Technology and the Existential Element in Sport

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The purpose of the following paper is to discuss and problematize the use of technology as a basis for decisions in on-going sport events. In the paper, various forms of technology used in sport are analysed, whereby the main dichotomy is understood as technology used outside a game (off-game technology) and technology used in a game (in-game technology). The primary aim of both these forms of technology is to create similar conditions for performance, and hence fairness, for all participants in sport. The paper further emphasizes that two variants of technology, in-game decision-making technology and off-game decision-making technology are not just about creating similar conditions, but rather are technologies that are applied, as it were, retroactively and aims at ensuring fairness in sport through correcting upcoming mistakes that referees do during ongoing games and competitions. The paper highlights that using these two latter forms of technology as a way of ensuring fairness in ongoing competitions is problematic in that it might alienate sport from its human existential basis of embodiment and perspectival subjectivity. Hence, it might lead to an alienation of the participants in sport from both their sporting practice, and each other and themselves. It is further pointed out that the epistemological fallibility that emerges from the human existential conditions of embodiment and subjectivity, instead of being eliminated by technologically based decisions, ought to be understood as the basis for enabling sports contests as arenas for the development of an individuals' (sportspersons') practical judgment.

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Introduction

Technology is an important feature of sport. In sport (i) clocks are used to keep track of the time at sporting events, (ii) sporting participation rests on technological equipment and arenas such as skis and football stadiums, (iii) different technological enhancing materials are under constant development, such as hard-core racing tracks, artificial grass and carbon fiber sticks, and (iv) different forms of protective technological equipment are developed such as helmets and medical protective equipment.[1]

Beside these constitutive, enhancing and protective applications of technology in sport, technology also serves as (v) a guarantee of fairness or justice in sporting competition[2] through technology such as arenas and stadiums that enable fair competitions and technology that enables sportspersons to have access to equal equipment. But, using technology in ensuring fairness and justice of sporting competitions is also applied in another way, i.e. through applying technology in decision making to ensure that the decisions are correct. This last use of technology is exemplified by, for instance, hawkeye-technology in tennis and referees use of video-replay in ice-hockey. In football we have also seen the introduction of goal-line technology[3] with the aim of securing whether or not there has been a goal. Furthermore, in some sports, such as ice-hockey and football, video-replay is also used in determining game-situations after the game has ended, such as for instance to determine whether a sportsperson has committed foul play during the game. This use of technology in relation to decisions in sport is what we can call in-game-decision-technology and is sometimes called for by both active sportspersons and audience as a model for ensuring fairness and justice in sport.[4]

In relation to uses of goal-line technology in football, Nlandu have argued that what the football organizations should be doing, rather than ac-

1 Loland, S, 'Technology in Sport: Three Ideal-Typical Views and Their Implications', www.idrottsforum.org, October, 2003. p. 2.

2 Loland (2003) mentions also this use of technology, but does not really go into details about it.

3 Goal-line technology is nowadays a "natural" part of premier-league football in England as well as in European and World Championship, and using video reviews in relation to situations such as possible off-side goals, penalty-kicks and other special situations of a football games has come into use during for instance Confederation Cup 2017.

4 The latest example is the reaction after Bayern München's defeat against Real Madrid in Champions League on18th of April 2017. See for instance *The Guardian* article 'Arturo Vidal rages at referee after Bayern Munich go out to Real Madrid', https://www.theguardian.com/football/2017/apr/18/arturo-vidal-bayern-munich-real-madrid. Retrieved 2017-06-29, kl. 11.24.

cepting goal-line technology as a means of ensuring fairness in football, is focusing their attention and work on a broader educational project directed to sportspersons and others involved in football, with the aim of clarifying the fallibility and complexity of football.[5] I am, in principle, sympathetic to this educational idea of Nlandu, and in this paper I want to accomplish two main aims; first, I want to give a structural account of different forms of technology used in sport and the underlying rationale for its use in sport, and second, the aim is to show that using in-game-decision-technology in sport is problematic due to it not being easily reconciled with fundamental human existential conditions and hence, that an extended use of in-game-decision-technology might actually alienate sport from its human existential basis.

The general argument for technology in sport

As is clear from the introduction, technology does fulfill several different functions in modern sport; first, it is a fundamental constitutive condition for doing sport at all and it enables sport to enhance through the development of equipment and sports material. Second, it is important as a fundamental element in the protection of a sportsperson's health, and third, it is thought to be a fundamental element in ensuring fairness and justice in sport through constituting fair opportunities and enabling more correct and "objective" decisions in on-going games. But, a question arises: Why assume, in the first place, that fairness and justice in sport need to be based upon different forms of technology?

The basic underlying premise for involving technological elements in sport is the fairness-outcome principle. The fairness-outcome principle rests upon the social logic of sport which Sigmund Loland defines as "the measuring, comparison, and ranking of competitors according to athletic performance as defined by the relevant rules"[6]. This social logic entails that the only relevant ranking factors in sport ought to be (i) the rules of the game, and (ii) the skillfulness of competitors, and that the sportsperson who deserves to win a game or competition should be the one who is performing the sport specific skills in accordance with the rules in a better way than all other opponents. The general idea, then, is that it is the physical, psycholog-

5 Nlandu, T. 'The Fallacies of the Assumptions Behind the Arguments for Goal-line Technology in Soccer', in *Sport, Ethics and Philosophy*, p. 451-466, 6:4, 2012.
6 Loland, S. (2003) p. 3.

ical and technical skills of sportspersons, together with rules and norms of the sport in question, that ultimately should decide the outcome of a competition. In this sense, a sporting contest should have, in a sense, "objective" outcomes. But, it is exactly in relation to the fairness-outcome principle that technology is needed in sport, since not using different forms of technology creates the risk of having sporting conditions that to a large extent make chance, and not the performance of the sportspersons, the determiner of sporting competitions.

Using technology, and specifically in-game-decision-technology, in sport

Given the fairness-outcome principle, technology is normally applied in sport as tools for eliminating factors that are not accepted as the determining factors of sporting competitions. Overall, though, we can make a distinction between (i) off-game-technology where the technology goes beyond the competitive situation or game in itself and aims at securing fairness through creating equal opportunities for performance in the competitive situation, and (ii) in-game-technology where the technology is part of the actual performance in an actual competitive situation or game and aims at securing fairness in the game or competition.

Now, one form of off-game-technology concerns fair circumstances in a sporting competition and aims at (i) enabling participants of a game or a competition to have equal opportunities in performing at the event, and (ii) eliminating chance as a determining factor of a competition. This form of technology has an internal relation to actual performances in sports and to the fairness of sport, since it concerns the participants' performance conditions. Examples of this form of off-game technology are facilities, such as arenas, stadiums, swimming-pools, and machines and tools such as ice-machines in ice-hockey or lawn-mowers in football. A second form of off-game-technology does not have any internal relation to the actual performance of the sport as such, and does not therefore, when strictly used as an off-game-technology, have any direct relation to the question of fairness of sport. Examples of this form of off-game technology are replays for the audience at arenas, or the media-technology in broadcasting sporting events, or watching a certain race or game afterwards as a pedagogical instructive tool for educational purpose.

In-game-technology, on the other hand, is used as part of actual games or in competitive situations. Some of these technologies are also related to creating equal opportunities, such as different forms of sport equipment such as hockey-sticks, clothes, shoes, javelins or pucks,[7] and some are only used as tools for conveying information such as whistles, or clocks to keep track of time, mechanical devices at the finish-line or attributing points in games.

A second form of in-game-technology is in-game-decision-technology, i.e. technology with a direct effect on situations in a game due to the technology being used as tool for determining situations in a game that otherwise would in a normal situation, strictly speaking, be based upon decisions made by game officials inside a game. There are two forms of in-game-decision-technology: one is in-game-decision-technology that is used in an ongoing game or competition in which the referees and other game officials use some form of technology during the play to decide a situation. This use of technology looks different in different sports, and we can differentiate between immediate use of the technology and delayed use of technology. An example of immediate use is goal-line technology in football. The basic idea of this technology is that there should be a direct link between sensors and the referee, so that the referee immediately receives correct information in a situation. Delayed use of in-game-decision-technology, on the other hand, in an ongoing game or competition consists mainly of a form of "time-out" of the ongoing game, in order to secure the situation with the help of video replay or computerized calculations where either the referee or the game officials double-check the situation before making a decision. Examples of this delayed use of technology are hawk-eye camera in tennis, or the use of video replay of goal-cameras in ice-hockey.[8]

7 Protection technology can be understood as part of this category of technology, since it is either elements of the rules of the game, such as helmets in ice-hockey, or enabling sportspersons to try their best when using protective technology such as bandages.

8 These uses of technology is slightly different, in that in tennis the problematic situation is solved directly after it occurred, whereas in ice-hockey the problematic situation becomes solved at the next in-game natural break. That is, in ice-hockey, if a doubtful situation occurs according to the referee, the referee stop the game at the next "natural" break of the game, and calls the video-referee who watches the situation on replay from different angels, and then it is the video-referee who determines whether the puck was in the goal or not. This means that it is the referee who in the first place decides whether there should be a second analysis of the situation. This differs also from the use of hawk-eye in tennis, where the players themselves can call for a second analysis. But in principle, the two uses of technology are similar in that a competition stops for a moment for an extra check of a situation that was thought to be problematic, to decide with the help of technology, and then basing the conclusive decision on this extra information given through technology.

The second form of in-game-decision-technology is used after a game or competition. This is actually a form of off-game technology, normally via replays and video, but it is constructed in such a way that it becomes a special form of in-game-decision-technology. For instance, in ice-hockey, after a game is over, a player might get a penalty, and even be fined by the ice-hockey federation, for foul play during the game, even though no penalty was attributed during the game. In football it becomes more and more common that players get different form of penalties for actions during games, even though they did not get a penalty in the game. For instance, Louis Suarez in Liverpool FC was given a ten games suspension for biting an opponent during a Premiere League game, even though no free-kick was given during the actual game.[9] In football there is even an example in which the actual result was changed on the basis of video replay after the game took place. In a game between Lyon and Montpellier the video replay showed that a penalty shot was actually a goal even though the referee did not judge it as a goal, and as a consequence the whole game between Lyon and Montpellier was re-played later.[10] An example of post-video-based penalty in an individual sport is the example of Alexander Legkov in cross-country skiing who, after the race, got a 15 seconds addition to his finishing time for skiing between the prepared tracks in the finishing sprint, and hence hindering an opponent.[11]

The argument for using in-game-decision-technology

Given this categorization of uses of technology in sport, the fundamental argument for the use of in-game-decision-technology is as follows. In a game or a competition, the best performer, be it an individual athlete or a team, deserves to be the winner. But all games consist of a plentitude of game-important decisions made by game officials such as for instance referees that have an important effect on the outcome of the game. But, since game offi-

9 'Luis Suárez given 10-match ban for biting Branislav Ivanovic', https://www.theguardian.com/football/2013/apr/24/luis-suarez-10-games-ban-liverpool, 24th of April 2013. Retrieved 2017-06-29, kl 11.57.

10 'Lyon women's team offer to replay French Cup match after referee mistake in shoot-out', http://sports.yahoo.com/blogs/soccer-dirty-tackle/lyon-women-team-offer-replay-french-cup-match-180512728.html, 15th of May 2013. Retrieved 2017-06-29, kl 11.59.

11 'Här förlorar Legkov Tour-ledningen' [Here is when Legkov is loosing the leadership of the Tour, http://www.sweski.com/haumlr-foumlrlorar-legkov-tour-ledningen.5148194.html, 15th of January 2013. Retrieved 2017-06-29, kl 12,01.

cials are, by virtue of their nature as human beings, epistemologically fallible in the sense that decisions made by them can be, and many times are, mistaken, the competition always run the risk of being unfair or unjust in the sense that the one who wins the competition might not be the best performer.[12] But, the argument goes, since in-game-decision-technology are not equally vulnerable to make mistakes as human beings, we should introduce in-game-decision-technology as a helping tool for referees and game officials in their decision-making when it comes to game-important situations. In-game-decision-technology, simply, enables the sporting competition to be fair in that it eliminates the human epistemological fallibility that referees and game officials of sport necessarily have.[13]

When it comes to in-game-decision-technologies used in an ongoing competition, the technology enables game officials to be absolutely certain when it comes to decisions concerning normal decisive situations of a competition. For instance, the underlying reason for using goal-line technology in football is the thought that scoring goals is the most important situation of a game, since football is about scoring (more) goals (than the opposing team. But, given that the game important situation in football is scoring goals, the decision of giving a goal or not to a team can be decisive for the outcome of a game, and using in-game-decision-technology such as goal-line technology can secure fairness and justice of the outcome of a game even though referees sometimes have problems determining if a goal is scored or not.[14] Therefore, there must be some form of goal-line technology (cameras or microchip or whatever) and video-reviews of situations in games that can assist the referee in his or her uncertain decision-making.

When it comes to the use of in-game-decision-technologies after a competition, the rationale for using technology is slightly different. Here the main argument is more concerned with the complexity of a game or competition. Referees or game officials cannot observe everything that is going on during a competition, hence many game-important situations are missed during the competition. But with the help of technology it is possible to identify problematic situations of a competition and, based upon the information through the use of technology, make correct decisions afterwards. The normal effect of the use of in-game-decision-technology used after a

12 Nlandu, T. (2012) p. 453-460.
13 Nlandu, T. (2012) p. 453-460.
14 The argument as presented here is basically based upon the ideas formulated by Tamba Nlandu (2012) p. 451-466.

game is giving personal penalties to sportspersons, to teams and on rare occasions even change the result of the game or competition.[15]

The basic reason, then, why in-game-decision-technology is thought to be needed in sport is the fundamental epistemological fallibility of referees and game officials, both in relation to the inability to be certain when it comes to details in the games or competitions, and when it comes to their inability to have certainty due to the overall complexity of a game or a competition.

Sport and human existential conditions

Above, we have dealt with the structure and rationale of using technology in sport, and especially the arguments why there is need of using in-game-decision-technology. Before discussing and evaluating the arguments for introducing in-game-decision in sport, we need to clarify somewhat the idea of sport as such, and also to understand the role sports have in human existence.

A fruitful way of understanding sport is to see it as a rather well defined and separated social field, a practice,[16] part of a larger society, and individuated in relation to other fields of society by being based on specific conventions, rules, and agreements that also are associated with certain values. Through participation in different social practices we learn facts, social norms, ethical values and a form of universal empathy and sympathy and that we are "playing" the same human game and that we are similar to each other in relevant ways. This is a form of practical judgment learned through participation in different social practices, and all social life ultimately rests upon our ability to apply this practical judgment. It is a general and reflexive practical judgment in the form of understanding your social position and

15 It is important to notice that we ought not to understand doping and giving a suspension for doping as an in-game-decision-technology used after a game. The reason is that doping, as a phenomenon, is not bounded by any particular decision based situation in the game, and therefore not part of the any on-going in-game-decisions made by referees or game officials.

16 MacIntyre characterizes a practice as "any coherent and complex form of socially established co-operative human activity through which goods internal to that form of activity are realized in the course of trying to achieve those standards of excellence which are appropriate to, and partially definitive of, that form of activity, with the result that human powers to achieve excellence, and the human conception of the ends and goods involved, are systematically extended... [and that a] …practice involves standards of excellence and obedience to rules as well as the achievement of goods" (MacIntyre, A. *After Virtue: A study in Moral Theory*, (London: Duckworth, 1985), p. 191.).

life, and being able to relate yourself to yourself, to other persons, and to the social and natural world at large in a reflexive, ethical and sensible way.[17]

Two important points for us now are, first, in relation to sport practices, these conventions, rules and values apply to both participants of sport and officials such as managers, game officials and referees, and even spectators. In this sense, sport as a practice, (in reality different sports should be understood as different practices), is a complex social phenomenon involving many different individuals that "play" different roles in the sporting practice, and the practice therefore involves many layers of abilities, skills, properties and relations between individuals involved in sport, such as good judgment, technical skillfulness, trust, mistrust.

Second, these sport practices are, of course, primarily populated by human persons or human beings,[18] and hence, what is ought to be understood as possible to perform in sport should thereby also to a large extent be understood as limited by the human nature. In this sense, the existential conditions for being a human person affects the sport practice through limiting what is possible in the practice. Two of the fundamental conditions limiting sporting practices are that human persons (i) are by necessity embodied animals, and that these embodied animals[19] (ii) are experiencing the world through a spatio-temporal structure.

First, sportspersons, as well as all human beings, are persons. To ourselves and to others like ourselves, we commonly attribute mental predicates (P-predicates) such as: "The person P is planning", "The person P is focusing" or "The person P is mind-mapping".[20] From the attribution of P-predicates to ourselves it might be thought that we should interpret personhood as a form of mental entity, since P-predicates attributes mental properties to ourselves as persons in line with John Locke who claimed that a person is "a thinking intelligent being, who has reason and reflection,

17 This idea of cultivating a practical judgment of persons resembles the Kantian thought of cultivating moral responsibility and good judgment through good and reflective upbringing and education of persons as expressed by Immanuel Kant in his short book Über *Pädagogik* (*On Education*) from 1803. (Sw. transl.*Om pedagogik*, (Göteborg: Daidalos, 2008).

18 In some sports, other animals such as horses, dogs, camels also participate. But the primary focus is, also in these sports, on the human person.

19 Accounts that imply that human personhood is bounded by its embodiment, even though there also exists differences in the accounts, can be found in writings by for instance Strawson, P. F. *Individuals: An Essay in Descriptive Metaphysics,* (London: Routledge, 1959), Wiggins, D. *Sameness and Substance*, (Oxford: Basil Blackwell, 1980), Olson, E. T. *The Human Animal*, (Oxford: OUP, 1997), Snowdon, P. P. *Persons, Animals, Ourselves*, (Oxford, OUP, 2014) and Melin. R. 'Animalism and Person as a Basic Sort', *Argument*, pp. 65-85, Vol 1, (2011).

20 Strawson, P. F. (1959).

and can consider itself, the same thinking self, at different times and different places".[21] But, what should not be overlooked is the fact that predicates such as "…is planning" and "… is focusing" which all seems to imply the existence of consciousness is not enough in understanding ourselves as persons. We also commonly say things like "The person P is running" or "The person P is working-out" or "The person P is kicking the ball", and all of these ascriptions imply materiality of the person. Let us call these predicates, M-predicates and simply hold that M-predicates attribute materiality to an object.[22] Now, a reasonable idea is that all P-predicates are, in the final analysis, dependent upon some M-predicate, in the sense that M-predicates are ontologically prior in relation to P-predicates.[23] This means that all correct ascriptions of a P-predicate to a person conceptually depends upon the correct ascription of some M-predicates to the same person. In this sense, all P-predicates are M-predicate-inclusive.[24] Examples of typical P-predicates that are M-predicate inclusive in sport are "… is yelling at the referee", "… is playing tennis", or "… is laughing at the mistake he did". In all of these cases, the attributed materiality is clear in that a yell or a laugh requires, besides the intention of the person who is yelling or laughing, also a face with a mouth that bursts out by either yelling or laughter, and to play tennis requires a body that moves on the court trying to hit the ball with a racket. In the case of human persons, the material body normally consists in the biological animal body, and this animal body should be understood as a fundamental existential condition of human persons. But, if persons are by necessity embodied it also follows that every person must occupy a certain spatial position in the world, since a material body cannot exist without being in a certain place at a particular time.

Second, as persons we also experience the world. But this experiencing of the world is only possible by understanding spatio-temporal continuity as an existential condition of human life. The basic argument goes back to Immanuel Kant's account of time and space. According to Kant, time and space must be understood as a priori intuitions that structure all possible experiences in the sense that an experience of an external object or an internal

21 Locke, J. *An Essay Concerning Human Understanding*, ed. Nidditch, P. H. (Oxford: OUP, 1975), p. 335.
22 Strawson, P. F. (1959)
23 Strawson, P. F. (1959).
24 Wiggins, D. 'The Person as Object of Science, as Subject of Experience, and as Locus of Value', *Persons and Personality: A Contemporary Inquiry*, ed. Peacocke, A. and Gillet, G. (Oxford: Basil Blackwell Ltd, 1987), p. 66.

sensation must be placed in space and time.[25] As Coplestone expresses it, "Space and time constitute the framework, as it were, in which the manifold of sensation is ordered or arranged."[26] The main reason why space and time should be understood as necessary conditions for experience is that conceptualization of a phenomenon as (i) being at the same time or at a different time as another phenomenon, or (ii) being in a certain spatial relation to other phenomena, already presupposes that the experienced temporal positions are placed in a temporal structure and that the experienced spatial positions are placed in a spatial structure.[27] In this sense, an experience is always positioned in a temporal structure and in a spatial structure. From this it then follows that spatio-temporal continuity becomes the existential conceptual structure of experiential intelligibility for human persons, in which human persons position themselves, and experience the world with themselves and others. This implies, first, that there is always a here-ness and a now-ness to our experiences. We are, as long as we are existing, always confined to be in the world. Second, the spatio-temporal system is experienced as a form of causal system where events occur as consequences of other events since all experienced events are elements in the same spatio-temporal system of events. We can never transcend it, neither ontologically nor epistemologically. It is our existential frame from birth, or maybe before birth, until death occurs, and it gives human life a form of unpredictability in that the frame of existence is absolutely given, but the actual length of the frame and the actual events in the frame are unfolded as we live our lives. They are not absolutely pre-determined, and hence are unpredictable.

Now, sport, and the use of technology in sport, is mostly consistent with these existential conditions of human personhood. For instance, via technology, sport receives its narrative form with a beginning, a middle part, and an end. As such there is no difference between sport and life. A football game starts by the first kick-off, and ends with the final whistle by the referee approximately 90 minutes later. In between there has been a half-time break. This is absolutely predictable. It is even the case that sport competitions are similar to life in that there is an unpredictability of the length of the narrative. First, even if a game is determined to exist for a certain amount of time, such as football and ice hockey, it is still possible that the on-going time of the game is unpredictable. In football by the referees possibility of adding

25 Kant, I. *Immanuel Kant's Critique of Pure Reason*, Translated by Kemp Smith, N. (London: MacMillan, 1992).
26 Coplestone, F. *A History of Philosophy*, Vol. VI: Wolff to Kant, (London: Image Books Doubleday, 1985), p. 238
27 Kant, I. (1992).

extra time, and in ice-hockey, which is based on effective time played, by time-outs or contingent occurrences that delay the game, such as problems with ice or injuries to players. Second, in sports where the competition is not determined to exist for a specified amount of time, there is also a form of unpredictability in the sense that we do not know for how long a competition will last. For instance, a marathon race has this form of unpredictability to it, as well as a cross-country ski race.

Furthermore, there is also an openness in the actual course of events in a game or competition, and hence a predictability of what should be done, but not predictability in detail or outcome of the game. In sport, the best performance should win and the circumstances of a competition should be secured to enable this, but it should not be possible in advance to absolutely predict who actually will be giving the best performances. Sport is, in this sense, just like life itself, a lived experience which unfolds while in progress.[28] The only difference is that in sport, such as football, it is the game officials (such as a referee) who is the impetus of starting the frame of practice (the sporting competition) which then consists of different perspectives, interpretations, predictabilities and unpredictabilities centered around the referee, sportspersons and spectators.

In-game-decision-technology and human existential conditions

So far, then, we have seen that the use technology in sport, where sport is understood as a human social phenomenon, is in accordance with normal human existential condition i.e. that human persons are by necessity embodied experiencing individuals existing in a spatio-temporal structure. Sport, simply, allows participants and spectators to enter into an unpredicted predictability that unfolds itself as an ongoing life-experience. But, using in-game-decision-technology in sport is more problematic given these existential conditions of humanity.

28 One can actually imagine that this is an underlying reason why live broadcasts of sporting competitions might be preferred in relation to replay broadcasts. It is simply not the same thing to watch a football game or a 100-metre race while it goes on, as watching it afterwards. Watching it live is sharing the conditions of existence with it, while watching it afterwards is a separation of conditions between the viewer's life and the watched game.

Let us start with in-game-decision-technologies used in an ongoing competition such as goal-line technology in football.[29] Goal-line technology advocates make the fundamental mistake of not really understanding the holistic character of football as a social practice and life as such. The argumentation for using goal-line technology rests upon a mistaken reductionist assumption that football is really nothing more than scoring goals, and that goal-line situations therefore is of such an importance that fairness in football requires the introduction of a technology that determines whether a goal took place or not.[30] It is as if we would claim that one single type of event, say giving child-birth or finishing a Ph.D., would be the only important situation in life, when life actually should be understood as a complex holistic endeavor consisting of innumerable situations of significance for the appreciation of life and existence. In football, as in life, there are of course a multitude of aspects of importance – skillfulness, possession of the ball, ability to avoid off-side, to name but a few. All of these aspects of a game are significant parts of the game in at least the same way as goals are.[31] Hence, it is a mistake to reduce a complex holistic phenomenon such as football into one single element, or a set of elements, of that complex phenomenon and claim that football can be identified with that single (set of) element, in the same way that it is a mistake not to understand different situations in a life as all being significant elements of a life.

This complexity of life and sport implies that the argument for the introduction of in-game-decision-technologies similar to goal-line technology also misses the fact that sporting competitions as social practices and life as an experiencing unfolding openness consists of all too many situations that might have importance for the outcome. As Nlandu points out concerning goal-line technology,

> …because all kinds of game situations could potentially lead to a goal, one wonders which one of these thousands of game situations would

29 This basic argumentation can also be extended to include video review in football, ice-hockey, hawk-eye in tennis, video review in volleyball etc.

30 Nlandu, T. (2012) p. 454.

31 An analogy would be if we would be arguing that we need to introduce a technological device determining whether a student paper has a bibliography that is in accordance with the criteria for writing bibliographies, since a correct bibliography is of utmost importance of a student paper. It is, most likely, technologically possible to introduce. But the point is that such a technological device would not be able to capture other very important aspects of a student paper, such as clarity, correctness of presentation of theory, the form of argumentation and, not least, the originality of the thinking in the student paper. In the same way, scoring a goal in football is just one aspect of the game, as writing a correct bibliography is only one aspect of writing a student paper.

> be subjected to in-game technology assessment. These might include referee decisions involving among others, offsides, out-of-bounds situations, player cautions or ejections, player foul simulations, penalty-area fouls and so on. Therefore […] there appears to be no reasonable justification for singling out goal-line situations as more crucial than the other situations mentioned above.[32]

That is, football has situations involving everything from off-sides to conscious foul play, and we cannot think that these other situations have less important role in relation to the outcome of the game than pure goal-situations, in the same way that we cannot imagine that only some of all of the situations occurring in a life will have effect on the outcome, or the value, of a life.[33]

Now, of course, this might be countered by arguing that fairness in sport requires that we need to introduce more technology covering other, and maybe all, possible situations in a game.

But, besides being both technically problematic and financially very costly, this proposed solution of the problem misses the idea that sport is a social practice for human beings. First, it is questionable if we even would like to have sport competitions that would be completely technology controlled, in the same way that we most likely would not be interested in living lives that would be completely technology controlled. It would simply be lacking a part of what it would mean to be human living in a human social world. It would lack the epistemological fallibility of being a human person. It is simply the case that all human understanding of the world, due to the existential conditions of human embodiment existing in a spatio-temporal structure, is bounded by an existential uncertainty. And to think that sport in general could be constructed in a way that is significantly different is an unattainable dream. Sport, for instance football, can never be a perfectly objective matter, there will always be an interpretative fallibility of game officials at some level,[34] which implies that the dream of absolute interpretative "correctness" is an absolute impossibility. It would require that game officials should be able to have a form of absolute knowledge of all the situations in

32 Nlandu, T. (2012) p. 456.

33 We can, then, widen this counter argument against the use of in-game-decision-technology in sport such as football by pointing to the fact that all uses of in-game-decision-technology rests upon an atomistic reductionistic view of the football, i.e. that a game is nothing more than certain game-important situations. The problem with such a view is that it misses the overall holistic character of football where every situation is intertwined with other situations, both existing earlier and at the same time.

34 Nlandu, T. (2012) p. 454.

a competition. But, of course, such a thing as having an absolute privileged position in the sense of having absolute certainty is an impossibility due to human existential conditions where an embodied human being only can experience events and situations from a certain perspective.[35] Furthermore this is also true in cases when in-game-decision-technology is introduced. The interpretative fallibility has only moved up one layer as it were. The situations still have to be interpreted in relation to the rules by the referees, and hence the interpretation can still be fallible. Furthermore, it might even be a step in the wrong direction when it comes to correctness, since the referee now also has to make a further decision whether to trust the in-game-technology or not.

So far, then, the idea of using in-game-decision-technology in sport, as in the case of football and goal-line technology, seems to rest upon a misunderstanding of the fundamental existential condition of sport as an expression of a human social practice, as well as a misunderstanding of human life as involving unpredictability and fallibility. What in-game-decision-technology seems to do then, by downgrading the referees' practical judgment and focusing upon "objective fairness", is to move sport away from fundamental human existence by creating a form of alienation between the sporting practice based on in-game-decision-technology and what it is to be a human person. What we need to do, instead, is to fully understand the role of referees and game officials in sport. A referee in a sporting competition is an element or part of a game, not beyond it. The referee is a thermometer or barometer in that the way the referee acts has effects on how well played a game will become, both in its overall character and in its details. And, in an ongoing sporting competition, in all its unpredictability, fallibility and uncertainness, all of the participants (referees, players, coaches and spectators) get the opportunity to practice their practical judgment and thereby developing their understanding of themselves and others as human person. All participants' practical judgment is "tested" and "proved" in a game. Through different strategic actions and psychological pressure, players, coaches and spectators are trying to influence each other and the referee during a game, and there-

35 Nlandu also points out that there is a form of mistaken understanding of the hierarchy of decisions in sport, in which it is mistakenly assumed that the decision of the referee has the most importance for the outcome of a competition. As Nlandu points out, every sporting competition contains situations that are the effect of a plentitude of decisions. There are decisions made by sportspersons, coaches, managers, sponsors, audience, referees, etc. To single out the decisions of the referees as the one who has the main determining effect on the result, just seems to be wrong. For instance it simply cannot be the case, unless we have a case of a non-serious referee, that the players have less important effect on the outcome of the game than the referee (Nlandu, T. (2012) p. 453-454).

by different individuals' practical judgment can be critically assessed and a form of development of practical judgment can take place. And, this is not a negative aspect of a game since sport thereby creates a critical reflexivity which enables participants the opportunity to practice their ability to make good practical judgments in their everyday living social practice of doing sport.

Let us now discuss the use of in-game-decision-technology after a game. The underlying problem with using in-game-decision-technology after a game is that it in a way distorts the normal perspective of spatio-temporality of human existence.

The normal way of understanding a game or a competition in sport is to understand it as an autonomous spatio-temporal frame within which certain sport-specific actions are performed by sportspersons and certain events occur. In this sense, a game, such as a football game, has its own particular and well defined spatio-temporal structure. It starts with the kick-off, and ends when the referee sounds the final whistle and in between certain actions and events have occurred. In this sense we should understand a football game as an autonomous field that resembles life in that it involves a complexity of embodied human experiences, emotions, claims to knowledge and social relations in a specific determinate frame. As such, the course of events of an autonomous game, i.e. the significant elements that determine the outcome of the game, should be understood as being bounded by the framework of the game, in this case the beginning and ending of the spatio-temporal continuity of the game in question in the same way as a life can only be determined by the events occurring in the life, not by something beyond life itself. But, here is exactly where we get one of the problems with in-game-decision-technology used after a game has ended. The use of in-game-decision-technology, such as video-review, is something that takes place outside of the actual spatio-temporal continuity of the game, but will have a significant effect on the (already ended) sport event as such, for instance by giving financial penalties, suspensions and even changing the result. That is, a later event *b* in a spatio-temporal scheme B has effect on something *a* that happened earlier in time in another scheme A. This is problematic since it becomes really difficult to say when a game really ends. [36] When the last whistle is blown, when the last person crosses the finishing

36 Now, this does not mean that it is always wrong with post-control of an event, neither in sport nor in relation to other events in life. For instance, criminal offences are very often determined afterwards, and the punishment normally is given after a certain time after the offence occurred. But, this is not the same thing as in the video review in sport, and we need to keep in mind a distinction between internal use of technology in sport and exter-

line, we still simply do not know who actually did win the game since it might be changed afterwards. And, given the complexity of sport competitions with all the occurring different situations, there is always the risk that neither the participants, nor the audience, actually ever can be certain about the end-result of a particular competition.[37]

Furthermore, life as such involves existential conditions of uncertainty and epistemological non-objectivity in that there is no neutral and all seeing point of view. We observe ourselves and the world while floating with life, rather than standing on the sideline observing what occurs in life. But using in-game-decision-technology is exactly like trying to use such a neutral perspective of a spatio-temporal scheme with its actions and occurrences that are beyond the situations themselves. In sport it is as if there ought to be a panopticon, an objective perspective where all events and actions will properly be observed and assessed. But, this is, to say the least, problematic, not to mention that it is a bit absurd. Every competition or game, just as life itself, or the existential condition of human life itself, involves such a complexity of events and actions and consists of so many questionable situations that, if we accept the use of this form of technology, all games or competitions should be in need of re-evaluation of every aspect of them. But, given that this is not technically possible, this argument comes down to a form of

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nal use of technology in sport. The first case can be understood as applying technology to a spatio-temporal system after the spatio-temporal system has ended, i.e. determining situations in a sporting event through video reviews where the verdicts are supposed to be post-attributed to a course of event we have, rather arbitrary of course, already absolutely ended (the games is over). The second, external case is different. In the second case it is simply using technology to determine events in an on-going spatio-temporal structure that has not ended, such as for instance using surveillance camera to establish that a particular person committed a criminal act earlier in time. The act, and the use of technology are part of the same spatio-temporal continuous scheme. This means that, severe acts of offence that occur in sporting competitions can still be punished afterwards, but they have to be understood as being part of the overall spatio-temporal structure of sportspersons life. Hence, it should not be sport organisations themselves who have the responsibility for legislation, investigation and verdicts, it should be civil society and these offences should be at regular trials in society.

37 A consequence of this is that the use of in-game-decision-technology after a game might be a problem from a purely financial perspective, both for sport itself and for the betting companies that are dependent upon sport. If there is always the chance of a game being "re-interpreted" it will in principle be impossible for sportspersons, clubs, fans and gamblers to be rational in their tactics. Since any game or competition involves extremely many complex features, there will always be the risk that something occurred during the game or the competition that makes it reasonable that a club should be penalized afterwards (such as getting points deducted) for the actions in the game, or that a person should get suspended in upcoming games due to foul play in the game. But this means that sport, besides having an internal unpredictability, also will have an external, and unwanted, predictability. For instance, how should people be able to trust sport when it comes to betting on games, if one cannot trust that a game over really is a game over.

arbitrariness concerning what situations are re-evaluated using in-game-decision-technology. For instance, one problem is that this particular use of technology opens the way for arbitrary and populist attitudes and decisions of different sport officials, since there is no clear and consequent use of post penalties using this form of technology.[38] Furthermore, even if we assume that it would be possible to construct an in-game-decision-technology that could be used after a game or a competition which would enable us to have a neutral panopticon of the complete complexity of a game or a competition, I do actually think sport would then to a large extent lose its attraction as a social practice for us. Part of the attraction of sport seems to be the unpredictability, fallibility and situatedness of us, human persons. Sport, using after game in-game-decision-technology that would be absolutely objective, would simply alienate itself and the participant of sports from its basis in the existential conditions of human persons.

And, furthermore, all form of in-game-decision-technology leads to a lack of development of practical judgment that is of crucial importance for being a human person. As already mentioned, all social life rests upon members of society, in the practices inside society, having and using some form of practical judgment in relation to events, each other and the world. This practical judgment involves identification of humanhood, personhood, empathy, sympathy and the ability to apply more or less well-based actions and judgments in relation to events in an ongoing social field or practice. By introducing in-game-decision-technology, and by focusing on absolute objectivity, infallibility, unpredictability, positionlessness, and unsituatedness, creates a sporting practice in which this practical judgment cannot evolve as a normal flow of the situatedness and positionness of an on-going unfolding spatio-temporal sporting competition. Judgments are always postponed, not being really here and now.

Concluding remarks

We have now seen that sport, as a social practice, very often is associated with in-game-decision-technology. We have further discussed that using in-game-decision-technology can lead to the fact that sport, as a social phenomenon, becomes a form of activity of human beings that alienates itself

38 The foundation for re-evaluating a situation, and the actual penalty given, might actually be more grounded upon the knowledge of the history of the sportsperson, rather than the actual situation as such.

from its fundamental human basis. The use of in-game-decision-technology tries to remove the situational perspectiveness of human existence, its necessary epistemological fallibility, and its experienced unpredictability in the unfolding of a human life. But doing this alienates it from human personhood and the existential conditions for persons and leads to a feeling of alienation of sportspersons by creating a gap, or a vacuum between the practical judgment of living human beings and the conditions they are living under. Furthermore, through the alienation based upon non-reconcilability of in-game-decision-technology and human life, in-game-decision-technology might lead to a dehumanization of sport. Having a sport that is based upon conditions that does not enable the use of normal application of social life-based practical judgment creates in itself a dehumanized activity, it simply cannot continue to be understood as an activity for humans, in which human persons can identify themselves qua human persons.

In a sense, the cry for using in-game-decision technology, both when used during an on-going game and after a game, is a little bit like the cry of the illusion of an absolute neutral observer that once was referred to in moral philosophy, or like the omnipotent and just metaphysical God on the Judgment Day. But, just as life has to be lived in a continuous, fallible, perspectival unpredicted predictability without resort to objective points of view such as neutral observers or God, so the sporting competition might best take place without resorting to illusionary objectivity and simply be the unfolding of activity of human persons in space and time of a social practice.

But what is the alternative? Instead of understanding fairness in sport in relation to financial interests, and hence accepting that technology permeates into each and every aspect of sporting competitions, we need to base sport, and fairness in sport, in what actually is our human existential nature and life; that life is always permeated by unpredictability, fallibility, and always some form of subjective points of view. What is needed is, simply, taking the alternative route in which the epistemological problems associated with human existence are accepted, and incorporate them as a necessary element in sport in its full length. Accept that absolute fairness in sport simply cannot be attained, but work on enabling all persons involved in sport to aim, at their utmost best, to be as impartial, objective and fair as possible. That might be possible by, for instance, introducing educational measures in clubs and sporting organizations where participants are taught about what sport as a human social practice is, and also are taught about the unavoidable fallibility of sportspersons, managers, game officials and referees. Hopefully, this strategy will restore the acceptance of existential human constraints

and a reenactment of trust to sport itself, but also between those who participate in sport.

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