned.³⁰⁹ Observers may loudly and publicly validate the referee's final determination or disagree with it in ways that were not possible previously. The effect on the referee and the teams is difficult to predict, but it ought not to be ignored.

For fans watching on screens, similar dynamics are in motion, but at the physical and psychological distance imposed by broadcasting and streaming. Similarly, it may be important to distinguish between expert observers, people who are steeped in soccer history and practice, and naïve observers, who may be casual or periodic followers. Both at conceptual and physical distance, some fans are not watching the game; they are watching an impression of the game. Unlike fans in the stadium, fans watching screens do not have nearly equal access to the facts on the pitch, but fans watching screens may well have real-time access to replays and perhaps to the same replays being examined by VAR officials. The reactions of fans watching screens will not have any impacts on the referees in games being played, but those reactions feed into larger and broader conversations about referee accuracy and game integrity that may extend beyond a particular match. Researchers have begun to move beyond speculation and to study whether and how use of

2019), <https://thesefootballtimes.co/2019/12/05/the-rise-and-fall-of-the-golden-goal-how-it-defined-tournaments-and-created-legends/> [<https://perma.cc/6F5V-38W5>].

308. See Matthias Krug, *Soccer Violence: Referees Under Siege*, CNN, <https://edition.cnn.com/2013/03/14/sport/football/referee-violence-spain-football/index.html> [<https://perma.cc/T8B4-9WDQ>] (last updated May 6, 2013, 12:01 PM).

309. See Bryan Swanson, *VAR Instant Replays Not to Be Shown in Stadiums, Says IFAB*, SKY SPORTS (Aug. 20, 2019, 7:36 PM), <https://www.skysports.com/football/news/11661/11789861/var-instant-replays-not-to-be-shown-in-stadiums-says-ifab> [<https://perma.cc/KH3F-FEAS>].

the VAR system affects fans' expectations regarding referee competence and integrity; unsurprisingly, preliminary results are mixed.³¹⁰ In the aggregate, fan reactions of this sort may turn out to play important roles in influencing how FIFA and other soccer organizers modify VAR and similar systems in the future.

4. Social Trust

Players, teams, coaches, sponsors and owners, administrators, and fans and observers each shoulder a significant amount of social trust: trust in the referee, trust in the social system of refereeing, trust that the game on the field and the game as a whole are contested openly and fairly, according to the Laws and accepted norms of the sport yet without significant access to accountability or review mechanisms. Within these layers and layers of social trust, everyone must take mostly on faith the proposition that the referee is the walking embodiment of integrity. The emblems of the role, especially the federation badge on the breast, the uniform, and the whistle, embody deeply rooted reliance on training, experience, impartiality, and judgment. For almost everyone attached to soccer, history and experience teach that if we cannot trust the referee, then there is no point of investing time, energy, emotion, and money in the match.

Anything that upsets those trust relationships is therefore a threat both to any specific match, because *this* referee may not be trustworthy, and potentially to the game as a whole. If *this* referee cannot be trusted, then perhaps *no* referee can be trusted. VAR may both enhance and deepen those trust relationships and undermine them at the same time.

The shared understanding that the game is trustworthy at both local and system levels may be enhanced by knowledge that the VAR system secures the game against significant error and advances the quest for soccer justice. This is a potential positive feedback loop that scales up from the field to FIFA. As one trusts the referee more, the logic goes, one should trust FIFA more, as the provider and apparent guarantor of the VAR system.

VAR might undermine the social trust that shapes soccer by confirming what the world of soccer has suspected and had to live with all along: the subjectivity and incompleteness of the referee's decisions. There is at least one further possibility: that soccer is defined as much

310. See Lalin Anik, *How Soccer's Video Assistant Referee (VAR) Influences Belief in Human Referees' Competence*, BEHAV. SCIENTIST (July 31, 2018), <https://behavioralscientist.org/how-soccers-video-assistant-referee-var-influences-belief-in-human-referees-competence/> [<https://perma.cc/KTD2-CMEH>].

by lack of consensus about its functions and meaning as it is defined by its shared attributes. This is a kind of dialogic definition, in which soccer coheres as a social world because we trust in our shared criticism of the game. If nothing else, the VAR system has succeeded in binding soccer fans together, again, in soccer's openness to engaged disagreement about VAR's virtues.

5. Authority

The figure of the referee represents authority in the moment of the game and in the system of soccer as a whole partly because the Laws designate and define that role and partly because expectations of players, teams, and fans have built up the role over time. Although the referee is not a judge, the referee is judge-like. The VAR system both reinforces and challenges that identity and offers the promise of more support for referee's authority and more resistance to it in the future.

VAR's reinforcing role is obvious. VAR is typically positioned publicly as a technical tool that helps the conscientious referee achieve correct outcomes, supporting the referee in the quest for comprehensively correct adjudication. Judges use human aids and human-machine combinations (juries, law clerks, special masters and appointed experts) to perform their roles, and it is rare to hear of challenges to judges or judging on account of overreliance on others. As VAR gets sharper via practice and improved technology, outcomes should improve.³¹¹

Of course, this is precisely the question raised by algorithms in public institutions and in other large-scale decision-making systems. At what point do algorithmic contributions push the judicial role beyond accepted boundaries of fairness, descriptively and normatively? Technology that may be positioned as a tool may instead be positioned as a new or extended mode of resistance, in effect limiting the exercise of authority in the name of public goals, stakeholder interests, or some blend of the two. Soccer governance on the field has long involved a polycentric exercise of governance authority by the referee and the players in both cases framed by the Laws, normative expectations in their administration, and social norms. The referee and the players are cooperative in part and competitive in part. The VAR system changes the terms of that negotiation by offering both referee and players recourse to what is literally a different perspective on their experience.

311. See Steve Price, *FIFA's Plans to Improve VAR Offside Calls with Artificial Intelligence*, FORBES (Feb. 10, 2020, 6:50 AM), <https://www.forbes.com/sites/steveprice/2020/02/10/fifa-plans-to-improve-var-offside-calls-with-artificial-intelligence/?sh=76955b53e1ef> [https://perma.cc/V86H-CVPJ].

Given access to VAR, or denied access to VAR, additional stakeholders, meaning teams and federations, may now invoke or resist the authority of traditional soccer governance in novel ways.³¹²

6. Legitimacy and Justice: The Shape of the Game

This brings the discussion to this final point, which is soccer justice and legitimacy of the soccer enterprise. Legitimacy refers to the overall shape of soccer's metaphorically polycentric sphere and the shapes of its constituent layers and slices, which are given in part by functional considerations—descriptively, whether the parts of the system work and adapt to a degree that is acceptable to relevant communities—and in part by expressive ones—adherence to appropriate law-like governance values and alignment of the elements relative to one another so that the overall shape coheres. This Article does not offer a precise definition of soccer justice or of justice generally. To most, whether inside soccer or in society at large, justice means more than simple accuracy in applying rule to context, even if FIFA and the IFAB have at times tried to justify VAR in those terms.³¹³ The earlier specification of soccer as recirculating collections of inputs, processes, and outputs at micro and macro levels gets at the constituents of justice, but justice itself lies as much in the evolving alignment and coherence of these things as in any particular item. Soccer justice, like justice itself, is aesthetic as much as it is functional.³¹⁴

Giamatti wrote that the green grass of an American baseball stadium symbolized a kind of paradise, exempting the game within from the rules of ordinary social life, protected from outside incursion literally and metaphorically by the walls that surround the stadium.³¹⁵ Steven Winter offers a less sanguine version of the same point: society is accustomed to treating games as safe retreats from ordinary experience, contexts where controlled self-governance makes sense in

312. See *CAS Overturns CAF's Decision to Replay CL Final*, EFE (July 31, 2019), <https://www.efe.com/efe/english/sports/cas-overtorns-caf-s-decision-to-replay-cl-final/50000266-4034576> [<https://perma.cc/AH4P-LE54>].

313. See *Historic Step for Greater Fairness in Football*, IFAB (Mar. 3, 2018), <https://www.theifab.com/news/historic-step-for-greater-fairness-in-football> [<https://perma.cc/9YTY-JQDX>]; Sam Iyer Sequeira, *The VAR Conundrum and Questioning Human Rationality*, MEDIUM (July 3, 2018), <https://medium.com/football-applied/the-var-conundrum-and-questioning-human-rationality-c3902016b331> [<https://perma.cc/T9YQ-FBPD>].

314. See Pierre Schlag, *The Aesthetics of American Law*, 115 HARV. L. REV. 1047 (2002).

315. See A. Bartlett Giamatti, *The Green Fields of the Mind*, in *A GREAT AND GLORIOUS GAME: BASEBALL WRITINGS OF A. BARTLETT GIAMATTI 7–14* (Kenneth S. Robson ed., 1998). Comparable versions in soccer history would account for fences and even moats that sometimes separate soccer fans in the stands from players on the pitch, an image that evokes violence and worse in soccer history.

part because the game is within human control. The game eventually comes to an end.³¹⁶ Winter suggests that when people map game practice onto the nongame world, where humans have less control and the end of the game is rarely in sight (pun intended), powers of collective self-governance at play may be mistaken for authentic powers of self-governance in broader political and social life.³¹⁷

If either the romantic or the critical take on the separation of life and play were ever accurate, it certainly seems not to be true today. Expectations on and off the field have never been more blended. Not in the sense that real life has become more play-like, but in the sense that play has become less play-like. Real life both in physical and virtual worlds has in many respects lost aspects of play, where people should live by their imaginations rather than only by scripts suggested by machines.³¹⁸ Similarly and concretely, Brett Frischmann and Evan Selinger highlight the normative importance of humans' disconnecting from so-called smart and tethered technologies.³¹⁹ Twentieth-century stereotypes of law and twenty-first-century technologies bureaucratize both formal and informal social worlds by providing rules for distinguishing correct from incorrect, rather than rules for justice. Those stereotypes have not been shy in taking their place on modern playing fields, displacing sporting governance organized around fairness. Soccer, as described at length in this Article, is an excellent example.

As law's bureaucratic impulses have affected spaces for play, intuitions about play have affected law, too. Sport metaphors in the mouths of judges further blur the line between what is law and what is play, and what is law and what is law-like. John Roberts, Chief Justice of the US Supreme Court, famously analogized the role of a judge to "calling balls and strikes," at once drawing attention to perceived parallels between judges and sports officials and simultaneously appearing to disclaim any role for the justice system in delivering actual justice.³²⁰ Perhaps unsurprisingly, professional baseball has gone out of its way to resist application of technology aids with respect to baseball umpires actually judging balls and strikes.³²¹ Of all modern sports other

316. See Steven L. Winter, *When Self-Governance Is a Game*, 67 BROOK. L. REV. 1171, 1179–80 (2002).

317. *Id.* at 1203–04.

318. See COHEN, *supra* note 52.

319. See FRISCHMANN & SELINGER, *supra* note 20.

320. See Charles Fried, *Balls and Strikes*, 61 EMORY L.J. 641 (2012).

321. See Bernie Pleskoff, *On Deck for Baseball: Automated Balls and Strikes*, FORBES (Nov. 5, 2019, 9:29 AM), <https://www.forbes.com/sites/berniepleskoff/2019/11/05/on-deckautomated-balls-and-strikes/> [https://perma.cc/D8GM-RF5G].

than soccer, baseball retains the most of its historical interest in “justice” as a standard for player and team behavior. But its resistance may prove futile.³²²

In all of these respects, both the VAR system in general and VAR implementation game by game may make soccer more or less just over time. VAR may have important payoffs relative both to the perceived legitimacy of the referee as a present matter and to the normative legitimacy of the referee and soccer in the future. What is at stake are both the continued emotional and material identification of fans, players, and others with the game, as individuals and as groups, and their expectation that their identification will continue. Is soccer in fact producing, via the referee and in other respects, the soccer justice—flow, fairness, outcome, and emotional tenor of the game—that has come to be part and parcel of the normative shape of soccer as a whole and that is expected with respect to each particular match? Soccer justice is not only what members of soccer’s social world are accustomed to producing and receiving. It is also what they want. “Is this just?” is internal to questions of what the referee decides and how. “This is just” is in part a product of those decisions.

Richard Re and Alicia Solow-Niederman make a related point about plural values in their observation that algorithmic judging risks codifying decision-making judgment when normative considerations suggest preserving discretionary justice.³²³ There are echoes, too, of arguments that legal principles may or may not be too contextual to be enforced by algorithms. Those have been particularly salient with respect to the general jurisprudence of rules and standards.³²⁴

One needs to ask not only whether context matters to decision-making, whether by humans, machines, or human-machine blends, but also how context matters. The focus should not always be on special or worrisome new features of machine-related decision makers. The focus should be on the descriptive and normative features of the systems, the existing social world into which the machine is introduced. The VAR system risks not only codifying the Laws but also codifying features of the Laws that anticipate social practices that embed the Laws with forms of human discretion.

What VAR may codify, in more technologically refined futures, is not only the possibility of human discretion on the part of the referee but also the underlying values of play that inform the referee, teams on

322. See *id.*

323. See Re & Solow-Niederman, *supra* note 284.

324. See Frank Fagan & Saul Levmore, *The Impact of Artificial Intelligence on Rules, Standards, and Judicial Discretion*, 93 S. CAL. L. REV. 1 (2019).

the field, and the vagaries and variability of emotional and other connections in soccer's social world by all participants. Judgment and justice are significant governance features of soccer both because humans are human and variable and also because specific types and styles of judgment and justice are features of soccer institutions, including the Laws. VAR at a micro level and soccer at a macro level are legitimate or not, and just or not, partly relative to the institutions of soccer's social world as well as relative to free-standing individual human capabilities, interests, and values. The scholarly literature associated with polycentric governance generates few strong normative implications, but it is motivated by the intuition that governance organized in a polycentric social system likely results in more transparency, accountability, equity, and legitimacy because decision-making centers lie closer to the communities and people who are the objects and subjects of governance.³²⁵ That raises an important question: Looking ahead, does VAR, via FIFA's influence, signal a move away from polycentricity in soccer?

Next, Part VII returns to VAR in action, now open for analysis with the benefit of the foregoing.

VII. SOCCER AT PLAY

Consider two further illustrations of the VAR system in use on the soccer pitch, grounded in actual experience.

The attacking midfielder carries the ball forward, just past the center circle, and passes the ball between two defenders to a teammate running at a diagonal toward the goal. To the naked eye, an observer from above would say that the attacker is parallel with the defenders—that is, in an onside position—though there is the clear possibility that the attacker's body, while in motion, is just behind the defenders—offside. The assistant referee's flag stays down. The attacker carries the ball forward, alone, with a clear chance to score. Just beyond the penalty area, the attacker shoots.

The ball swings wide of the goalkeeper's arms and goes into the goal. The attacking players engage in a muted celebration. All eyes are on the referee. There is no signal. The referee appears to be listening to the earpiece. Within ten seconds, the referee gives the square "VAR" signal in the air and raises an arm vertically, overhead. No goal. VAR indicates that the attacker was offside. An indirect kick is awarded to the defenders, and play continues.

325. See Ostrom, *supra* note 210, at 665.

During the 2019 Women's World Cup in France, only the second senior international tournament to use VAR, games were repeatedly disrupted by player and even team protests as to VAR-supported decisions to award goals despite claims that attacking players were offside, or to disallow goals on the ground that an attacker has earned an advantage in an offside position.³²⁶ The Cameroon national team was particularly aggrieved by having a goal awarded against it in a match against England, despite a claim that an English player was offside, and in the same match having a goal of its own disallowed, again based on a VAR-supported offside ruling.

Twice during the match, the Cameroon players refused to restart the game in protest, though their concerns related less to any new interpretation of the Laws of the Game and more to the manner in which the referee's judgment was or was not exercised. Related but distinct controversies erupted over referee's reliance on VAR in a new setting, a new interpretation of a rule requiring that goalkeepers remain on the goal line, though not necessarily stationary, when a penalty kick is being taken.³²⁷ The combination of a new interpretation of the Laws and a new technique for enforcing it proved repeatedly combustible, confusing players, teams, coaches, and observers.

The case of the Cameroon women may have foreshadowed an incident during a match between Argentina and Brazil during the 2019 Copa America. Argentine players repeatedly implored the referee to use VAR review to examine two possible penalty kicks not given.³²⁸ The Argentine players complained angrily during and after the match. The Argentine Football Association undertook an ultimately unsuccessful campaign to obtain the VAR video footage.³²⁹

The first illustration is entirely ordinary in the application of the offside rule. There is no unusual disruption to the flow of the game or to players', teams', or observers' roles or expectations regarding the referee's performance. The referee's final judgment is accepted unhesitatingly. Disallowing goals based on a post hoc judgment of offside or some other offense has long been part of the game, and this instance is not uncommon in content or in process. When the game

326. See Aimee Lewis, *Women's World Cup: Referees and VAR Under the Microscope After Dramatic Weekend in France*, CNN, <https://edition.cnn.com/2019/06/23/football/womens-world-cup-referees-spt-intl/index.html> [<https://perma.cc/D2L6-24BK>] (last updated June 24, 2019, 7:36 PM).

327. See *id.*

328. See Adnan Riaz, *Argentina Are Outraged at Referee's Refusal to Use VAR's Advice for Two Important Penalty Appeals*, SPORT BIBLE, <https://www.sportbible.com/football/news-argentina-are-outraged-at-referees-refusal-to-use-vars-advice-20190704> [<https://perma.cc/QW9Q-4R78>] (last updated July 4, 2019).

329. See *id.*

ends, the dispute is a transient footnote to the result. As in the vast majority of matches played, the machinery of soccer governance adapts smoothly to expected small disruptions.

The second suggests that players' and teams' historical deference to the referee rests on a systemic equilibrium that is more fragile than we realize, one that involves the Laws' contents, referee capabilities, social trust, institutional authority, and legitimacy. If VAR disrupts that equilibrium by making its fragility unexpectedly salient by rendering previously clear roles and responsibilities newly ambiguous or by calling features of the system into question, then unpredictable results may follow.

The Cameroon players eventually resumed play. The Brazilians' victory over Argentina was not disturbed. Players were heard; results were rendered. But is the machinery of governance so obviously still intact?

The VAR system vested new powers in the referee that the players and teams in both cases sought to invoke. If the system is for their benefit, they seemed to argue, then they should be able to access it. That argument and the players' behavior tested the historically unchallengeable authority of the referee on the field. That hints at possible realignment of governance roles and responsibilities at larger scales. At least one professional league, Major League Soccer in the United States, has begun to experiment with providing real-time observer access to the audio of interactions between the referee on the field and the human being in charge of the VAR system.³³⁰ That creates both a sort of transparency regarding referee decision-making and a fuller record for review, both in the moment and afterward. But as other scholars of algorithmic decision-making have pointed out, transparency is not capacious enough to encompass and address all relevant governance concerns.³³¹

If one is concerned about accuracy, impartiality, and inclusion on the field and elsewhere in soccer, why not construct institutions to referee the referees, particularly accountable institutions designed with public values in mind?³³² To allow the players to carry forward their

330. See Andrew Keh, *The Bubble's Best TV Innovation Deserves a Longer Look*, N.Y. TIMES (Aug. 12, 2020), <https://www.nytimes.com/2020/08/11/sports/soccer/MLS-VAR-portland-orlando.html> [<https://perma.cc/BWS3-UCMT>].

331. See Mike Ananny & Kate Crawford, *Seeing Without Knowing: Limitations of the Transparency Ideal and Its Application to Algorithmic Accountability*, 20 NEW MEDIA & SOC'Y 973 (2018); Deven R. Desai & Joshua A. Kroll, *Trust but Verify: A Guide to Algorithms and the Law*, 31 HARV. J.L. & TECH. 1, 10 (2018).

332. See Teresa Scassa, *Designing Data Governance for Data Sharing: Lessons from Sidewalk Toronto*, TECH. & REGUL., Apr. 2020, at 44, 45–46, <https://techreg.org/index.php/techreg/article/view/51/21> [<https://perma.cc/NSW3-LB5V>].

expectations of self-governance and fair treatment, as parts of soccer justice? Should players be formally permitted to invoke VAR review? Should coaches or managers? Or owners, advertisers, and broadcasters? Fans and supporters? The game contested on the field might be carried forward in contests regarding VAR.³³³ The questions are partly rhetorical and partly substantive. They end, in both senses, with finality. Finality where, and by whom, and on what ground? The contestability of everything is backstopped by the ethos and identity of the social world. The VAR system is not simply a tool for humans; in its evolving form, it is either part of soccer or it is not.

VIII. CONCLUSION: THE FUTURES OF GOVERNANCE, AUTOMATION, AND SOCCER

A. *The Essence of Decisions*

This Article began with broad provocations about how to think through evolving human-machine blends, particularly where those blends intersect with decisions, judgments, enforcement, and related regulatory intervention in both individual and social experience. The pace of research and scholarship on those questions has accelerated in recent years. It encompasses philosophical concerns on the character of the human mind,³³⁴ social scientific concerns on the character of human cognition and creativity,³³⁵ and, as here, concerns about how algorithmic decision makers are and should be situated in traditionally human adjudicative contexts.

It defers extended consideration of the theories and concepts at stake, preferring to invest in a deep investigation of a single example: the sport of soccer and the role of the soccer referee relative to the recent introduction of the VAR. It uses an extended narration of the histories, practices, cultures, Laws, and norms of soccer to construct an elementary model of soccer as a conceptual and material social world, a complex, evolving system of systems, one whose governance at micro and macro levels is organized via the concept of polycentricity, or the coexistence of multiple, overlapping centers of formal and informal authority. That polycentric model making embeds rather than excludes

333. See Deirdre K. Mulligan, Daniel N. Kluttz & Nitin Kohli, *Shaping Our Tools: Contestability as a Means to Promote Responsible Algorithmic Decision Making in the Professions*, in AFTER THE DIGITAL TORNADO: NETWORKS, ALGORITHMS, HUMANITY 137–52 (Kevin Werbach ed., 2020).

334. See FRISCHMANN & SELINGER, *supra* note 20.

335. See EITAN WILF, SCHOOL FOR COOL: THE ACADEMIC JAZZ PROGRAM AND THE PARADOX OF INSTITUTIONALIZED CREATIVITY 115–38 (2014).

concepts of political philosophy or legitimacy in the design of adjudicative institutions. The dignity and autonomy of the individual, the object of algorithms ostensibly intended to improve the accuracy and impartiality of decision-making, are included in broader systems.

Having constructed that polycentric model, this Article considers the strengths, weaknesses, and implications of the VAR system at greater length. The point is that the VAR system is a modest example of a human-machine decision-making blend that is useful in illustrating how to evaluate bigger and even more impactful human-machine blends in a systematic and comprehensible way. In a pluralistic, dynamic, and unpredictable society, a polycentric approach offers useful descriptions of cooperation and conflict resolution in complex settings. As a systems-oriented approach, it encourages looking beyond interests and impacts of decision-making processes solely on affected individuals and recommends including feedback loops and institutions as interests and potential actors in their own rights. That added perspective helps to introduce system-level assessment of critical questions of institutional design: the roles of human-machine blends in constructing and undermining social trust, authority, and system legitimacy.

B. The Futures of Soccer

There is more to the case itself than even the extended review in this Article can accommodate. What do we want and expect from soccer, not only from a specific game but from our engagement with soccer as a social world? What do we want and expect from each other, and what should we want and expect, as fellow supporters or players or broadcasters or anything else? That is the eventual, ultimate governance question for any social world, and it is a question that by design has only plural, incomplete, and changing answers. The VAR system and refereeing generally have no single vector to follow. They must answer to too many interests and histories to be equally legitimate, authoritative, and trustworthy in each of them at once. Soccer belongs to everyone and to no one, rather than to FIFA or the English Premier League or corporate sponsors and investors or those who would police one's choice of "football," "soccer," or anything else to describe it.

Fans want wins and losses. Fans want fun and entertainment. Fans want compelling stories. Players want money. Players want challenge and opportunity. Players want safety and security that they can focus on sport and not on theft or corruption of whatever is deemed to be the integrity of the game. Owners, investors, sponsors, and

advertisers want returns. Broadcasters and commentators want audiences. It is a game, it is a play, but it is also serious business, both literally and metaphorically. All of us want affirmation that time and emotion spent in following the sport is genuinely worth the investment. What we give to the game, we want back, and more. If soccer is a part of us, as it is for even casual fans and players, we want to imagine that it is a better and improved part of us. We idealize and mythologize that when our teams win, we win, and when our teams lose, we suffer. Our reactions, myth or real, just or not, renew the game for all.

Refereeing and officiating play critical parts in those circles of interest and identity, but they have long been little noticed. We often prefer it that way. Fans would prefer to imagine soccer as an idealized self-regulating communal activity, nudged by mostly invisible regulators from time to time. VAR intrudes on that dream. In a polycentric system, VAR seems to threaten the equilibrium that defines the game itself at both micro levels (current governance of this game) and macro levels (the roles of referee, players, fans, and others in defining the conditions of play). VAR makes the referee at once more salient and less significant. Refereeing is now explicitly the socio-technical and socio-legal system that it has always implicitly been.

VAR at present is clearly imperfect. Can VAR be improved within the normative framework of the game? Could it be improved by modifying the normative framework of the game? Or must we either reject VAR and equivalent efforts to automate soccer governance and build on the rejection to reaffirm legitimacy by explicitly reimagining what soccer “is,” preserving its creative and playful character expressly in ways that the soccer community has never truly had to do? One could change the Laws more substantially. One could imagine large changes to soccer’s formal global governance, starting with FIFA. Lawmakers and policy makers could regulate soccer more aggressively.

The point is that no human-machine blend fixes us in a narrow band of possibility. A polycentric system, by definition, contains multiple points of possible intervention and opportunities to imagine revising and reforming governance. My own normative bias is to allow the VAR system to be used, evaluated, and refined. That is not a solution; it is at most an intermediate step in a process of continued understanding and assessment. I cannot imagine the game without a human referee at its core and without the referee being trusted to exercise a substantial degree of discretion. But that is as much my own interpretive history at work as anything else. Soccer as a social world may thrive in different forms, animated by different histories.

C. The Justice of Smart Soccer?

Can our concepts of law survive systems of algorithmic enforcement and adjudication, of algorithmic justice and smart technologies? In a pluralistic and uncertain world, it may have to, but it should not without searching, systematic, system-level explorations analogous to this one. This Article focuses entirely on soccer and soccer referees. Consider the possibility that players and teams themselves are increasingly “smart,” with decisions and behaviors monitored and reviewed relentlessly during games and practices by networked sensors administered by their own teams and surveilled by broadcasters and others.³³⁶ What becomes of the machinery of soccer when the machinery of soccer is, literally, us?

336. See Edgar Alvarez, *How US Soccer Develops the Superstars of Tomorrow Using Tech*, ENGADGET (Mar. 1, 2019), <https://www.engadget.com/2019-03-01-atlanta-united-us-soccer-statsports-youth-development.html> [<https://perma.cc/9NHG-5P42>]; Anusuya Datta, *GPS in Soccer: How Teams Are Using Wearables in the Russia World Cup*, GEOSPATIAL WORLD (June 27, 2018), <https://www.geospatialworld.net/blogs/gps-in-soccer-wearables/> [<https://perma.cc/63UF-S9TL>]; Heather Timmons, *It's Not a Man Bra—It's a Wearable Technology Optimization Device*, QUARTZ (May 29, 2014), <https://qz.com/214611/its-not-a-man-bra-its-a-wearable-technology-optimization-device/> [<https://perma.cc/MUE7-MAEM>]. The uses of Big Data analytics in competitive soccer are still in their early stages. See Pappalardo et al., *supra* note 32.