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Theory Games

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Abstract

This paper examines the remarkable and unexplored correspondence between *games* (and board games in particular) and what is commonly understood as *theory* in the social sciences. It argues that games exhibit many if not most of the attributes of theory, but that theory is missing some of the features of games. As such, game provide a way of rethinking what we mean by theory and theorizing. Specifically, games and their relationship with the 'real' world, provide a way of thinking about theory and theorizing that is consistent with recent calls to frame social inquiry around the concept of *phrónēsis*.

1. Throw a six to start

This paper examines the unexplored correspondence between games (and board games in particular) and what is commonly understood as theory in the social sciences. The purpose of the paper is simply to better understand what we mean by theory, by looking at theory through a game lens, and by comparing and contrasting the two phenomena of games and theory. In addition, given that 'theory' is a contested term, one goal of our inquiry is to see what a game lens might bring to debates about what theory is and is not, and how it might provide guidance for those who are confused about how to progress and unclear about what constitutes a theoretical contribution. A secondary question is centred on what we might learn about games and play through contrasting and comparing games with theory.In the next section of the paper we briefly review the literatures on the nature of theory and the nature of games. While there are long-standing debates about the meaning of the word 'theory', the

literature on games and gaming is a more recent phenomenon. There is a somewhat older literature on play, though because play is such a 'fat' word, replete with so many different meanings, we focus on games and board games in particular. Having grounded, as much as we can, the two main concepts, we then proceed to compare and contrast one with the other. This we do in two stages. First, we look at games through a theory lens, asking, 'If theory and theorizing are 'X', to what extent are games a form (and not a form) of theory?'. In short, the answer is that games exhibit most if not all of the attributes of theory. In the second step, consider the opposite question: 'How can a game perspective advance our understanding of the theory and theorizing and clarify what constitutes a theoretical contribution in the social sciences?'. This exercise in comparing and contrasting theory leads, ultimately, to recognising the importance of *phrónēsis* in games, and its relatively marginal position (up until recently) in theory and theorizing. This we discuss in the concluding section of the paper.

2. What is theory? What is a game?

In this section we will briefly review two quite distinct literatures: one that inquires into the question, 'What is theory' and another that asks, 'What are games?' We will consider each in turn.

The paradox of theory in the social sciences is that while the term is seen as fundamental, an accepted meaning of the word is elusive. Merton's (1967: 39) concerns are typical: 'Because its referents are so diverse' he suggests, 'including everything from minor working hypothesis, through comprehensive but vague and unordered speculations, to axiomatic systems of thought – use of the word often obscures rather than creates understanding.' Sutton and Staw (1995: 371) echo these sentiments, observing that 'there is lack of agreement about whether a model and a theory can be distinguished, whether a typology is properly labeled a theory or not, whether the strength of a theory depends on how interesting it is, and whether falsifiability is a prerequisite for the very existence of a theory'. For them, the 'lack of consensus on exactly what theory is may explain why it is so difficult to develop strong theory in the behavioral sciences' (Sutton and Staw, 1995: 372). Corvellec (2013: 14) disagrees, arguing that 'lack of consensus on what theory is itself explains why it is possible to develop strong theory in the social and cultural sciences'. For Weick (1995: 385), 'products of the theorizing process seldom emerge as full-blown theories, which means that most of what passes for theory in organizational studies consists of approximations'. Instead of theory as a product, he suggests, the focus should be on *theorizing* as a process. To add to the complexity, people may subscribe to a theory in practice independently of whether its principles have been observed or described. For instance, when Hornick articulated the principles of a mercantilist theory in 1684 he merely proposed – for Austrian national policy – what had long been established in many countries as a normative pattern of behaviour.

Notwithstanding this complexity, social scientists are routinely concerned with what theory is and is not, what constitutes a theoretical contribution, and how the practice of theorising should be done.

Such conversations have a particular tenor in management and organization studies probably because these disciplines trace their roots to the 1950s when there was a rampant fetish for formal theory across the social sciences (Hage, 1994).[1] Even though the two disciplines imbibed at the antipositivist well from the 1980s onwards, a rather positivist understanding of theory and theorizing is still 'hard-wired' into their disciplinary DNA as demonstrated by the papers published in the higher ranked journals in management and organisation studies. Yet, debates about what theory is, and is not, continue. For instance, the *Academy of Management Review* produced a highly cited special issue on the subject in 1989 (volume 14, issue 4), with *Administrative Science Quarterly* following suit in 1995 (volume 40, issue 3). Much of the debate is centred on the distinctive nature and merits of two dominant paradigms of inquiry, positivism and interpretativism, and on whether these paradigms are commensurable with one another or not.

Bacharach (1989: 496) broadly defines a theory as a 'statement of relations among concepts within a set of boundary assumptions and constraints'. For the purpose of making more detailed comparisons here, we adopt that set of characteristics of 'good' theory, or theorizing, proposed in Wacker's (1998) definition, along with elements suggested by Weick and others. Thus, we find, the heart of any theory is some set of ideas or 'constructs', typically representing or approximating 'phenomena' drawn from the 'real' world. Wacker (1998: 361) describes these as 'conceptual definitions', while to Whetten they are 'factors' or 'variables' (1989: 490). Most writers include the necessity for 'boundary assumptions', or what Wacker refers to as 'domain limitations' (1998: 361). Another essential element of any theory is that these ideas, factors, phenomena, constructs or variables (call them what you will) are arranged in a set of 'relationships' that are meaningful or logical. 'Theory is about the connections among phenomena […] Theory emphasizes the nature of causal relationships' (Sutton and Staw, 1995: 378). Following Sutton and Staw, we acknowledge that a good theory is not the sum of its typical individual components and agree with Weick's (1995) view that theories are dynamic, and that theorizing is a process rather than a product. 'Perhaps', Weick suggests, 'the ultimate tradeoff is the one between process and product, between theorizing and theory, between doing it and freezing it' (Weick, 1995: 390). Wacker and others include making predictions in the 'definitional criteria' (1998: 367), though the broader discussion contains differences of emphasis and interpretation about how the predictive power of a theory can be tested. The quality of offering predictive power—or of

[1] Interestingly, formal theory became popular partly because of the keen interest in computer (and mathematical) simulation due to the advent of computing technologies around that time, and in this sense, computers has affected our understanding of what theory is. However, computers have also affected our understanding of what a game is, in so far as video games, which are built on computing technology, have redefined the game concept.

enabling inferences to be drawn—implies a corresponding potential for testing and falsifiability. Wacker refers to the criterion (for 'good' theory) of 'empirical riskiness' (1998: 366) which in essence means the degree to which a theory may be exposed to the possibility of refutation.

Beyond these basic and generally agreed criteria a few other themes are regularly referenced, under a variety of labels. Perhaps the most important of these is the requirement for a theory to provide a causal explanation, or explicatory narrative, for the phenomena within its domain. Weick refers to this virtue of a theory as its being 'believable' or having 'verisimilitude' (1989: 527) probably in the same sense as Sutton and Staw use 'convincing and logically interconnected' (1995: 378). There is also an expectation that a theory should avoid having too narrow a domain of application. Wacker refers to this as the virtue of 'generalizability' (1998: 365) but it appears in other discussions as 'utility', usefulness or 'scope' (Bacharach, 1989: 506), and is a concept deeply entwined with a theory's explanatory or predictive power. Finally we may distinguish a theme that runs through a number of accounts as the 'aesthetic' qualities of a theory, or what Weick calls the 'beautiful' (1989: 527).

This necessarily brief review of the literature on theory suggests how difficult it is simply to list the elements of an essentially dynamic activity like theorizing. However, if we are to compare and contrast theories and game design, it is helpful to have such a simplified list for reference. Before compiling this, we move now to briefly review the literature on games and begin by looking at play.

In a seminal book, Huizinga (1955) argued that play is elementary to the human condition, and that war, religion, sports and the arts are all forms of play. 'Play', he asserted, 'cannot be denied. You can deny, if you like, nearly all abstractions: justice, beauty, truth, goodness, mind, God. You can deny seriousness, but not play' (1955: 3). If the literature on play and games was tiny before Huizinga, it is now burgeoning, which is perhaps not surprising since both concepts encompass such a wide range of phenomena: an infant plays with a toy, a woman plays a musical instrument, an audience watches a play in a theatre, a corporation's stock goes into play, while a professional footballer's work is to play. Play is of particular interest in management studies, not least because management has traditionally focused on play's presumed opposite – work – and, more recently, because play is seen as an intrinsic part of learning and creativity (Kavanagh, 2011). Game is perhaps a more bounded concept than play. This boundary can be traced using Caillois' classification of four forms of play – *agon* (competition), *alea* (chance), *mimicry* (simulation) and *ilinx* (vertigo). Games fit easily into the first two forms (sports and games of chance), and not well into the last (*ilinx* refers to forms of play involving dizziness or quick changes of movement). The third form, *mimicry,* refers to phenomena like the carnival and theatre and, it can be argued, that the 'conceit' or 'theme' that engages the imagination of the players, even encouraging them to sit

down to play, represents a theatricality, or imaginative simulation. To support this idea consider recent developments in role playing games, or the relationship between board games and cinema, where games are designed to allow players to adopt characters and mimic situations within the universe created by a movie.

The concept of game encompasses a wide variety of activities: children's games like hide-and-seek, thousands of different card games, an even more eclectic collection of board games (over 60,000 games are listed on the website *boardgamegeek.com*), a massive video game industry (estimated revenues of $78.5 billion in 2012 (Nayak and Baker, 2012) and field games like football, tennis, hurling and hockey. More broadly, many social activities can be interpreted as games. For instance, some have argued that business is just a game, akin to a game of poker, with its own rules and practices (Carr, 1968; Stack and Burlingham, 1992), while others have highlighted that people, including managers, are continually playing psychological games in their interactions with others (Berne, 1964; Weber, 1989). Most obviously, asset markets display many, if not all, of the attributes of games, though Hamington (2009) sees this as a case of taking a metaphor too far. Interestingly, Hamington's concern is that social activity, once perceived as a game, may be trivialized, its adversarial character may be exaggerated, and ethical behaviour may be truncated, though this concern may be unjustified because unethical behaviour, aggression and breaking of rules is frowned on in game play as much as in any other human activity. It is highly likely that rule breakers and misbehavers derive their guiding light from personal psychology and previous experience, rather than from any lack of appreciation for the social importance of their current activity.

To add to the complexity, an activity may be classified as a 'game' in one context, while an almost identical activity is 'not a game' in another context. For example, clay pigeon shooting is a game, while military sharp shooting is not. We trust that there was a difference of intellectual engagement between moving wooden blocks on a map in war games at an officer training exercise and on the same map some miles behind the front line at the Somme. The US military were quick to recognize the value of game playing to 'teach everything from doctrine, to strategy and tactics' (Prensky, 2003: 3). The website 'Social Impact Games' catalogues 'Entertaining Games with Non-Entertainment Goals (a.k.a. Serious Games)[2]'. For example, one of these games, *3rd World Farmer,* is a student project that 'challenges players to keep themselves and their families alive while managing a farm in poverty and conflict-stricken Africa':

> So, how do you win at 3rd World Farmer?
>
> You don't. Eventually, the yearly hardships and frequent agricultural, economic, and civil disasters will wipe out your entire family. It's not fair and it's not fun but perhaps that is the point. *"We aim at making the player 'experience' the injustices, rather than being told*

[2] http://www.socialimpactgames.com/modules.php?op=modload&name=News&file=index&catid=13&topic=&allstories=1

> *about them, so as to stimulate a deeper and more personal reflection on the topics,"* [original emphasis].[3]

In short, context matters. Indeed Wittgenstein (1953) saw that context was vital, not only for games but also for language, and it was this insight that formed the basis for his important concept of *language-games*. Languages, for Wittgenstein, are analogous to games; for him, saying something in a language is like making a move in a game.

> Consider for example the proceedings that we call "games". I mean board-games, card-games, ball-games, Olympic games, and so on. What is common to them all?—Don't say: "There must be something common, or they would not be called 'games' "—but look and see whether there is anything common to all.—For if you look at them you will not see something that is common to all, but similarities, relationships, and a whole series of them at that. To repeat: don't think, but look!—Look for example at board-games, with their multifarious relationships. Now pass to card-games; here you find many correspondences with the first group, but many common features drop out, and others appear. When we pass next to ballgames, much that is common is retained, but much is lost.—Are they all 'amusing'? Compare chess with noughts and crosses. Or is there always winning and losing, or competition between players? Think of patience. In ball games there is winning and losing; but when a child throws his ball at the wall and catches it again, this feature has disappeared. Look at the parts played by skill and luck; and at the difference between skill in chess and skill in tennis. Think now of games like ring-a-ring-a-roses; here is the element of amusement, but how many other characteristic features have disappeared! And we can go through the many, many other groups of games in the same way; can see how similarities crop up and disappear. And the result of this examination is: we see a complicated network of similarities overlapping and criss-crossing: sometimes overall similarities, sometimes similarities of detail (Wittgenstein, 1953: 31).

It is perhaps this curious mixture of similarity and difference that provides the basis for the growing literature of ludology, or game studies, and it is to this literature that we now turn as we continue our inquiry into the relationship between theory and games. Our interest is much the same as Wittgenstein's: 'How should we explain to someone what a game is? I imagine that we should describe games to him, and we might add: "This *and similar things* are called 'games'"' (1953: 33). We must try to address this if we are to consider the relationship between theories and games.

Even though the ludology literature can trace its roots to early studies by Culin (1889; 1895; 1907) in the late 19th century, and the seminal works of Huizinga (1955) and Caillois (1961), it is very much a recent phenomenon with almost all academic journals appearing since 2000: *Game Studies* (2001), *Game Developer* (2001), *Gaming Research & Review Journal* (2002), *Games & Culture* (2006), and *Eludamos: Journal for Computer Game Culture* (2007). Similarly, the growing collection of books on games includes very few books published before 2000. One of the most comprehensive is *The Art of Game Design: A Book of*

[3] http://gamepolitics.livejournal.com/318127.html?nojs=1

Lenses by Jesse Schell (2008), CEO of Pittsburgh's largest video game studio, a professor at Carnegie Mellon's Entertainment Technology Centre, and former Creative Director at Disney's Imagineering Virtual Reality Studio. His book is a rich and insightful exploration of game design, particularly of video games. in which he presents a 32-item frame and 100 different lenses that game designers might use to scrutinize different aspects of their practice. Like many others, Schell sees a commonality across all types of games:

> Video games are just a natural growth of traditional games into a new medium. The rules that govern them are still the same. An architect must understand how to design a shed before he can design a skyscraper, and so we will often be studying some of the very simplest games. Some of these will be videogames, but some will be far simpler: Dice games. Card games. Board games. Playground games. If we cannot understand the principles of these games, how can we hope of understanding more complex games? Some will argue that these games are old, and therefore not worth studying, but as Thoreau said, "We might as well omit to study Nature because she is old." A game is a game is a game. (Schell, 2008: xxvi)

Other valuable and influential studies of games include *Half-real: Video games between real rules and fictional worlds* (Juul, 2005), *Games without Frontiers: Methods for Game Studies and Design* (Järvinen, 2009), *Eurogames: The Design, Culture and Play of Modern European Board Games* (Woods, 2012), *Characteristics of Games* (Elias et al., 2012) and *The game design reader: a rules of play anthology* (Salen and Zimmerman, 2006). These are the primary texts consulted in seeking an answer to our question, 'What is a game?' or rather 'What are the characteristics of a game?'. Having then, rather briefly, considered these two quite different literatures: one that looks at what theory and theorizing is, and one that considers the nature of games, we have identified seven elements that appear to be common to (good) theories and ten elements of (good) games, which we set out in Table 1.

Insert Table 1 here

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3. Playing with games

The previous section sought to ground, as far as possible, our understanding of games and theory. In this and the next section we examine the correspondences and differences between the two phenomena.

A useful starting point is to suggest that the criteria identified in the literature as axiomatic to any theory – conceptual definitions, domain limitations, relationship-building, and predictions (Sutton and Staw, 1995; Wacker, 1998) – are manifest in games. Most obviously, games have conceptual definitions set out in the rules of play and concepts tend to be quite precisely defined in games. Likewise, games have relatively exact domain limits specified by the rules. The focus on relationship-building draws on the ideas of formal theory

that were especially popular in the 1960s, the notion being that a theory is an explanatory model of the world framed around a network of relationships between a parsimonious set of constructs. Akin to theories, games also consist of a network of relationships between constructs, again as set out in the rules of play. For instance, in *Monopoly*, a 'player' can only 'build a house' if the player 'owns' a 'set' of 'streets'. Players and observers can also infer relationships between constructs; again using *Monopoly* as an example, players will place a higher premium on the orange set of streets on the basis that players leaving 'jail' are more likely to land on these streets, or they might inductively develop a sense of the relationship between investment and cash flow through repeatedly playing the game. Note that these can be considered as emergent phenomena since they are not explicit in the rule book or often not envisaged by it. Players may use this acquired knowledge through playing to make predictions – one of the basic criteria of theory building – about what will happen in the future: for example, 'Mary will win because she has built a hotel before anyone else has built even a house'. Moreover, players will develop many local interpretations and predictions - 'Johnny [the novice] will make a foolish decision in negotiating with Michael [the expert]' – which, taken together, can be understood as collective and individual attempts to explain and predict success in the game.

In considering the basic criteria – T1 to T4 in Table 1 – it appears that games do meet the requirements of what constitutes theory, or, at the very least, that theorizing is practiced and present in games.

Some might suggest that the level of theorizing in games is relatively unsophisticated, even trivial, because the domain appears to be so limited. However, there are a number of counter-arguments to this view. First, games deeply engage not only players but also spectators who can spend considerable effort and mental energy analysing individual games and players, explaining why a player or team consistently wins or loses, and predicting the result of the next game. As Liedman (2013: 25) suggests, we may understand theorizing to be 'beholding, explaining, and predicting'. Second, the argument may have merit for some very simple games, but many games, and probably the majority of recently designed games, have complex and rich social settings. In fact any game designer who is successful must have developed a set of rules that captures the imagination of players – before, during, and after reflection on their game experience – to the extent that it represents a world that they recognise, that simulates some believable phenomena, and that retains balance and equity between the players in practice. Third, theorizing always abbreviates and simplifies – 'A good theory is, by definition, a limited and fairly precise picture' (Poole and Van de Ven, 1989: 562) – and hence theories about games are probably no more of a simplification than theories in other domains. Fourth, depicting games as trivial might be better understood as simple antipathy towards recreation and play, which we might attribute to enduring Puritan values in

(American) society – and management studies in particular – as much as anything else (Kavanagh, 2011).

We can distinguish four different but interlinked domains of theorizing in games: theory in design; theory in play; theory in spectating; and theory between games. *Theory in design* is the theorizing that a game designer engages in while conceiving, developing and play-testing a game's laws and components, and is the main line of comparison with theory development in this paper, though we acknowledge that the boundary between the design of a game and the playing of a game is a soft one, frequently traversed in both directions. However, it builds on the core distinction between the game designer and the game player (Schell, 2008) and thus may approximate the distinction between the development of a theory in the social sciences and its application. *Theory in play* describes the theorizing that a player (agent) engages in during actual play. This theorizing is part of the practice of play and will involve a mix of general models of the world – "always try to acquire the orange streets in *Monopoly*" – and more idiosyncratic, even political, responses – "if Michael gets what he wants in this turn he'll probably win the game". Theory in play is framed within the structure of the game, and so is linked to theory in design in much the same way that agency and structure are linked to one another in the social world: individuals have some capacity to act independently, but these actions also work to create the recurrent patterns (structure) that limit future choices and opportunities (Giddens, 1984). The difference between the game designer and player (and consequently the difference between theory in design and theory in play) also mirrors Saussure's (1916/1983) distinction between *langue* and *parole*: *langue* being the abstract, systematic rules of a signifying system or language, independent of individual users, while *parole* refers to concrete instances of the use of *langue* in speech acts. In game design, there is a presumption that structure (the system) is largely the creation of the game designer, in contrast to language and broader social systems where structure is seen as more emergent. This is a point worthy of future exploration, since the literature on game design includes two important post design (emergent in play) characteristics: politics, where 'players can target other players in an arbitrary way' (Elias et al., 2012: 50) and 'griefing' which encompasses a broad set of 'misbehaviours' (within the game universe) like biased trading, blocking other players, exploiting known rules loopholes, aggressive tactics, or straightforward obscenity (Schell, 2008: 369).

Theory in spectating characterises the theorizing that spectators and observers engage in during and outside of play. Spectators are precluded from playing (though players can spectate), but they can still be an important part of game-playing. And for us they are especially important, because the etymology of the word theory can be traced to the Greek word *theōros*, meaning 'spectator'. While players can act on theories during play, spectators have limited ability to influence play as it happens (which, of course, might explain why they can get so agitated).

Finally, there is *theory between games*, which is the type of theorizing that occurs when one game is used to make sense of another game. For instance, one might see and use parallels between the game of *Monopoly* and the practice of building a 'real' property empire. In contrast to the first three types, which are centred around an individual game, this form of theorizing connects different games, although 'games' in this context might be better understood as systems (in Luhman's (1995) understanding of that term). What this points to is that the common understanding of theory as a 'model of the world' warrants unpicking, in so far as the 'world' may be the game itself or include other games.

While these four domains of theorizing are distinct, they are also linked to one another. For instance, a game designer will develop expertise in game design through experience of being a player and of watching games being played. Likewise, the player's ability to construct good theory is based on repeated play as well as spectating.

4. Playing with theory

Thus far, we have looked at games through a theory lens, asking if games demonstrate the attributes of what we understand as theory. Broadly speaking, it appears as if the answer is, 'Yes'. We will now look at theories through a games lens, asking if theories demonstrate the attributes of what we understand as games. This is the perspective that we will take in the remainder of this section. In doing so, we will consider the ten elements of games we identified in Table 1 and use these to think about theories, and, in particular, how a games perspective might illuminate what might be missing from the conventional understanding of theory. One rough and ready way of doing this is to experiment by replacing the word 'games' in our ten elements of games with the word 'theories' and reflect on what new insights this might give into the nature of theories and theorizing.[4] Of necessity due to space constraints, our purpose here is to merely indicate new perspectives on theory and potential directions for future inquiry.

1. *Theories are epistemologically beyond the compass of lists and definitions and can only be properly known through playing*. This assertion is consistent with the literature which has never converged on an agreed understanding of what theory is, or is not. We do not know what a theory is because a theory cannot be defined or captured by a list of attributes; a theory is not the sum of those attributes. What a games perspective suggests is that theories must be *used* and can only be properly known through use. We might compare theories to Wittgenstein's portrayal of language games as a 'blurred concept':

> Is it even always an advantage to replace an indistinct picture by a sharp one? Isn't the indistinct one often exactly what we need? […] One gives examples and intends them to be taken in a particular way.—I do not, however, mean by this that he is supposed to see in those examples that common thing which I—for some reason—was unable to express; but

[4] When we use the word 'theories', we are also including the practice of theorizing.

> that he is now to employ those examples in a particular way. Here giving examples is not an indirect means of explaining—in default of a better. […] The point is that *this is how we play the game* (Wittgenstein, 1953: 34, our emphasis).

At best, then, we may point to some aspect of a theory and say 'this seems good' or 'that seems to work'. It may be the case that our judgment of any theory as good depends on its having referents, or examples of similar theories to point to. Good theories thus offer examples of good theory. A possible danger here is that this process may become self referential and circular, and subject to fashion and taste. In this way new approaches to theorising, having no reference points, may be dismissed and consequently the discipline may resist novelty.

2. *Theories emotionally engage players, giving them a meaningful experience and opportunity to express themselves*. Some theories do engage people – Marxism comes to mind – but our sense is that typically people are not emotionally engaged by theories, at least not in the way that games do. For instance, Flyvbjerg records that when he asked Stuart Dreyfus 'where in the body a chess player feels that a move is right, he told me, "in the whole body. In the pit of the stomach"' (Flyvbjerg, 2001: 15). Similarly, Kahneman has identified this 'gut' feeling as an ability of the 'expert' chess player, since 'by the time chess players become experts they have "seen everything" (or almost everything)' (Kahneman, 2011: 241–2). Nevertheless, implicit in all accounts and explicit in some, is an expectation that a 'good' or a 'strong' theory will engage the human imagination. In a discussion of what a theory of creativity might require, Amabile (1993: 181) suggests that theories should be 'judged on their "intellectual excitement" value'. Likewise, there's is much insight in Astley's (1985: 504) comment that "old paradigms fall from grace not because they are wrong but because they are boring". The lesson, perhaps, is that we need to be more explicit about the need for theories to emotionally engage us.

3. *Theories have procedures and rules*. Here, our earlier distinction between theory in design and theory in play is relevant. Does theory development have procedures and rules, or does a theory itself consist of a set of procedures and rules provided to its agents, which must then be observed by these 'players'?

4. *Theories have a material technology, which may include components like plastic tokens, boards, dice, pens and cards*. Much the same point has been made by sociologists of science like Ian Hacking who argues that "as a laboratory science matures, it develops a body of types of theory and types of apparatus and types of analysis that are mutually adjusted to one another" (Hacking, 1992: 30). For Hacking, theories "are self-vindicating in the sense that any test of theory is against apparatus that has evolved in conjunction with it – and in conjunction with modes of data analysis" (*ibid*.). Outside of the laboratories, the wide use of data in theorizing, and in applying theory, involves the use of current computing technologies, as well as older technologies and 'player aids' like charts, diagrams and maps.

Thus a game lens shifts attention to what Hacking (1992: 32) refers to as the 'matérial of the experiment' which is largely invisible in discussions about the nature of theory in the social sciences.

5. *Theories have an aesthetic, which is every thing to do with how the theory looks, sounds, feels and plays*. Weick argues that the excessive constraints of methodology (or craft) may weaken the act of theorizing 'because they de-emphasize the contribution that imagination, representation, and selection make to the process, and they diminish the importance of alternative theorizing activities such as mapping, conceptual development, and speculative thought' (Weick, 1989: 516). He suggests that a theory is judged of higher quality if it is, *inter alia*, 'aesthetically pleasing' (1989: 517). In Kantian terms we can 'observe a purposiveness according to form, without basing it on a purpose'; in other words, we can appreciate that an aesthetic artefact (or a game, or a theory) has a 'purposiveness' without being able to articulate this purpose precisely (Kant, 1790/2007: 41).

6. *Theories are structured around a problem or goal that challenges the players through a structure of rewards and penalties*. Like Wittgenstein, MacIntyre (1981/1984) uses games to make an important theoretical contribution, this time in his influential distinction between 'internal' and 'external' goods, which he explains by telling a story of an adult encouraging a child to play the game of chess. Initially, the adult offers the child a tangible reward, such as sweets, if she plays the game, but over time the child comes to enjoy playing and will play solely for the love of playing, regardless of the reward. For MacIntyre, the 'internal good' is the enjoyment derived from playing the game while the sweets constitute the 'external good'. An internal good (or reward) for a theorist might be considered as the deep personal satisfaction to be derived from engaging in a *practice* which she considers to have ethical substance, and which has the potential, at least, to offer a social benefit. This contrasts with external goods, where the pursuit of an activity like theory building is aimed at achieving institutionally determined goals, like career advancement, or peer regard. 'Research Assessment Exercises, which are created and maintained by the institution rather than the practice, are a good example of an external good' (Kavanagh, 2013: 107).

A theory game that turns out, on empirical testing, to be wrong may have serious, even catastrophic, consequences for its proponents and agents (or 'players') in the real world. For the theorist, however, even incorrect theories may still provide an external good, merely through the action of research assessment metrics and institutional rewards. It is difficult to argue that history has penalised theory designers since, as Taleb has accurately observed of economists, 'the problem with the economic establishment is that they are never harmed by their bad models'[5].

7. *Theories feature chance or risk as an intrinsic element*.

[5] BBC Radio 4, *More or Less,* 14 Dec 2012

A few games, such as chess, have no hidden information and no random element to affect a player's next move; nothing in chess is determined by the roll of a die or the turning of a card. Other games do have random elements (see Malaby (2007) for a good discussion on different forms of contingency or chance in games), and so do many activities in life, the very subjects of our theorizing. We may feel in our gut, based on a lifetime's experience, that a theory is valid. Detailed calculations of the probability of outcomes based on historic data may support our gut feeling, but these are calculations based on risk factors whose inclusion or exclusion is often guided by the same gut feeling. To compound the problem, an outcome may be subject to uncertainty as Keynes means that term:

> The sense in which I am using the term is that in which the prospect of a European war is uncertain, or the price of copper and the rate of interest twenty years hence, or the obsolescence of a new invention, or the position of private wealth-owners in the social system in 1970. About these matters there is no scientific basis on which to form any calculable probability whatever. We simply do not know. (Keynes in Skidelsky, 2009: 84)

We might conclude then that chance, as an inescapable feature of the real world, is also an inescapable element in the beholding the real world, and informing our theories about it. What expert players do, in games where chance plays a significant part, is adopt strategies that minimise or distribute its effects. But it is impossible, in the course of a single life, to 'see everything', or much of anything, and yet we must contemplate, identify useful constructs, and attempt to build theories. This has an important bearing on the question of validating theory through experience. Validating may be feasible in play testing a board game where the variables are limited and events can be replicated, but is far less so in the real world due to an almost unlimited number of variables and a lack of control over our environment.

If chance is an integral parts of games (see Malaby (2007) for a good discussion on different forms of chance and contingency in games) it is treated rather differently in social theory. In the interpretative tradition, chance is typically ignored or substituted by an appeal to context. In contrast, positivist research is premised on the notion that chance plays an insignificant role in much of the world (and hence 'statistically significant' relationships can be mapped). A games perspective problematises each of these positions, especially if we accept Kahneman's (2011: 14) assertion that, 'We are prone to overestimate how much we understand about the world and to underestimate the role of chance in events'.

8. *Theories generate stories, that have characters, action, plots and other narrative and theatrical elements*. A good theory provides us with a 'meaningful' narrative, or plot, with an overtly causal relationship between the plot points. In the first instance this 'plot' explains the phenomena we observe, and further suggests ways in which the plot can be shaped and directed, by our emphasising or selecting particular lines from the narrative. The theory thus builds on the story it tells to suggest an improved narrative.

9. *Theories have an ethic*. It is perhaps surprising that the word 'ethics' does not appear in any of the main sources we consulted in defining a theory's characteristics. Indeed Ghoshal

(2005: 77) has suggested that 'a precondition for making business studies a science has been the denial of any moral or ethical considerations in our theories'. If this is true, then we must wonder at what point this amoral interpretation of scientific method became manifest. We might begin by laying the charge at the eponymous character in Machiavelli's how-to manual of statecraft – presented to generations of business students and CEOs – who is manipulative, calculating and self-serving to the extent that 'Machiavellian' became a byword for immoral political behaviour[6]. It is of interest to compare this with the theory expressed in the game of *Monopoly* where 'each player takes on the role of a cheerfully rapacious real-estate tycoon, wheeling and dealing until he alone commands the board' (Jackson quoted in Peterson, 2012: xiii), but we do not expect players leaving the game to adopt this role as a model for their general behaviour. Perhaps the ethics proposed for the Prince by Machiavelli are a reflection of his time and place, since Rennaissance leaders did not aspire to be democrats. Though the Greeks gave us the word *democracy* it is clear that they did not interpret the word according to our current sense. 'The views of Aristotle on ethics represent, in the main, the prevailing opinions of educated and experienced men of his day' (Russell, 1945/2004: 168). Aristotle was human and yet, in his world view, theorizing or 'contemplation in itself was not human; it was divine' (Liedman, 2013: 26). In this case Ghoshal may be only half right. The practice of theorizing may actually be beyond ethical considerations – it is disinterested, or impartial (or divine) – but the theory itself, and its agents, exist within a human, ethical framework.

10. *Theories are formal systems, relatively separate from the 'external' world*. This last element warrants careful consideration, since this may be the most relevant of the commonly preceived distinctions between games and theory games. However, before testing its relevance to theorizing, it is important to see how completely it describes games. In the play literature, there is a long-standing view that play is an 'autotelic' activity, meaning that the direction of behaviour is completely inward, onto the very essence of the activity itself. By definition, an autotelic activity is engaged in solely for its own sake, with no meaning exterior to itself or ulterior motive outside of its own terms of reference. This idea goes back to Huizinga (1955) who saw play as 'an act apart', separated by a 'magic circle' from 'ordinary life' (1955: 10, 13) and Caillois (1961: 10) who saw games as 'separate'. Likewise, in an early and important contribution to the computer games literature, Crawford (1984: 7) asserted that 'a game is a closed formal system that subjectively represents a subset of reality… By "closed" I mean that the game is complete and self sufficient as a structure. The model world created by the game is internally complete; no reference need be made to agents outside of the game' and indeed Schell (2008: 34) also sees a game as a 'closed formal system'. Others disagree. For instance, Juul (2005: 36) sees the boundaries between the game

6 However *The Prince* can be construed at different levels, and Machiavelli may have been engaged in multiple projects, one of them deeply satirical and one even a primer for republicans designed, as Dietz (1986: 777) asserts, 'to undo Lorenzo de Medici by giving him advice that would jeopardize his power'.

and real worlds as 'fuzzy areas under constant negotiation', while Woods argues that 'a particular game can offer a vastly different experience depending upon the context in which it is played' and that 'board game systems are anything but closed' (2012: 6). Malaby (2007: 96) also holds this view, noting that, 'Ironically, it is how we have sought to account for what is remarkable about games by setting them apart (as play-spaces, as stories) that is the largest roadblock to understanding what is powerful about them'. In this debate, we side with Woods, Juul and Malaby, which is why we say that games are 'relatively' separate from the external world, and indeed, following Luhmann (1995), we see that external world as constituted by a myriad of different games/systems. Moreover, the formal system can be a curious mixture of real rules and fictional characters creating something that Juul's (2005) describes as 'half-real'. Is a theory more real than that?

4. Endgame: Putting *phrónēsis* into play (and theory)

One way of integrating some of the above points is to draw on the classical Greek distinction between *poíēsis* and *praxis* (Dunne, 1993; Kavanagh, 2013). *Poíēsis* 'describes an activity associated with making or fabricating something, which necessarily terminates in and brings about a separate product or outcome that provides it with its end or *telos*' (Kavanagh, 2013:109). In contrast, *praxis* 'is not structured around a separately identifiable outcome [but] has to do with the conduct of one's life as a citizen; it is about activities such as being friendly, honest, truthful, loyal, helpful. In essence, the distinction between *poíēsis* and *praxis* is between productive and ethical activity' (*ibid*). Both domains have an associated form of knowledge: *téchnē*, or productive knowledge, is associated with *poíēsis*, while *phrónēsis*, or practical wisdom, is the form of knowledge associated with *praxis*. In the context of games, each game is within the domain of *poíēsis*, in so far as each has its own *telos* or end. *Phrónēsis* is the wisdom that allows us to act ethically within and between games, to recognise that bluffing might be acceptable, even valorised, in poker, but inappropriate in personal relationships, or to understand the qualitative difference between 'killing' in chess and in real life. *Phrónēsis* is also 'in play' during game design, as when a Polish research institute developed a board game, inspired by *Monopoly*, that teaches young people about life under communism (instead of buying property, players must wait in endless queues for scarce goods)[7]. Indeed games are always and necessarily infused with *phrónēsis* because *phrónēsis* the practical wisdom that allows us to know the difference between play and not-play, and to understand the complex network of interdependencies between different games (each of which is a form of *poíēsis*) and 'real' life.

Thus, there is no need to 'put' *phrónēsis* into play, since it is a necessary and essential part of the phenomenon. But perhaps we do need to put it into theory, or at least remember

[7] http://www.spiegel.de/international/zeitgeist/the-waiting-game-communist-monopoly-teaches-downside-of-socialist-life-a-740587.html

that *phrónēsis* is an intrinsic to theory and theorizing as it is to games. This is the central and important point made by Bent Flyvbjerg (2001; 2004), who equates *phrónēsis* with ethics or 'deliberation about values with reference to *praxis*' (2004: 402). For Flyvbjerg, 'the point of departure for classical phronetic research can be summarized by the following three value-rational questions: (1) Where are we going? (2) Is this desirable? (3) What should be done?' (Flyvbjerg, 2001: 60). It seems to us that these are important framing questions for any piece of social inquiry.

This paper has examined the correspondence between *games* (and board games in particular) and what is commonly understood as *theory* in the social sciences. While our sense is that games have been marginalised as trivia in contrast to the serious work of theorizing, our study indicates how sophisticated, complex and rich games can be in contrast. Games have obviously been used in an educational context, but we would argue that games can also provide us with a new way of thinking about theory, in much the same way that Wittgenstein used games to rethink language. It is, we think, time to play *theory games*.

Table 1. The characteristics of theories and board games.

Theories	**Games**
T1. Theories consist of a set of defined constructs, 'correspondent with presumed realities' (Weick 1989: 517).	G1. Games are epistemologically beyond the compass of lists and definitions and can only be properly known through playing.
T2. Theories consists of relationships or hypotheses that connect the constructs in a meaningful or logically resonant way	G2. Games emotionally engage players, giving them a meaningful experience and opportunity to express themselves. Players engage with games willfully.
T3. Theories have a domain: a field or conceptual space within which (as a minimum) the theory operates	G3. Games have procedures and rules.
T4. Theories have predictive power. '[I]nferences may be drawn from it 'whose truth or falsity can be determined by experience' (Weick 1989: 517).	G4. Games have a material technology, which may include components like plastic tokens, boards, dice, pens and cards
T5. Theories have a narrative or explanatory power, which is convincing to the extent that it matches our current understanding.	G5. Games have an aesthetic, which is every thing to do with how the game looks, sounds, feels and plays.
T6. Theories have utility or relevance: 'Theorists often write trivial theories because their process of theory construction is hemmed in by methodological strictures that favor validation rather than usefulness' (Lindblom 1987 in Weick 1989: 516).	G6. Games are structured around a problem or goal that challenges the players through a structure of rewards and penalties. In collaborative games, players work together to achieve a collective goal, while in competitive games they compete to achieve an individualised or team goal.
T7. Theories have an extrinsic *telos* or ultimate aim. Consistent with the idea of theorizing as a practice, theorizing also has a purpose, in line with Socrates' assertion that 'the unexamined life is not worth living'.	G7. Games feature chance or risk as an intrinsic element. Sometimes, chance is a major part of the game (e.g. the lottery), while at the other extreme it may be practically absent (e.g. chess).
	G8. Games generate stories, that have characters, action, plots and other narrative and theatrical elements.
	G9. Games have an ethic. They foster a sense of community and friendship, and create experiences that can change people. Games also have an internal value system that may reflect or inform external values.
	G10. Games are formal systems, relatively separate from the 'external' world.

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