Place, Ecological Dynamics and Football

Abstract

In this review article, I will use the phenomenology of place and read it alongside ecological dynamics theories (EDT) in sport. I will show the many congruences between these two areas of research and use place to support, supplement and show the phenomenological and ontological foundations of ecological dynamics analysis in sports. I show that the findings and principles used in ecological dynamics can be better understood through the work of Australian place phenomenologist Jeff Malpas. Through this relationship between phenomenological philosophy and ecological dynamics theory, I hope to establish a stronger connection between these two diverging fields of research (phenomenological ontology and sport science). Throughout this article, I demonstrate that an understanding of place can provide a widened and phenomenological basis for understanding of EDT of sport including affordances, constraints, expertise and learning. Specifically, I use the first-person perspective of the phenomenology of place to illustrate a perspective that ecological dynamics theories do not have access to due to the nature of their method. As a result, this article augments both the philosophy of place and ecological dynamics theories of sport by orientating them to different views on the same phenomena. Place benefits by being practically applied to sport sciences whereas ecological dynamics benefits by unveiling a new phenomenological perspective, description and ontological grounding to their object of study.

Introduction

Edgar (2015) argued for the relevance of the phenomenology of Merleau-Ponty and Bachelard to the aesthetic appreciation of football, specifically with reference to the appreciation of the players' articulation of the space within the football pitch. This work and mine have similarities in recognising that football can be conceptualised through an understanding of place. I build on Edgar's work by using the phenomenological and ontological writings of Martin Heidegger interpreted by Jeff Malpas on place but do so by drawing phenomenology into dialogue with Ecological dynamics theories (EDT) of sport. Ecological dynamics theories are important, not least in terms of their significance to sports science, because they give us a strong empirical-scientific method to investigate, measure and understand football. The phenomenology of place is important because it offers something that EDT do not. The phenomenology of place can outline the first-person perspective and the ontological conditions of experience for football that EDT can only explain from the objective third person view[1]. Ultimately this article can be summarised as responding to the challenge posed by Hughson and Inglis (2000, 116) who argue: "Analysis of a complex phenomenon such as soccer requires a framework that synthesizes both internalist and externalist perspectives on that phenomenon". Both internalist (phenomenology of place) and externalist (EDT) unveil perspectives that the other does not have access to, so I believe this to be an important collaboration which provides insights into other sources of evidence which deepen and strengthen understanding of both.

[1] This is something that has been appreciated and done before (applying phenomenology to sport, e.g. see Martínková, (2015) and Nesti (2011) in a special issue of phenomenology and sport in this journal). The uniqueness of my paper is that I use a specific phenomenology of place and combine it to a unique study of sport; ecological dynamics theory to study football.

See Clemente et al. (2013) and Vilar et al. (2014) to appreciate the differing method of third person ecological dynamics measurements and calculations used to analyse football compared to first person phenomenology outlined in this article.

Phenomenology

First it is important to outline what my article on the phenomenology of place can offer for our understanding of football in relation to EDT. EDT is ultimately concerned with the footballer's experience of playing. It is thus concerned with the relationship between the mind of the footballer and the physical world which they inhabit. Phenomenology is similarly concerned with the relationship between mind and world. Zahavi (2018) notes that phenomenology offers an alternative way of viewing the world to that of the natural sciences. With reference to the relationship between mind and world, he argues that natural science attempts to explain this relationship primarily in terms of causality. This approach fails because "the mind is not simply an object" (22) in a causal relationship. It is rather, as phenomenologists argue, that through which the world of objects is constituted. Put otherwise, the mind is not an object, it is rather that which makes objects (and the experience of objects) possible. EDT takes a purely scientific view of the world, which is to say it adopts the worldview that is dominant in contemporary culture (including that of sports studies). EDT thereby prevents us from understanding important aspects of the lived experience of sport and the conditions that make those experiences possible. An aim of this article is therefore to displace this common scientific mode of thinking about football in order to propel us to understanding the phenomenal structures that make football possible to start with and which gives science its content for investigation.

Zahavi recognises that in our everyday attitude "we take objects for granted and remain oblivious to our own intentional contribution" (Ibid, 25). Phenomenology is concerned with this intentional contribution or 'constitution' by consciousness. Zahavi explains constitution as "a process that allows for the manifestation or appearance of objects and their signification" (Ibid). Phenomenology investigates how the world comes to appear to us as it does (or how it is 'disclosed'). Phenomenology thereby articulates the processes of the human mind that make possible our everyday experience of the world. It may thereby allow us an insight into how the experience of football itself is constituted. Phenomenology allows us to break from our naïve focus on objects, as merely given in experience and to be explained causally, and thereby allows us to come to understand how consciousness structures our world. We come to "investigate the correlation between act and object, between cogito and cogitatum" (Ibid), becoming aware of the contribution that the human subject makes in process of constitution. This means that my article informs EDT by illustrating how the experience of football is possible. I will achieve this by using a phenomenology of place outlined by Malpas.

Phenomenology, under certain interpretations such as that of Zahavi, is a transcendental philosophy that investigates the a priori conditions that make different experiences possible. What is relevant here is that it may be understood as explicating the conditions of possibility of the experience of a world that is taken as a given for both everyday experience and for the natural sciences. My article takes this phenomenology approach in order to investigate the a priori conditions that makes the experience of football possible. Phenomenology may thus be understood as an approach to explicating the transcendental preconditions that make EDT investigations of football possible, specifically because phenomenology can elucidate how the players' experience of football, that EDT takes as its raw data, is made possible in the first place. While EDT offers a scientific understanding of football and is thus concerned with the objects disclosed in our world, I am arguing that it is essential to supplement this with phenomenology if we want to understand how the football experience can appear through acts of consciousness. As Martinková argues, phenomenology is "a critique of an 'objective' approach to the world" (2015, 178). We can achieve this deeper understanding of football by

looking at how the experience of football is given from the first-person experience and I do this by turning to the constitution of 'place'.

This article will therefore outline the necessary and invariant features that consist of the unique and human experience of being a player in a football match. In other words, I look at the 'lifeworld' of a footballer that allows EDT to discover the findings they have. The lifeworld is the world of the first-person experiences of a footballer that is often overlooked, "forgotten and repressed by science, whose historical and systematic foundation it constitutes. Even the most exact and abstract scientific theories draw on the prescientific evidence of the lifeworld" (Zahavi, 2018, 51).

Phenomenology is vitally important for EDT because it can enrich scientific investigations with a better understanding of the football experience for a player and therefore it should be a constant source of reference. Zahavi notes it is "wrong to conceive of the relation between the lifeworld and the world of science as a static relation" (Ibid). It is rather a reciprocal relationship, such that scientific research draws upon the lifeworld, as a source of nourishment, and yet theoretical findings will be absorbed by the lifeworld, and thus modify it (ibid, 52).

Zahavi importantly highlights that phenomenology does not "dispute the value of science and is not denying that scientific investigations can lead to new insights and expand our understanding of reality. But phenomenologists do reject the idea that natural science can provide an exhaustive account of reality" (Ibid). This justifies the purpose of my article that juxtaposes phenomenology with EDT. EDT can provide quantitative insights for football, but it is important to balance this with the view that quantitative insights are not everything that counts as real. The world of first-person experience investigated by phenomenology and how that experience is ontologically structured "does not have to await the approval of science. Indeed, the findings of science and everyday experience do not have to contradict each other. They can both be true according to their own standards" (Ibid). If EDT chooses to ignore the importance of phenomenology for its investigations it becomes self-undermining and fails to adequately account for those experiences that makes their scientific investigation of football possible.

Place and Ecological Dynamics in Sport

My study is not the first to see the benefit of applying phenomenology to sport (see Birch 2009, 30) but it is the first to use a phenomenology of place to better understand football when it is combined with EDT. First, I must make it clear that 'place' and 'environment' are not synonymous. Place combines the subjective and objective, and as such challenges conventional thinking which separates objective and subjective approaches. As Relph argues, place "has to be viewed both with regard to the objective characteristics of location and in terms of subjective experiences" (Relph, 2003, 914). That is to argue that 'environment' is conceived within the objective scientific third person view that disconnects the subject, or as noted above merely presents the subject or mind as one more object within a causal network. Place conversely is necessarily interpreted and constituted by a subject. It is understood through first person phenomenology which always involves a subject not merely interacting causally with an environment, but constituting it, dynamically and reciprocally, as a unique and meaningful experience.

EDT is guilty of taking a purely 'environmental' approach. It uses a natural scientific framework to investigate the human-environment as a causally determinate network of objects,

thereby erasing the first person individual and thus the unique experience of the subject as interacting constitutively with their environment (where this interaction gives rise to place). Each individual is different and so the experience and meaning of the environment will be determined by them. The environment cannot then be conceived as an objective given.[2] A phenomenological perspective for understanding EDT of football, that overcomes the narrow natural scientific framework, therefore aims to facilitate an understanding of place that is neither objectivist (i.e. interpreting place as an objective environment outside experiencers) nor subjectivist (i.e. interpreting place as a subjective representation, whether cognitive or affective, inside experiencers) (Seamon 2012, 3). I will begin to develop this phenomenology of place with respect to EDT by initially outlining how 'home' is an important part for phenomenologically understanding football. I will then outline some of the foundational ideas guiding EDT.

Football's Coming Home

The dialogue I am proposing between phenomenology and EDT is not of merely academic interest. If place is not taken into consideration, sport scientists will not appreciate all of the phenomena that contribute to performance, thereby leading to investigations that are suboptimal in terms of the impact that they have upon players' performance. First, we can relate place and football by noting that if place is foreclosed from a footballer's understanding, they will experience an obstruction in their performance – a 'not-being-at-home-in-the-world' (Gildersleeve, 2017, 2). Further, the aim to improve football performance can be understood as an attempt to change this condition, so that the footballer or team can "'return' to place — as a homecoming" (Malpas, 2012, 19). This idea is very similar to that found in Edgar (2015) who says football players "create places within the course of play within which they can exercise their own competence as a player, and inhibit the competence of their opponents" (153). He connects this to home by observing that "competence or sense of being at home serves most obviously… to orientate the pitch as a structure of significant places" (Ibid, 159). That is to say that the player is at 'home' on the pitch only insofar as the pitch is constituted as a series of meaningful places, or put otherwise, places that facilitate the player's continuing, coherent, movement, in interacting with the ball and other players.

A recognition of the phenomenological view of place is important because it can provide sports scientists with a way to understand and describe a competent football team using the image of being 'at home'. 'Home', according to Seamon is "a place of protection" that allows for creativity, care, and the flourishing of the individual. "At-homeness is a prime root of personal and societal strength and growth" (2015, 71). However, Seamon's account of the home may be complemented by a recognition of the form that human interaction takes on the football pitch. As Edgar argues, "places of the football pitch are contested places" (2015, 161). From this perspective, the player's sense of being at home is aligned with a sense of being able to play competently. But, in a given context, this entails that each player is striving to undermine their opponents' sense of being at home. Each player strives to make their opponents' place incoherent, so that the opponents cannot go on, playing competently. This suggests that

[2] When I use the term 'environment' in this article the reader will note that this comes from EDT literature which does not unconceal, to use phenomoenology terminology, the lived experience of place.

phenomenological analysis provides a unique first-person experiential understanding that EDT does not.

In sum, if the football pitch and players can be understood "as an array of places, within which [players] strive be at home in the exercise of their skills" (Edgar 2015, 163) then it may be argued that a team's or individual footballer's inability to recognise the importance of the multiplicity of elements of place that support or inhibit their play (that in the terminology of EDT are affordances and constraints) will result in an atopic understanding of football. Such an atopic understanding, manifest as it is in EDT, lacks the player's first-person perspective, and in particular, lacks any account of how the player's sense of place and of being at home is constituted (and dissolved) during the process of play. Atopic scientific analysis, devoid of this phenomenological perspective will fail to account for the team's or footballer's experience of obstructive being-in-the-world – leaving them with an inexplicable sense of an estrangement and alienation from home, with no means to overcome this sense and return 'home'.

Natural Science and Human Science

Above I have outlined the approach of phenomenology and suggested how it complements and corrects the scientific approach represented by EDT. I will now explore EDT in greater depth, beginning with its understanding of the relationship between the human agent and their environment which does not recognise the competence that a player can develop in re-interpreting/reconstituting their place in a football match. A very recent example shows the scientific analyses of EDT that consider a player as a measurable object among others in an environment of 'information' and 'energy'. This is provided by Renshaw et al. (2019, 14) who state individuals are

> "engaged in the free exchange of matter and energy, moving to provide and perceive information from surrounding energy flows. An invasion game defender engaged in a 1v1 dyad will be attuning to various optical energy flows such as the visual information from the body angle and orientation of the attacker, ball position and the location on the pitch. The defender will also be providing optical energy via the positioning of the leading foot and the distance from the attacker".

This highlights that EDT does not elucidate (and takes for granted) how a footballer contributes to creating the meaning, place and experience of football. In this section I wish to contrast EDT in more detail with phenomenology to show (and show what both have to offer football); that it is a comparison of a natural science to phenomenology as a human science. Following Storolow and Atwood the human sciences may be distinguished from the natural sciences in terms of "a fundamental difference in attitude toward their respective objects of investigation: the natural sciences investigate objects from the outside whereas the human sciences rely on a view from the inside" (1984, 88). As I have suggested above, the natural scientific description of football used by EDT that "studies 'objects of nature,' 'things,' 'natural events,' and 'the way that objects behave'" (Van Manen 1990, 3) is problematic in reducing human beings to mere things within causal networks (Aanstoos 1996, 7).

EDT has largely imitated the concepts and practices of the natural sciences including the use of abstract terms from a third person perspective (such as energy, information, affordances, and constraints) "to designate many of its phenomena with the consequence that it is often more abstract and generic than it ought to be" (Giorgi 2011, 26). In contrast I argue for the grounding of EDT in the first person lived experience description of the possibilities available to a

footballer. Unfortunately, EDT does not do this because it has accepted "physical objects as the model for psychical phenomena", thereby conceptualising psychical phenomena purely in terms of determinative physical parameters (Ibid, 46). This application of natural scientific methodology severely distorts the phenomenon (Ibid). EDT is harmed by a prior desire to be considered as a natural science, without recognition of the inappropriateness of this approach to its subject matter (Giorgi, 2014, 235). Consequently, we can recognise a problem in EDT where its ignoring of "the phenomena of conscious life just as they are given in experience" leads to an abnegation of "the ultimate source of all knowledge in favor of physicalistic dogma" (Ibid, 47).

Husserl's phenomenological maxim "Back to the things themselves!" (Husserl 1950/1964, 6), demands, not a return to the object of study as a mere given, existing independently of human perception, but rather to the object as it is given in actual experience. Applied to EDT, the application of Husserl's maxim would entail that EDT's findings are not treated as merely given but must rather be elucidated from the way in which humans constitute their experience of things (Gallagher & Zahavi, 2013, 6). My use of Malpas is therefore intended to avoid divorcing the whole of the experience from the person who lives that experience (De Castro, 2003, 48). I therefore advocate the utilisation of phenomenology to overcome the limitations of EDT's natural scientific approach, thus refocusing its inquiry, in order to concentrate on descriptions of experience rather than upon descriptions of worldly objects. This embodies the researcher's change of attitude or "attunement" from a "natural perspective to a phenomenological perspective" (Polkinghorne, 1989, 41). This further counters the reductionism (that eliminates the first person phenomenological perspective) of the natural scientific method of EDT and follows the ideas initiated by Husserl, facilitating the rigorous treatment of all possible experienceable or intuitable phenomena (Giorgi 2007, 66).

EDT may thus be criticised for placing the methodological convenience of the natural scientific approach over an authentic theoretical framework that includes the phenomenological experience of the athlete and the structures that make that experience possible. This leads to what Valle and Halling term "a psychology of alienation", where EDT can only investigate the visible behaviour of a subject, taking a third-person viewpoint, and thereby excluding the subject's own experience and the conditions that make that experience (and thus the constitution of the experienced objects) possible. That experience is rendered invisible to the EDT researcher due to EDT's methods and attitude (Valle & Halling 1989, 25).

Thus, my article engages with EDT's third person view and phenomenology's first person view to come to a more balanced and ontologically deeper understanding of football. With this, I argue for a "reciprocal, dialectical relation" (Ibid, 27) of interpretation between these viewpoints so "meaning passes both ways" and there is "mutual participation" between the human sciences and natural sciences. There are also a number of other reasons to translate EDT's writing into the language of phenomenology. For example, "phenomenological research supplies a deeper and clearer understanding of what it is like for someone to experience something" (Ibid, 58). This is very important especially for coaching as it allows a better understanding of the problem a footballer faces in a game; and a coach "can appreciate and be more sensitive to those involved in these experiences" (Ibid).

Foundations and Key Concepts for EDT

Ecological dynamics argues that "the functionality of the individual–environment relationship" lies at the centre of any analysis of human behaviour (Davids et al., 2012, 112). Specifically,

this relationship is understood as dynamic. As the performer moves they come to understand (or generate "prospective information") as to the difference between their current behaviour and the behaviour required of them. Movement is consequently adapted, thereby modifying the performer's relationship with the environment. Perception and action are linked in a continual cycle (Dicks, Davids, Button, 2009, 508). We can better understand the ontological conditions of this human-environment relationship, as outlined by EDT, by referring to the phenomenological concept of place. The structure of the footballer's place may be revealed as "a certain definite region, bounded and yet also thereby gathered, in which they and the things around them are given together" (Malpas, 2012, 45). Said differently, a game of football has different boundaries, such as, most obviously, the lines that mark the limits of the pitch, but also lines within the pitch, marking, for example, the penalty box, but also the goal itself. In addition, there will be temporal boundaries, determining how long there is left to play (be this ordinary-time, injury-time, or extra-time). The rules of the game impose further boundaries, limiting what the players can legitimately do within the game, and the penalties for infringing these rules. Finally, and perhaps most subtlety, there are the players themselves, whose physical presence and exercise of skills will pose boundaries to other players.

These boundaries are 'gathering' together, which is to say, the footballer integrates or relates these elements together to hold an understanding of the possibilities available in a match. Each footballer has a unique 'individualised' gathering of the multiple elements that make up the football game which highlights why it is problematic when EDT takes the third person view which eliminates this uniqueness of each footballer's lifeworld. EDT's externalist generalization and averaging of a sample of participants that eliminates the lifeworld of phenomenology is evidence of this (e.g. see Vilar et al. 2014, who average their EDT analysis over 15 participants). In contrast to this alienation from the lifeworld, phenomenological gathering 'unveils' the place of a football match, constituting it as a meaningful whole – at least to the player who is 'at home' on the pitch, having the competence to understand and respond to the flow of play. Furthermore, it must be stated that phenomenology shows us that place is not static. As Malpas argues, gathering is not "a single founding or positing", but rather constant, on-going of multiple occurrences (Malpas, 2012, 38). This is why it is essential to conceptualise football as a dynamic system (and this will be outlined below). These phenomenological characteristics of place are the conditions of possibility for EDT to conceptualise football in the way it does but takes for granted from the third-person investigation.

EDT does (as its name implies) recognise this dynamic quality of the environment within which football is played and experienced. Thus, an essential component of EDT is the application of dynamical systems theory. That is to say that an understanding of natural phenomena as a system with many interacting component parts. This systems perspective can be translated effectively to the study of human behaviour by considering the structures and configurations of things as a whole, in opposition to an analysis that breaks them down into isolated component parts (Davids, Button, Bennett, 2008, 30). This is justified by those working in the field by noting that in a highly complex system all the parts affect each other and do so in an intricate way. To study them individually would disrupt these usual interactions. An isolated unit would behave differently in comparison to its behaviour in its normal, systemic, context (Ibid). It may be suggested that there is then a homology between systems thinking and the phenomenological concept of 'gathering'. Dynamical system theory can be applied to football because a football match involves a gathering of elements that is constantly unfolding and occurring as outlined in the preceding paragraph. While EDT studies the resultant system,

phenomenology brings to the fore the human (lifeworld) competences that make that apparent system possible.

An essential concept for ecological dynamics which I interpret throughout this article is that of 'affordances'. Following James Gibson, this term describes "the opportunities for action provided by the environment for an animal" (Fajen et al., 2009, 86). A given environment is then not seen as determining the behaviour of the animal, for it may afford multiple behaviors. Affordances are merely "opportunities for action" rather than determinants, and as such describe "the environment in terms of behaviors that are possible at a given moment under a given set of conditions" (Ibid, 79). Furthermore, affordances are thus understood as "emergent properties of animal-environment systems", undefined prior to a consideration of the properties of both the animal and its environment (Ibid, 90). Ecological dynamics authors apply this to sport by arguing that "the outcome of a match can often hinge on an athlete's ability to determine when a behavior is possible, and when it is not" (Ibid, 87). The agent perceives an affordance insofar as they perceive how to act appropriately in a given set of environmental conditions is (ibid, 87). Thus, EDT can tell us how a footballer is guided in their decision making through affordances and constraints in a game of football. Phenomenology on the other hand can tell us how the footballer constitutes and experiences a game of football to start with, thus underlining the a priori nature of phenomenology compared to the a posteriori nature of EDT.

'Constraints' is the complementary concept underpinning EDT that I analyse phenomenologically throughout this article. Davids says "order that emerges in neurobiological systems is dependent on initial conditions (existing environmental conditions) and the range of constraints that shape their behaviour" (2010, 4). EDT's physical scientific language is evident in their definition of constraints where a person's "'openness' to energy flows allows them to use that energy as informational constraints on their behaviour" (Ibid). Dicks et. al. (2008, 32) also elucidate this by stating "order emerge under constraints. This idea has been imported into human movement science from physics and biology, where scientists have been engaged in studying the emergence of movement behaviors under constraints".

Affordances and constraints mutually define each other. Within EDT studies this mutuality may be seen in the work of Silva et. al. (2013). Affordances are argued to relate to constraints because the player perceives possibilities for action in the environment in terms of their own characteristics (such as their passing accuracy) or their capacity for action (such as the possibilities opened up by a defender being out of position). The 'information'[3] that the player thus generates of affordances serves to constrain their behaviour, channelling it along certain paths and excluding others. This highlights the essential relationship between constraints and affordances from an EDT perspective: where there are no constraints, affordances appear and where there are constraints, affordances disappear. I develop this analysis of affordances and constraints in later parts of this article, by reinterpreting EDT's account through the lens of phenomenology.

[3] Silva et. al.'s physicalist language here may be noted. Not merely do they use the language of information (somewhat at odds to the more hermeneutic language of phenomenology) but also hold that information is detected by players "from patterned energy arrays in the environment" (2013, 767)

Affordances, Constraints and Place: An Introduction

By approaching these ideas from EDT through phenomenology we can understand that the transcendental basis of affordances and constraints lies in the fact that a being does not exist in isolation. The phenomenological concepts of 'presence' and 'presencing' or 'disclosure' may aid this understanding. The world that human beings live in is, as I have argued above, not a given. It is revealed or 'disclosed', becoming 'present' to human agents as something meaningful, but this only occurs by humans being in relation to other beings (Malpas, 2008, 14). Thus, place (as opposed to the physical conception of 'environment' that is fundamental to EDT) is a meaningful world that has being disclosed, through the competence of human agents interacting with each other (as well as with the physical environment itself). Place can therefore be taken to highlight that affordances and constraints in football are determined through a gathering of the "interrelations between the originary and mutually dependent ('equiprimordial') elements" (Ibid, 306). These elements (e.g. position of the ball, players in a match) are dynamic so that the place of a football match is never complete. That is to say that it is always open to reinterpretation (or a new disclosure of meaningful interrelations between elements). The footballer's understanding of affordances (what is possible) and constraints (what is not possible) can always be developed by further gathering of relationships between the elements that make up the game. As I outlined above, this lifeworld view is what phenomenology can offer to our understanding beyond EDT's externalist generalization of data over a sample of participants.

Malpas's own conception of place may be elucidated by looking at his ideas through football. With respect to place he describes the idea of 'gathering', arguing that place, on the one hand, is constituted through a gathering of elements. But on the other hand, those elements are themselves only defined mutually, which is to say, through the way in which they are gathered together within the place that they thereby constitute (Ibid, 29). In other words, that draw on the language of EDT, affordances and constraints for a footballer are always mutually defined by, for example, the position of the other players and the ball in the match. Firstly, this shows that research that focuses solely on the human as "separate and autonomous entities" (Malpas 2011, 49) is inadequate. EDT is aware of this. Phenomenology goes beyond EDT by recognising the reciprocal constitution of both place and mutually defined elements. Place thus has a complexity that EDT's 'environment', despite its dynamism, lacks. The phenomenology of place informs EDT by showing that football players need to be understood in their creative and interpretative relationship to other players and their position on the field. The failure to articulate the lifeworld competences of the players, through which the gathering of place is realised, is again raised not merely as an academic question. This failure will contribute to poor performance analysis and understanding of the very nature of football. EDT lacks this understanding because its essence as a natural science involves investigation through experimental conditions that will always eliminate and control for 'extraneous variables' that make up the unique gathering of place of the footballer lifeworld. EDT restricts and limits the possibilities of gathering but if EDT did not control for these extraneous variables (e.g. age, football experience, number and position of players, instructions, game situation etc) their results would be confounded and seen as invalid from the point of view of causal analyses. Thus, what EDT gains from a natural scientific view they lose from a phenomenology view.

Phenomenology allows us to see that a footballer's affordances and constraints stand "within a dense web of relations", but as Malpas stresses, thereby going beyond EDT, the relations within this web give shape and meaning to things, "but in doing so it also gives shape and focus to itself" (Malpas, 2016, 8). Therefore, a footballer discloses their place "through the interrelating

of the elements that already belong to the situation" (Malpas, 2008, 59). In other words, phenomenology can show us that affordances and constraints of place are dynamically changing through a "reciprocal determination of elements" (Ibid), which include not merely the perceived positions and abilities of a player and the other players around them (as EDT acknowledges) but also the lifeworld competence of the player to constitute and gather that meaningful place within which they act. Ecological dynamics may recognise that "skilled behaviour consists of continuous intentional adaptations to the constraints imposed by the environment during task performance" (Araujo et al., 2013 40), but a phenomenology of place must go further. It explicates the transcendental condition of this type of scientific objective thought – where "the structure of the environment, the biomechanics of the body, perceptual information about the state of the performer–environment system and the demands of the task all serve to continuously constrain behaviours" (Ibid) – in the interpretative competence of the players interacting with each other. This type of analysis by EDT would not be possible if football was not experienced holistically and through a multiplicity of elements as outlined by place.

It is essential to highlight that phenomenology allows us to understand that football performance is determined by place. Affordances and constraints for a player are not provided in a vacuum but are continuously appearing and disappearing through the dynamic context of the application of the players' lifeworld competences, and therefore in the mutual relations that are created between elements during a match. Place offers a phenomenological perspective such that football performance is not understood as being determined "by any single preexisting element in that place from which the unity of the whole derives, but rather in the way in which the multiple elements of the place are gathered together in their mutual relatedness to one another" (Malpas 2012, 18).

Phenomenology of place shows that football is, in the words of Malpas, "a structure that is constituted through the mutual interplay of multiple elements, a structure that encompasses the entities and elements…a structure to which belongs a unity that is given only in and through the mutual relatedness of the elements that make it up" (Ibid, 40). These elements are the footballer's multiple relationships with, and constitutive interpretations of, the game's dynamic constraints and affordances. As a result, in contrast to analyses that eliminate place, it is important to show that the footballer's affordances and constraints cannot be conceptualised as having a given nature or identity separate from the particular moment of play within which they are constituted. Affordances and constraints cannot be extrapolated from one context to another. They are always the product of a particular, and possibly momentary, gathering. To again follow the phrasing of Malpas, phenomenology allows us to understand that a footballer discovers affordances and constraints through "a difference that itself arises only in and through an essential relatedness. It is this event of gathering - which is also a belonging, a unifying, and a differentiating" (2014a, 19).

The Phenomenology of Affordances and Constraints

When combined and grounded in the phenomenology of place we can see that affordances emerge and are possible because of the "complexity of place", which is to say that "any place encompasses other places within it while also being encompassed by other places in its turn" (Malpas 2012, 49). For EDT, this allows us to understand that affordances appear through "a manifold of places [that are] reciprocally related by belonging together" (Ibid, 154). In other words, when footballers (first person) or sports scientists (third person) discover the manifold of places reciprocally related together, they are able to recognise the constraints and

affordances on performance, opening up a view of human being as being enmeshed in an essentially reciprocal relation to the world in which they are situated. As such the individual human and their experience cannot be modelled, in advance, as an abstract type, nor can they be taken to arise out of a single and definitive set of structures or elements (Ibid, 156). In other words, phenomenology shows that affordances and constraints are always specific to the context of place, where place itself is constituted in human experience (and not existing, as mere causally determinate environment, prior to it). As a result, this adds a new phenomenological dimension to sports science by understanding a footballer's "reciprocal relation with the world" rather than viewing players in as mere objects in abstract causal relations to each other.

Ecological dynamics discloses place from a scientific position for sports analysis which, from a phenomenological view, may be revealed as "a unitary structure that is constituted in terms of a multiplicity of irreducible elements; a structure that is bounded and yet open" (Ibid, 203). This reference to unveiling boundaries through phenomenology is essential for conceptualising the ontological conditions of constraints in EDT with place. It is important to note that the idea of constraints in EDT is made possible because of place as entailing the "notion of bound or limit" (Malpas 2014c, 14). The phenomenology of place informs EDT from the first-person perspective by showing that it is possible to discover constraints because of "a certain boundedness, but it is a boundedness that opens up rather than closes off" (Malpas 2012, 202). The phenomenology of place supports EDT to show that the constitution of a boundary is essentially productive, not simply restrictive. In Heidegger terminology, a boundary begins the "presencing" of a thing (Malpas 2014c, 14). That is to say that the boundary, from the etymology of the Greek, is not a blocking off but, rather, as itself something that has been brought forth, itself brings what is present to "radiance" (Malpas, 2012, 101). In other words, an affordance is possible because of the "radiance" of a boundary is an 'event' or 'Augenblick' [moment]. Malpas explains this by saying "'Ereignis' is the idea of 'coming to sight,' 'being disclosed,' 'being made evident.'" (Ibid, 215). Thus, to argue that a boundary makes something present through 'radiance', is to argue that the boundary (akin to the hermeneutic horizon) is that background against which something can reveal itself to us – become evident as a meaningful part of our experience. This use of phenomenology is important because it shows the ontology of constraints (boundaries) and that they are necessary for the footballer to have moments of 'visionary insight' of affordances for action. The footballer's place (which is understood scientifically by EDT through affordances and constraints) is arranged in "both a being gathered into as well as a differentiating from" (Malpas, 2014a, 22) the other players and their position in the game. Phenomenology allows us to understand that a footballer's constraints and affordances are given, not simply as causal relationships between objects but in and through the constitution of an "ongoing and reciprocal determination of the elements" (Malpas, 2008, 60).

From the perspective of the football match itself the phenomenology of place can further inform us that match's identity and unity cannot be conceived statically, as an "instant" (Ibid). Rather the footballer (and sport scientist) needs to always be open and aware of new affordances and constraints as the game changes. This serves to illustrate the importance of the grounding of EDT in a phenomenology of place. Affordances and constraints in football for a player, teammate or opponent are determined through "a multiplicity of elements that are focused and gathered together" (Ibid). Ontologically we can say affordances and constraints are "to be located within a unitary but differentiated 'region,' each element of which is interconnected and mutually defining" (Malpas 1999a, 133). Phenomenology highlights this multiplicity and mutually defining elements for analyses by EDT.

Furthermore, it is important to highlight the dynamic and interrelated nature of affordances and constraints where "[o]pportunities for action come and go on a moment-to-moment basis" (Fajen et al. 2009, 89). For example, the shifting perception and constitution of their environment by the human actor will give rise to changes in what behaviours that actor (and those interacting with them) conceive as possible (Ibid). While at a given moment a teammate may be open, affording a pass, a renewed perception (or put otherwise, a re-constitution) of the experience of this openness and affordance – perhaps due to the player's perceived recognition of their own weakness, or their lack of confidence, or a perceived weakness in their teammate (a barely noticed misalignment of limbs or a turn of the head), or the peripheral awareness of an encroaching defender – entails that milliseconds later the pass is no longer possible. Such is the speed with which action possibilities evolve and devolve. Edgar is very helpful here relating this to place. He argues that such constitution of place entails a dialectical interplay. The "players' movements change the pitch as a meaningful environment, but thereby demand from the players new practical responses, new 'modes of action'" (2015, 161). In other words, football highlights a dialectical interplay of affordances and constraints constantly changing through the multiple and interrelating places of the players on the field, grounded in not merely the players' mutual perception of these movements, as merely given, but rather their constitution of them into a place of meaningful possibilities (of affordances and constraints)

Place, Expertise and Learning

While my discussion has to this point focused on experience, the related concept of 'knowledge' is important to EDT. As Araujo et al. (2009, 119) explain this, knowledge signifies a performer's degree of fitness to their environment. In other words, the expert, as the one possessing the most precise knowledge, is sensitive to the events conveying information relevant to their aims at any moment in the game (for example, facilitating an understanding of how to find a path towards the goal passing through opponents) (Ibid). This understanding of expertise can be detailed further through a phenomenology of place by noting, following Malpas, that the processes developed by EDT can be understood in terms of the writing or 'inscribing' of place, as carried out by the traditional topographer, who maps out a particular region (Malpas 2008, 34). In other words, the phenomenology of place shows that expert footballers are adept at meaningfully creating and mapping out the multiplicity of elements (constraints and affordances) during a match. This can be contrasted with the EDT scientific objective and causal view which says expert players learn "mappings from information in (e.g., optic) flow to movement that bring about desired states (i.e., goals). Knowing what patterns of flow can and cannot be brought about allows the agent to perceive affordance" and "adapt to the sources of information that will help make him/her successful" (Araujo et al. 2009, 120). Phenomenology on the other hand allows us to see that a footballer, like a topographer, is presented with the task of mapping a region. EDT highlights only the surface of this process, resorting to the natural scientific conception of a causally determining flow of 'information', and thus neglecting the expert processes through which the player constitutes place, and by extrapolation their knowledge of place. This mapping can, contra EDT, be accomplished only by a constitution of the interconnections that come to exist among the features of that region. For Malpas the establishing of such interconnections is akin to a process of repeated triangulation, or 'walking' (Ibid). This provides a phenomenological description to ground understanding expertise from an EDT perspective.

In other words, it is possible for an expert footballer to perceive and be sensitive to affordances and constraints through creatively understanding the interconnections between players in a match. This explains how the expert footballer can have a deep (or authentic) understanding of

affordances and constraints, thereby being 'at-home' in the match. The footballer's understanding can be developed and is possible through "the crisscrossing pathways that represent the topographer's travels through the landscape" (Ibid). Put otherwise, the player does not just move about the pitch. The very process of movement, like that of the topographer, is self-aware. The player is accumulating, and continually refining, a geographical knowledge or expertise. Unlike the topographer, who maps a given and static environment, the player is mapping a continually changing place, responding not just to where significant elements are now, but also to the influence of the shifting deployment of those elements in the past upon the present, and the open possibilities of their deployment in the future. The analogy of the topographer is thus important for understanding the dynamic expertise of the footballer in and of place, because it provides an illustration "that it is a mistake to look for simple, reductive accounts" (Ibid, 35). The phenomenology of place thus allows us to see that an expert footballer (implicitly) understands that discovering affordances and constraints is not "a matter of finding just one point from which everything else falls into view. The elements within the landscape provide the focus through which the unity of the landscape is grasped" (Ibid).

Crucially, in the process of mapping or 'triangulation', the player is not just recording place, but also striving to manipulate it, to realise their goals as a player. As Araujo et al. (2009, 158) argue, manipulation of appropriate constraints allows performers to explore suitable movements. In terms of the phenomenology of place, this entails that triangulation and movement across an unmapped terrain allows mapping by bringing together different locations within it (Malpas, 2014b, 4). It is in training that the player will develop this competence in mapping, building upon existing lifeworld skills.

EDT notes that it is the role of training to enhance the degree of fit that exists between an athlete and their environment (Araujo et al., 2009, 119). From the perspective of the phenomenology of place a footballer's capacity to learn and develop in training is made possible by the practice and competence of repeated sightings and movements that is exercised as a competence in the everyday lifeworld (Malpas 2014b, 4). Affordances and constraints are not the preserve of the football pitch alone. The phenomenology of place allows us to appreciate that this fit between the footballer and environment is, firstly, not an interconnection that is simply given once and for all. Nor is it given in any final or exhaustive fashion. Mapping is never complete (Ibid, 6). Secondly, mapping is an everyday competence, albeit one that can be refined and developed as an expertise in the constitution of a specific place. But, a mapping is never complete; so too training. As a result, the footballer needs to continue "repeated tracing out of those connections" (Ibid) in order to continue to sustain and develop their competence/expertise to the best of their ability through training and practice. Thus, learning in football is, to follow Malpas, an "always unfinished process". It is a potentially continuous triangulation, that can end only temporarily and thus due to largely arbitrary convention or decision (Malpas 2014b, 7). A developing footballer must have an understanding "that rejects the idea of a finished system" (Ibid, 12)

Phenomenology shows us that "Given the dynamic character of triangulation, and so of the formation of place and region, the relationality of place and region is itself always in process" (Malpas 2014b, 6). Therefore, phenomenology experientially informs EDT by showing not merely that affordances and constraints in football are "dynamic, and constantly unfolding" (Malpas 2008, 65), but further elucidates the lifeworld competences of players through which the dynamic and meaningful unity of affordances and constraints are made possible. Expertise in football is the development of this understanding of Malpas's "dynamic, and constantly

unfolding", applied to the constitution of the place of football. Yet, because of this dynamic, even the expert football, is never "simply and unequivocally 'at home'" (Malpas 2015a, 4).

Conclusion

The phenomenology of place allows us to see that we may not take our lifeworld for granted, for we thereby become estranged from place, forgetting our essential placedness (Malpas 2012, 63). EDT combined with a phenomenology, such as that advocated by Malpas, can both check this forgetting, and thus aim to reveal or unconceal place in its fullness. Malpas insightfully says "under the reign of technological modernity, our relatedness to place is not obliterated, but is rather covered over, ignored, made invisible." (ibid.) This has many echoes to Zahavi's (2018, 51) discussion of science that I outlined earlier. Importantly, in reaction to this covering promoted by reductionist research and methods, ecological dynamics (through science) combined with a phenomenology of place can mount a "critique of the placelessness of modernity" (Ibid) found in the academic literature.

In conclusion, phenomenology shows us that only through the footballer's "active involvement with the landscape" (i.e. through training and learning) and through repeated "triangulation", can they build a "picture" of the place of a football match (Malpas 1999b, 40). I have sought to highlight this by viewing EDT as being underpinned by the phenomenology of place. As such the footballer "must be understood through their interconnection rather than their reduction, through their interdependence rather than their simplification" (Ibid). A footballer or team is "on the way" (Malpas, 2012, 4) to their homecoming (to becoming unobstructed in their aims) when they understand that "[n]o single sighting is sufficient to gain a view of the entire region; multiple sightings are required, and every sighting overlaps, to some extent, with some other sighting" (Malpas, 1999b, 41). This again underlines the continued need to view sport from different perspectives to gain a deeper and more holistic appreciation of the phenomena in question.

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