Social Games. Outline of a Metatheory for the Social Sciences

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Abstract
This paper presents an outline of a metatheory for the social sciences called "Theory of social games". The metatheory analyses social life as a multitude of interacting social games. A social game is an entity created by players with attributes who engage in repeated action and interaction, shaped by game parameters (goals, resources, rules, representations, game objects, functions), and leading to game outcomes.
The paper agues that the theory of social games; (1) can be formulated in a straightforward way by defining and describing a limited number of interrelated concepts;
(2) has a straightforward way of incorporating and guiding both the interpretive understanding and causal explanation of social phenomena and; (3) offers a direct strategy of putting the theory to heuristic use, translating it into research questions and first hypotheses, thereby helping to build substantive theoretical models that can be empirically tested. The argument is supported by several classical and contemporary examples of sociological studies.

> *I think it's wrong that only one company makes the game Monopoly*
> *Stephen Wright*

> *By the time an idiot learns the rules of the game, the players are already gone.*
> *African proverb*

1. Introduction

Sociological metatheories or "general theory" have been criticized for being too abstract to be of any practical use for concrete sociological work. Robert Merton (1968a, 52) famously addressed this critique to Talcott Parsons' theoretical system, but similar criticisms have been directed to many other well-known metatheories such as those of Niklas Luhmann, Anthony Giddens, Jürgen Habermas or Pierre Bourdieu (Van den Berg 1998, Münch 1996). It is especially often claimed - and even thought to be *scandalous* - that metatheories lack possibilities to explain phenomena and that they are therefore irrelevant to empirical research (Goldthorpe 2000b, 2).

This article advances the idea that a social scientific metatheory may be written around the concept of a "social game" and that this metatheory may have an edge on competing metatheories when it comes to give clear guidance concerning interpretation, explanation, and translation into middle range theories.

The concept of "game" is here not used as a metaphor - as is done by many famous scholars in sociology, anthropology, social psychology, or philosophy, but as a heuristic starting point and centre of the metatheory. A metatheory is what Merton (1968a, 141-143) called "general

sociological orientations": a series of interlinked concepts that may guide researchers' thinking and be translated, if specified, into substantive, "middle-range" theory. Since metatheories in the social sciences can only be used in a heuristic way, I use the terms "Theory of social games" and "Game heuristics" interchangeably.

The goal of the paper is to show that the theory of social games
(1) can be formulated in a simple and straightforward way, by defining and describing a limited number of interrelated concepts;
(2) has a powerful way of incorporating and guiding both the interpretive understanding and causal explanation of social phenomena, and
(3) offers a simple and direct strategy of putting the theory to heuristic use, translating it into research questions and first hypotheses, thereby helping to build substantive theoretical models that can be empirically applied and tested.

I believe that it may be promising to formulate a theory of social games for the social sciences for three reasons.

First, it is a well-known but very significant fact that children who learn how to live in society in important ways by playing, and engaging in games (Coleman 1969, 2). Mead argues that by playing and playing games, the child is able to learn social roles and represent the roles of others internally in his mind. It is only thus, Mead thinks, that children may create a "self" (Mead 1967 (1934), 155).

Second, game studies show us that computer games are able to create whole worlds. sociological constructionism always talked about how different societies were "only constructed", this literature and these examples show us how new, artificial worlds can be built that are inhabitable by players with their avatars, that give meaning to the players and create unexpected emergent effects.

Third, an astounding number of major social theorists from the most varied background have formulated the insight that games-for-fun, such as tic-tac-toe and chess, seem to be miniature idealized models that depict how much of the social world functions in general. The most important classic for our purposes are Goffman, Garfinkel, and Coleman. Goffman (1961, 1967, 1969), analyzed social life in respect to the ways individuals-in-roles play - either *for* other individuals, as in a theatre performance, or *with* other individuals - as in a game. Garfinkel (1967, 2006 (1963)) showed that social games use various layers of both discursive and tacit rules and that the reproduction of these games rests on a generalized trust that these rules will prevail. Coleman (1969, 1990) realized that the playing of social games leads to emergent outcomes that can be explained by the game parameters and the process of the game. But we find the idea of social games - explicitly or implicitly - also in the writings of Boudon (1976, 1185-1186), Bourdieu (1984), Fligstein/Adams (2011), Huizinga (1963 (1956)), Mead (1967 (1934), 159-160), Merton (1968b), Searle (1995, 66-68), Weber (1988 (1922)), Winch (2008 (1958)), and Wittgenstein (2003, 56-63). More recently DiCicco-Bloom/Gibson (2010) have argued that real games such as chess, go, or poker, could help us devise sociological theory and Stachura (2017, 2014) has recently published papers on social "evaluation games" that comes in many ways close to what I have in mind.

Game heuristics should not be confounded with (economic) game theory (von Neumann and Morgenstern 2004 (1944)). Game heuristics uses none of the central elements of economic

game theory, such as strict rationality assumptions, pay-off matrices, and the concept of equilibrium.

What we attempt to do here has been criticized (DiCicco-Bloom and Gibson 2010, 268). Critics argue that, in contrast to a game (for example a game of chess between friends),

1. the *rules of social life* are often complex, ambivalent, and open to different interpretations by different actors; they may not be consciously known by the actors and are sometimes only discovered while playing the game; also, there may be substantial disagreement about the rules, and rules may be contested and changed by powerful players. (Giddens 1984, 17, Bourdieu 1980, 174, Garfinkel 1967, 140-167, Rawls 1955).
2. The situations in social life are extremely *complex*; actors have to react to cues that belong to various, sometimes conflicting frames and contexts. This complexity is not given in a game (Goffman 1974, 5).
3. actors in social life are not in a make-believe world of a game, but in the *real world*. Thus, they cannot just stop the game, take "time out", or forget about the consequences of their actions. (Maynard 1991, 278)

I do not find these criticisms convincing for two reasons. First, we can easily find games-for-fun that display the attributes mentioned by critics as "not game-like"; they allow more freedom, demand more negotiation, and have more serous consequences than these critics think (Kew 1992). In improvisational games, rules can be complex and contradictory; in soccer, the application of rules is routinely challenged; when kids play games, the existence and form of rules is under constant discussion; and in Russian roulette and running-for-the-bride, the game may have serious consequences. Second, the critics normally use an (implicit), very restricted definition of "game" that automatically excludes many phenomena of interest. With an appropriate larger definition of social game, we get a powerful tool that helps us understand and explain precisely the phenomena mentioned in the critiques above. I would would further argue that a metatheory has to prove itself by its usefulness; so I would urge critical readers to hear me out and judge the possibilities of a theory of social games at the end of this article.

This is an outline article; it shows the central elements of the metatheory; every part could be treated in much greater detail and many questions will necessarily be left unanswered. But there is rationale for presenting a first overview to see if further work on such a project is warranted.

The *plan of the article* is as follows. In part 2 I define the concept of social game and discuss its both real and constructed nature. Part 3 describes the necessary elements of a social game. Part 4 treats the question of how social games can be sociologically understood and explained. Part 5 shows how the theory of social games can be combined with both qualitative and quantitative empirical research methods. Part 6 gives a series of classical and contemporary examples. Part 7concludes.

2. Defining social games
A definition
A *social game* is a form of organization of the social sphere in which players with attributes engage in repeated action and interaction shaped by game parameters - goals, resources, rules, representations, and game objects. The social game takes place in game-time, game-space and

both a more specific game context and a more general societal context. It creates game-outcomes and may have one or several external function(s).

Graph 1 shows the main idea. The arrow loop points to the recursive nature of social games; game-interactions lead to new game interactions until the game is finished. Dotted lines show that the game "uses" actors, actors' behaviour, physical objects, space, time and context and weaves them into a new symbolic-causal entity. I use the term social game very broadly to mean that all social life has the form of a game (Coleman 1969). Games come in a staggering variety of forms: they may or may not have spectators, exhibit external effects, have a function for yet other games, have the same or different goal(s) for the different players. Their rules and representations may be consensual or contested, may or may not be known to all the players, etc. A discussion with a spouse, a friendship group, a mafia-organization, or traffic are all social games.

Using such an extensive definition means that *most* social games are *not* played "for fun" and there is nothing inherently enjoyable about them. Presidential elections are social games just as police raids or faculty meetings - all three of which are clearly not always "fun".

Graph 1 Scheme of the social game
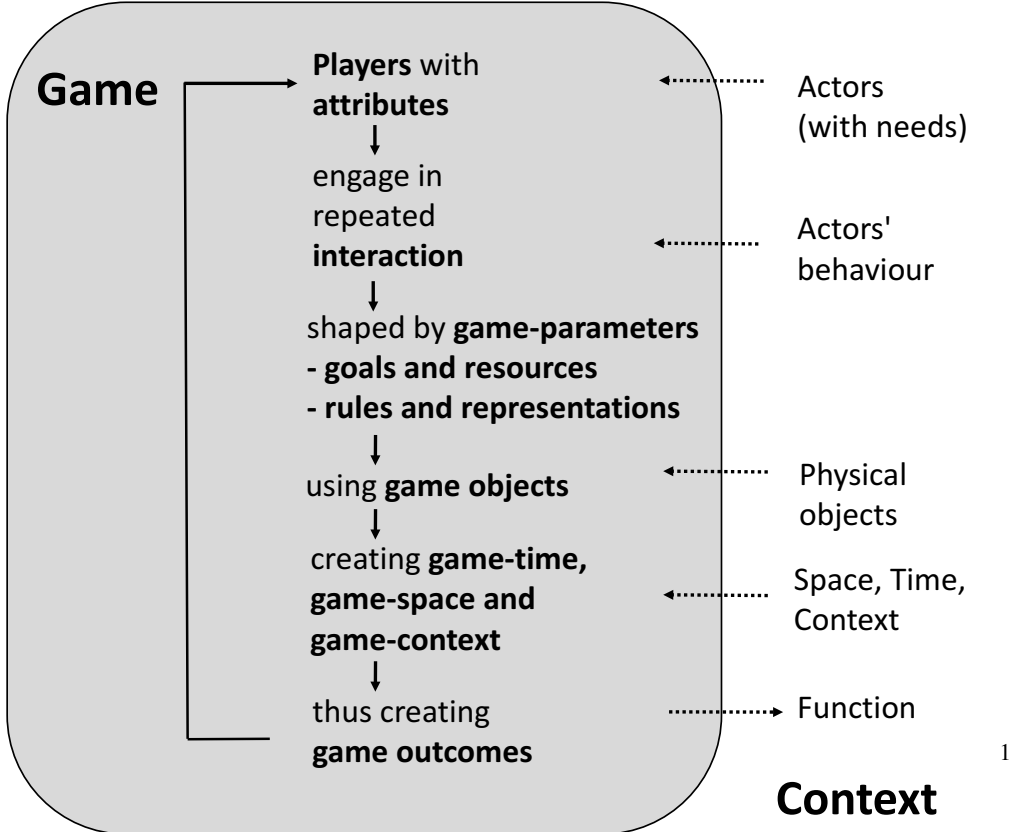
The reality and construction of social games

Social games are both real and socially constructed (Searle 1995, Goffman 1961, 25). They exist independently of social scientists' representations or awareness of them and are thus part of the "real world out there". Nevertheless, social games exist only insofar as the players themselves believe that they exist and actually play these games. This amounts to saying that the players "construct" games and that social scientists have to "reconstruct" a model of the second order of those games (Schütz 1954, 266).

The social construction of games-for-fun seems obvious to most people. Consider the following citation from Riezler (1941, 505)

"We play games such as chess or bridge. They have rules the players agree to observe. These rules are not the rules of the "real" world or of "ordinary" life. Chess has its king and queen, knights and pawns, its space, its geometry, its laws of motion, its demands, and its goal. The queen is not a real queen, nor is she a piece of wood or ivory. She is an entity in the game defined by the movements the game allows her. The game is the context within which the queen is what she is. This context is not the context of the real world or of ordinary life. The game is a little cosmos of its own."

But the central methodical assumption of this paper is that the very same thing is true of social life in general. And that a "real queen" (say, the Queen of England) is also queen only in a Social Game, with its "space, its geometry, its laws of motion, its demands, and its goals". And that she would stop being the Queen if everybody stopped believing she was the Queen (compare to Goffman 1959, 74).

3. The elements of social games

Players and attributes

Games are played by actors in their capacity of players. *Actors* are individual human beings. A *player* can be defined as an actor (or a group of actors) who is accepted (voluntarily or involuntarily) by other players as such and who actually plays the game. Groups of actors may all work together and represent one player (when two friends are "white" in chess") or they may be seen as a collective player (a team, a country).

Players have game-relevant *attributes* and *roles*. *Player attributes* are attributes of players that are relevant for the game. These include amount of game-resources (e.g. objects, money, land, publications) and the amount or type of social, physical, psychological, corporal resources or attributes (e.g. gender, intelligence, strength, number of friends, stigmatic appearance). For example, in Monopoly, it is important just how much game-money one owns at a certain point in the game, but it is unimportant if one is male or female; on the Titanic, on the other hand, both one's money and one's gender were important to survive.

Player attributes can also be negative, that is, rules specify what attributes certain players are *not* allowed to have. For example, in the 19th century in southern US states, slaves were not allowed to carry writing utensils.

A *player-role* is a bundle of rights and obligations concerning actions and behaviour of the respective player. Thus in robbers-and-policemen, trivially, some players are robbers and others are policemen. In soccer, one player per team is the goal-keeper, while all others are field players. Likewise, in class, one player is the teacher, and all others are pupils. A very

interesting role is that of the *referee* who has the function of both judging infractions of norms and to give out sanctions. In social games there we find policemen and judges who do the same things.

Players are *socially constructed* in at least three senses. First, the game - through its rules - tells us just what parts of actors attributes and behaviour are game-relevant and therefore belong to the player (Goffman 1961, 18 ff.). The actor is, so to speak, not wholly part of the game, but only in ways specified in the game. In a soccer game, it is important if Christiano Ronaldo is in good form - but not that he has been, say, to Gaza. Second, the players are also socially constructed in the sense that only certain actors are allowed to be players or that certain actors are not allowed not to play. (Weber 1978 (1920), 43). For example, young people wearing jeans are prohibited of entering some clubs. Conversely, in the military, slavery or psychiatric asylums, players are not allowed to exit the game. Third, players are even socially constructed in their motives to play the game or to refrain from playing it. This is because actors create their *identities* by playing social games. Their innermost feelings and hypotheses about "who they are" stem from the playing of various games - and can only stem from them (Goffman 1967, 44).

Actions and Interactions

An *action* may be defined as a socially constructed model of a strip of behaviour, that is distinguished from other behaviour (and thus "counted as" an action) by one or several actors. The distinguishing or "counting as" may happen before, during, or after the strip of behaviour. Examples of actions would be "score a goal", "give a statement in a presidential debate", "ignore somebody", "chopping wood" (the famous Weberian example) (Weber 1978 (1920), 8). These models of behaviour can be used by actors to plan, conduct, and monitor their own behaviour as well as to interpret the behaviour of other actors. It would be impossible for us to go through our lives if we didn't have the possibility to interpret, plan, conduct, and monitor our stream of behaviour in terms of these socially constructed models of action.

A *solitary action* is an action that is not part of a social game. A solitary action may be seen as such by the acting actor herself or by an observer. I may, for example, "cut wood", or consciously "scratch my head" on my own, without anybody else being involved.

A *game action* is a model of a strip of behaviour by a player that is accepted by players as being part of a social game. In game actions, players orient their behaviour towards the game-parameters, that is they try to reach the game goals with game resources and objects, thereby keeping in mind the rules and representations of the game. Often, game-actions are called "moves". If I "score a goal in soccer", or "give a statement in a presidential debate", this is counted as a game-action. If I voluntarily "ignore somebody", acting as if that person wasn't there - and if this behaviour is perceived as such by others, this action becomes a game action. Even if I "cut wood", I can do this ostentatiously to show my neighbour that I have wood, while he hasn't, and thus the action becomes a game action.

A *game-interaction* is a combination of at least two game-actions by at least two players. If I go d2d4 and you go d7d5 in chess, this is a game interaction just as if Ego says: "could you pass me the salt", and Alter does so, and Ego says "thank you".

It is important to note that game-actions and -interactions always combine at every point in time a reference to the game-parameters as well as to other moves by other players. This view

differs considerably from the view of the "homo oeconomicus" or "homo sociologicus". Thus it means that action in social games is goal-oriented *and* rule-based *and* based on symbols.

Game actions are, *socially constructed* in the sense that they become game actions because the actor acts with respect to the game-parameters and other players accept the action as being part of the game. On the other hand, the game actions also *construct the game itself.* Without game actions, the game would simply disappear. This is what Anthony Giddens (1984, 19) calls the "duality of structure".

Goals and Resources

Games have at least one, but often several goal(s). Goals of a game can be *defined* as the typical states, events or things that players are aiming for, thereby entering in a playing relationship with other players. The goal is what the game "is about", what is "at stake" (1968b, 187, Bourdieu 1984, 113). In tennis, the game is about "winning the game", in a US presidential race it is about "becoming president", in science it is about "finding new knowledge", in a chat with one's neighbour it is about having a little, not too profound, friendly exchange. In a fight between spouses about who should do the dishes it is not to do the dishes.

There are a large array of *types of goals* and I can only mention some of the most important distinctions. Goals can be *final goals or intermediate goals*. In tennis, you have to win sets to later win the game; in a US presidential race you have to win the primaries to later win the presidency. Goals can be *competitive or non-competitive or mixed*. Competitive goals ask players to try to be superior than the other players in reaching it; non-competitive goals can and should be reached without a comparison between players being planned or even possible. Goals in games may apply to individuals or groups (individual sports vs. team sports) and in some games, all players have the same goals, while in other games; goals are different for different types of players.

An important attribute of game goals is that they have to be *shared* among players, at least to a certain extent. As soon as players find themselves in a game, their goals (or in economic terms their "preferences") are clearly not random, but structured by the game. Games can therefore coordinate the actions and motives of individuals - they solve, in a myriad ways, the Hobbesian problem of social order (Parsons 1937, 89). As is well seen in presidential races, even people or groups that hate each other may share the same game-goal.

Goals have to be distinguished from players' *motives* to play the game. This can be seen in games-for-fun: the goal in chess is to put the other player into check-mate; but my motive may be to make time go by, or have fun with my friend, or practice to get better. Very often a mix of motives is involved in the playing of a social game. As has often been noted, players may internalize the game-goals and fuse them with their innermost motives. Scientists may believe that finding something new is the most important thing in their life; Musicians may think that they could not live without music.

The term *resources* is used to capture all the (both legitimate and illegitimate) means that players may use to reach (intermediate or final) goals of the game. Resources are also sometimes called different forms of "capital". A good question to find resources in a game is to ask yourself what you need to be successful as a player - a list of resources will come to mind.

Resources (or: capital) come in a large *variety of forms* and different typologies have been proposed (Esser 2000a, 209 ff., Bourdieu 1983, Giddens 1984, 33, Coleman 1990, 33). From a social games perspective, I propose to distinguish the following types of resources:

- object-specific (money, objects of value, specific tools)
- cultural (experience and knowledge of rules and representations of the game: techniques, manners, language skills)
- social (links to other players of the game of helpful actors outside of the game)
- mental (intelligence, patience, aggressiveness, humour, ambition, courage)
- corporal (good looks, strength, height, balance, colour)
- positional (be at the right place at the right time)

In general, forms of resources or "capital" *vary strongly with the game.* Being tall (a corporal resource) helps with basketball, but not with Chess. A publication in a high reputation physics journal (a game-specific cultural form of capital) is an important resource when applying for a job at a physics department, but will (probably) not help much when trying to seduce a good-looking person in a bar.

Rules and Representations

Social games have *rules*. Rules can be *defined* as instructions with intersubjective application, to, under certain circumstances (a) perceive/count as certain phenomena in certain ways or (constitutive rule) (b) (not) act (or have the right to act) in certain ways (regulative rule) (Searle 1995, 27 ff.). Thus, a rule may stipulate to see the person who was fastest as "the winner" (rule telling us to perceive/count as), or it may tell us that once the person counting to 40 begins, the other players have to run away fast and hide (rule telling us to act).

Rules come in a large variety. They may be *typologized* by the game *element* they regulate. Thus, rules may fix (a) the nature of the goal of the game, (b) the kinds of actors that are allowed to be players and what attributes of actors are game-relevant (c) the possible, legal actions/moves and the sanctions applied to specific illegal actions/moves (d) the names of the game-elements, actors, moves (e) what are the outcomes of the game as well as the procedures to ascertain the outcome, (f) the way external effects are treated (g) under what conditions the game may begin, is interrupted, can be resumed, and ends, (h) under what conditions of the game what specific other rules may be used and how rules may be changed (meta-rules).

Alternatively, rules may be typologized by their *form.* With Merton (1968b, 187) we can distinguish prescriptions, preferences, permissions, and proscriptions.

Rules are *shared* and obtain their *existence* and *validity* from being shared. A rule is valid if players share the belief that it is valid - which is created by the observation that they observe most other players obeying the rule in their actions and transgressions being either sanctioned or otherwise "repaired".

Many social games have *known ways of breaking the rules*, ways of acting that are specifically despicable to the players of the game. In sports, it is doping; in the social game of science it is plagiarizing and making up results; in stand-up comedy it is stealing other comics' material

The *breaking of rules* can lead to different reactions and effects. The rule can be upheld by *negative sanctions*. Negative sanctions are actions or events that punish the rule-breaker. Smaller infringements of rules will normally first be dealt within the framework of the game itself. Thus, in soccer, the faulty player may be punished by giving the adversary team a free kick, by raising the probability that he will be exluded from the game (yellow card) or excluding him from the game (red card). Likewise cheating in an exam at school may lead to the mark "0". Larger infringements of rules may also have effects outside the game as when cheating in a casino will be handed over to the police. Negative sanctions may be taken by other players, by leaders of the group, or by individuals or groups with policing/judging game-roles. Some games-for-fun have referees. Social games may have leaders who decide on matters of misbehaviour or there may even be a police and judiciary system dealing with deviant behaviour. However, there are other ways of reacting to transgression and keeping the rule in existence. The rule-breaker may try to "repair" the situation by excusing himself or explaining his action by attributing the responsibility somewhere else. If rules are broken and the norm-breakers are not sanctioned or the norm-breaking is not in some other form "repaired" by excuses or explanations (Goffman 1971, 99) , there is a chance that they simply *disappear*. A good examples is littering in public spaces.

Rules may be more or less *legitimate*. Legitimacy may be defined as the correctness in both a cognitive and normative sense (Esser 2000b, 9). Rules are legitimate for players if they think that these are actually the rules (facticity) and that there are convincing values that show these rules to be "good" (e.g. concerning fairness, god's will, etc.).

As Giddens (1993, 114) notes, rules are both "constraining" and "enabling". They constrain players in their playing; yet at the same time, they enable players to play, since without the rules, the game would not exist. The same could be said, however, about the other game parameters.

As Garfinkel (1967, 2006 (1963)) has shown, social games use various layers of both discursive and tacit rules. If there are written rules, often we find that there are other (written or unwritten) rules of how the first-order rules have to be applied. Yet, there are even other, often unwritten rules of how "everybody knows" that these rules and application rules really have to be applied (or not) under different circumstances. This phenomenon can be found both in games-for-fun and in social games in general.

Games are based not only on rules but also on *representations*. Representations can be *defined* as signs that signify something other than themselves, according to convention and in a public way. Representations are symbols or associations of symbols (Searle 1995, 66).

We can analytically distinguish three types of representations in a game.

A first type concerns signs for *different game elements* (rules, resources, objects, players); in fact, these game elements have, at least partly, the form of representations. Objects and events have names and meaning, for example the "king" and "queen" in chess; the "penalty" in soccer. The rules come in the form of language ("Players move alternatingly"), many resources can only function because they carry signs of being resources ("A piece of paper is a dollar bill only if it carries certain pieces of information on it"). A second type concerns representations that are attached to game elements to *reflexively communicate about the game or game elements*. Such representations can legitimize, mythologize, systematize, comment,

or critique the game. In Chess there is a large literature on chess tactics; in the authority game of ancient Egypt, the pharaoh was thought to be a "god on earth", the ritual of Christian Communion is linked to various biblical stories and concepts (the Last Supper, the bread of life) as well as various theologies depending on the specific church. A third type of representations concerns the *language used when playing the game*. In most games, players have to communicate with language before, during, and after the game to "pull the game off". Players have to greet each other, determine when and where to begin, decide on "who comes next", etc. Games are made out of representations, but they are also immersed in the wider context of language and other social games and their representations (Searle 1995, 59 ff.).

The important point here is to understand that social games are *representational or symbolic (or "meaningful") in nature (Searle 1995, 59 ff., Giddens 1993, 110 ff.)*. What has been said about interaction by all the different strands of "interpretive" sociology (ethnomethodology, symbolic interactionism, Schutzian phenomenology) is true also of social games. Take away the meaning of the different game elements - and you have taken away the game. Try playing a game of chess with your cat and you will get the picture. The cat may see the black and white wooden objects on a rectangular chequered surface - but it will not be able to see them *as chess pawns* - and will therefore not understand this to be a game.

Representations in social games have to a certain extent be *shared* or else there can be no game. Even in extreme conflict games, there is normally quite a large amount of agreement about representations, for example the names of the players, the rules, the objects that are used in the game. At the same time, representations in social games may also be *contested*. For example, what Palestinians call the "apartheid wall" is called the "security fence" by Israelians.

Objects, Functions, Space, Time

An object can be *defined* as a non-human material entity (including plants and animals). People are not objects[i], nor are ideas or ideational phenomena (freedom, love, god) objects.

Games do not always need objects. In paper-scissors-rock, mirroring, or a spontaneous rap-battle, no objects are needed. The "material basis" of the game is provided by the bodies of players and the sounds they make. But in most games, some sort of objects are present, and they normally acquire a great importance. All game-elements can be linked to or represented by objects:

(1) The *goals* (or the reaching of the goal) can be represented as objects. In some games, objects are the prizes, as in a raffle or lottery. In other games, special objects symbolize the win: medals, trophies, and pedestals
(2) *Rules and representations* are immaterial by nature, but they are often symbolized by objects. They are written down in books or engraved in stones. Or the objects may themselves be the signs representing the rules and representations, such as in traffic signs or statues of gods, signs of power (e.g. crown, sword).
(3) *Resources* come very often in the form of objects. In games-for-fun we find gaming pieces, cards, balls, sticks, sportswear, etc. In social games, everything that Marx (1992 (1867)) called the means of production qualifies: production halls, technical equipment, machines, tools - but equally all kinds of objects that represent symbolic power such as clothing, means of transportation, luxury items etc.

(4) *Game space* is often symbolized by objects: for example as game boards, fields, buildings, fences, border stones, curtains.

(5) Actors may also be characterized - or characterize themselves - by objects: Well-known examples are uniforms, robes, rings, crowns, coloured belts, slit ears. Interestingly, objects may also stand for players, as *avatars*: In Monopoly, every player is represented by a little coloured figure and in black magic, a doll may be used to represent one's enemy.

Game objects are - unsurprisingly - *socially constructed*. Objects do not in themselves have the meanings attached to them in the games - either in games-for-fun or social games. This is why kids can use a tin can as a football and why both cigarettes and coloured pieces of paper may represent money.

Concrete games are always situated in time, space and a societal context. Interestingly, though, they also create their specific game time, game space and game context.

Game time is the time during which the game is played. The beginning, internal temporal structure, and end of a game are often marked by specific actions, for example by uttering words (Ready, steady, go!) or making sounds (a gun shot, a gong ringing, whistle). They may be regulated by fixed rules as when a seminar takes place from 13h15-15h00 with a pause from 14h00-14h15. Very often, games have an internal temporal structure, such as tennis where a number of sets make up a game and a number of games make up a match or a Bachelor Degree where weeks are nested in semesters, nested in years, nested in the overall curriculum. Another example is the liturgy of a Catholic Mass, that brings the different elements of the ritual into repeatable sequence. Apart from rules, game time is also influenced by other game parameters such as representations (the game time is symbolized and legitimized), or resources (e.g. powerful players get more game time).

Game space is the space where the game is played. The space of the game is often marked by objects (lines, ropes, steps). Sometimes the game space is inside a special building or room (a temple, a parliament, a hospital. Very often, the game space is internally spatially differentiated as when a soccer field is divided into two halves and a goal and penalty-area are marked out in front of every goal. Game space may not just be regulated by rules, but also by other game parameters (e.g. the temple space may be thought to be "sacred"; the queen goes first and has to be followed).

Game context consists of all phenomena outside of the game - to the extent that they have in the past, are now, or might be important in the future for the playing of the game. Game context is not everything that exists outside of the game and clearly defining its limits is difficult. Soccer fandom does not belong to the soccer game itself - but clearly belongs to its context and may even influence the motivation of the players on the field.

Outcomes, Context

Games have *outcomes*. Outcomes are states, events, or dynamics of a game or its context that result from game-interaction. They can coincide with the game-goals or not, be intended or not and be measured by the game or not. Outcomes are called "explananda" or "effects" in other metatheories.

Outcomes can take different *forms*. They can be

- The *existence or change of a game element or context element*. Examples are the occurrence of a checkmate, the decision of Hitler to invade Poland on September 1st 1939, the success of permanent waves in women's hairstyles in the 1980s, or the release of the first Iphone in 2007.
- A statistic of a *game- or context variable*, often a point measurement, sum, mean, or variance. For example, the score of goals in a soccer game, the percent of overall wealth owned by the 2% richest people of a society, or the price attained by a work of art at an auction. Alternatively, the outcome may consist of a context- instead of a game variable, as in the point measurement of ozone in a given area.
- A statistic of the *covariance of two game- or context variables*, often a cross-tabulation, correlation coefficient, regression coefficient, or odd's ratio. Examples are the number of murders committed by members of different nationalities, the mean income difference between men and women in a given employment category
- A statistic of the *form the game process over time* (e.g. a function). Examples are the way property and money are beginning to be concentrated in a Monopoly game or the way an innovation is diffused over time.

Outcomes can be *intended or not intended*. When outcomes are intended, they normally coincide with official game goals. A president is elected, one of the teams wins. But both games-for-fun and social games have a huge number of possible non-intended outcomes that are often the predilection of sociologists (Boudon 1982).

Outcomes may be *measured and monitored by the game itself or not*. Games often have their own outcome-monitoring devices and mechanisms. In Bridge or soccer the counting of points is an integral part of the game. The game "presidential election" entails a large number of surveys of expected outcomes and the voting itself that actually produces the final outcome. But games often have outcomes that are not measured or monitored. Organizations may work inefficiently for years without noticing because nobody measures their outcomes. Global warming may not be noticed or not be accepted as long it is not carefully measured (and even then it may not be accepted....).

As with all game elements, outcomes can - and often are - *contested*. The losers do not accept the game outcome and may either contest the happening of the outcome (e.g. the goal was in fact not a goal) or its legitimacy (e.g. the election was rigged, the winner was doped)

Game functions are performances that a game creates for an encompassing game or the players. Thus, a commission may be set up with the function of finding a new president for an organization, a university has a function of education of the elites for the wider society, a soccer game may be played for the enjoyment of the public. Some of these functions may be latent, and not be consciously known by the players, as when Christmas traditions have the latent function of keeping the social bond of a families or when the Kula game helps to strengthen social control in the Trobriand societies.

Of course, the existence of games should not be explained by its function or the needs of the players, as the classical functionalism thought possible (Malinowski 1960 (1944), Parsons 1977). Current effects (the function) are not the same thing as historical causes. That having been said, some games are consciously set up to fulfil a certain function; the planned function is then one of the causes of the setting up of the game. Furthermore, some games are very stable, because they're function creates an interest of powerful players or stakeholders who will counter any attempts to stop the game or change its game parameters.

Homo ludens

The model of the actor who becomes a player is neither an egoistic homo oeconomicus nor an exclusively norm-driven homo sociologicus. Rather, we may call her a "homo ludens" ("playing man") (on the two models see Elster 1989, 97, Lindenberg 1990, 249).

Homo ludens has certain *physical, psychological, and social needs*. For example, she needs food and shelter to survive, a certain sense of security, autonomy, and stimulation, and a need to be socially accepted by others. While these and other needs may themselves be very strongly socially influenced, they cannot be completely neglected and will emerge if not fulfilled in a sufficient manner. Homo ludens will try to fulfill these needs by playing the existing social games - for example try to be accepted by others by having a successful career, giving a cocktail party, or adhereing to traffic rules.

Homo Ludens has at least six important *abilities* to be able to play social games

- First, she speaks and understands a *language*. Games are language-based, and without language, the actor couldn't play a game.
- Second, she is able to *recognize* social games in her surroundings, to *understand* and *learn* them. Actors have to continually scan their surroundings to recognize games and checking if the game they play has changed etc (Goffman 1974, 8).[ii]
- Third, she is able to make the games the center of her action, thus accepting the game parameters and use them to exhibit socially acceptable, (if the game demands "rational") actions, commitments, and emotions, thus creating adequate game-interactions with others. Doing so, she is able to be "caught up", "carried away" in the game (Goffman 1961, 35).
- Fourth, she is able to use the playing of the game (and possibly reaching its goals) to fulfil her basic needs and motives.
- Fifth, she is able to monitor her game-actions and compare her results to those of others, being able to reach socially and personally acceptable results and adjusting her playing to get better results if necessary.
- Sixth, she is able and seeks to create a sense of "who she is", of her own "*identity*" by producing hypotheses about how she has until now been able to play various social games and expects to be able to play social games in the future. The sense of identity derived from a game is many ways created by how the player compares herself to other players in the game (Stachura 2017).

4. Understanding and explaining social games

The theory of social games follows Weber (1978 (1920), 4) in claiming that social games can and have to be both understood in their meaning and explained causally in their outcomes. However, the Social Game perspective may offer a clearer way of showing just what phenomena we can understand and explain, how they relate, and how this links to qualitative and quantitative methods.

Understanding Games

Understanding an element of a social game (a move, a rule, a representation) means capturing its possible meanings within the framework of the entire social game. For example, I

understand the chess rule "castling" if I know under what conditions, with what reasons, and with what resources/objects a player may typically apply it. Likewise, I can understand the social game of science by knowing how scholars play it, what goals the players have (publish in good journals, be often cited), what rules they have to obey (be original, do not plagiarize), how they get resources (send a research application to a funding agency), what moves they make and why (type of conferences they go to, select journals where they publish). Understanding a social game means understanding the "game-language" and being, at least in principle, able to play the game, by effectuating moves in a game situation according to the game parameters (rules etc.). This is close to what was proposed by the later Wittgenstein (2003) and Winch (2008 (1958)). One understands an element because one sees how the element has been played according to game-parameters. And one understand the game because one sees how the different game parameters lead to moves that recreate the game.

Note that in all understanding of a social game, causal game mechanisms are implicit. A person who would claim to have understood Chess without having observed or mentally imagined how typical game-moves in Chess causally lead to typical outcomes, would not really have understood the game.

When we describe a phenomenon systematically as a social game, two things happen.

First, we notice that the game scheme seems to be overdetermined. In other words, the same phenomena appear under different headings. In chess, for example, putting somebody into "Check mate" is a goal, an action, a resource (because it is a means to win the game), and part of a rule. Similarly, the Chess pawns are game objects, but also resources, and again part of the rules that state what these game objects stand for in the game. While this is a problem of presentation, it is not a problem of the theory. The phenomenon appears because of the symbolic and recursive character of social games, because game actions become game actions only to the extent that they are regulated by the game parameters, while at the same time reproducing the game and the game parameters.

Second, we notice that all game elements may refer to all other game elements and, interestingly, to themselves. Thus, a rule may regulate a game action, an object, a representation - and another rule ("meta-rules"). Likewise, a representation may be attached to a rule, an object, or another representation ("meta-representations"), etc. Again, this is possible because of the symbolic and recursive nature of social games. The same is true for all other game elements.

Explaining Games causally

Explaining an outcome of a social game means showing how a change in a game parameter (i.e., a rule change, a change in resources) has led causally during the playing of the game to a change in the output. Alternatively, we can show how game parameters that apply differently to different types of players (i.e., a rule that treats men and women differently) lead causally during the playing of the game to different outputs.

We can distinguish *two types of explanations*. A first type of explanation accounts for a *specific game move or a game process* by showing that exactly this game move or game process could have been expected to have happened (or had a high probability of happening) in a specific historic instance. In such a case, the explanation is both understanding (it uses the meaning of current game state and possible moves) and explanatory (it posits that a

reasonable or rational player should play move A1 and if the player has in fact played A1, we are content with our explanation. If the player has chosen another move, we will have to continue the analysis and conclude that he has made an error (and we could even try to find reasons why he made the error) or we might see that he has in fact found a better move than we have or that he had a special plan in the light of which the move is rational after all. If we combine different specific explanations in a historical chain, this may result in a *historical-genetic explanation of a specific game*. We try to reconstruct the game situation at different points in time, look at the options of different players and try to understand-explain all (or only the "important") moves players have made. In this way, we could, for example, historically-genetically explain, the outbreak of the French Revolution.

A second type of explanation is given when we *explain variance in game-outcomes*. Here, we account for the typical statistical effect of a change (or of a difference) of a game element on a game outcome. The independent variable can be a change of a game parameter; or it may reside in the difference of such an element. For example, we find that the introduction of a higher net in table tennis (change of a game rule & game object) causes the average time of games to rise by an average of x minutes per game. Or we find that being a man raises ones average wage by x Euros compared to being a women at comparable levels of education, experience, and seniority.

Note that in both types of explanation we presuppose a game that is meaning-based and in principle understandable. Explanations that would explain the French revolution without understanding the laws and how they were overturned and how would be futile. Likewise, it seems unacceptable to explain the the variance of outcomes in Chess games without being able to lay out the rules of chess.

Explanations of both types are are causal explanations. We assume a concept of counterfactual causality (Woodward 2004). We make statements such as: "The changing of rule R1 has caused outcome O in such and such a way - and had we not changed rule R1, outcome O would not have changed in this way. This type of counterfactual game causality is not just an academic matter, but *of great practical importance*. Practitioners try to manipulate games in exactly the same way we explain them (Goffman 1961, 41). They try to change game outcomes by, changing the rules, changing the players, adding or subtracting resources, reframing representations, or changing the way outcomes are counted or interpreted. Think of a soccer trainer who wants his team to win a tournament. He can replace players (perhaps buy some new stars), change the attributes of his players by training their fitness and technique, change the representations of his team by giving them a prep talk, change the context by feeding them well etc.
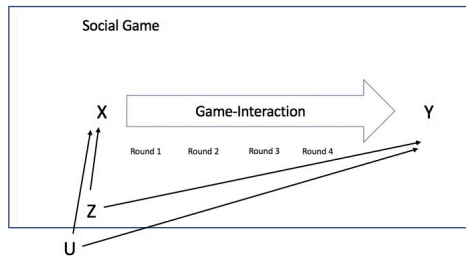
A *game mechanism* is a typical cause-and-effect relationship in a social game. In other words, it is a typical way in which a combination of game elements create through game interaction a specific game outcome. For example, traffic is a social game with players (traffic participants), traffic rules, representations (symbols and meanings), etc. The fact that a traffic light changing from green to red makes participants routinely stop is a game-mechanism. The fact that a new regulation setting maximum speed from 50 km/h to 30 km/h in a given street actually lowers mean velocity of cars is another example of a game-mechanism.

The social sciences do not have laws (Giddens 1984, xxxii). But game-mechanisms are the closest one can get to such laws. For we can make predictions concerning ideal-typical game-mechanisms and their dynamics. We can say, for example: A game with a mechanism M1 will ceteris paribus create a process dynamic of D1. Thus, a game of Monopoly will always create a monopoly; a game of Rag (Tellerwäscher) will always create a strong "social reproduction" ; in a game of musical chairs the number of players in the game will decrease constantly. Likewise, the Social game of fashion will always create strong oscillations and the game of the "Ice-bucket challenge" will always create some sort of diffusion dynamic - if the central game parameters do not change.

5. Social games and empirical research

The theory of social games is a metatheory; it can only have heuristic value in that the concept of social game and its elements are used heuristically (game heuristics).
Researchers may use this heuristic by
(1) asking a set of heuristic questions
(2) applying a number of very general heuristic hypotheses
(3) integrating results of both qualitative and quantitative empirical methods

Heuristic questions

The theory of social games gives the researcher a number of questions that can be asked to create a model of the game. Once an initial model is created, it can then be worked out more clearly and its elements interrelated with qualitative methods and its parameters estimated with quantitative methods. The most important questions are:

- What *kind of game* is played here? Where in the different game typologies can this game be placed (e.g. is it competitive or non-competitive; with or without spectators)?
- What are the *goals* of the game? What final goals and intermediate goals can be found in the game? Is the goal of the game linked to some external function in society or an encompassing game?

- What are the legitimate and illegitimate *resources* (means) with which the goals are reached?
- What are the *rules* of the game?
- What are the *representations* that name, describe, and legitimize the elements of the game? What is the name of the game and with what symbols is the game "flagged out"?
- What legitimate and illegitimate *actions* (moves) can players take and what interactions results? What sanctions are given to rule-breakers and who gives them?
- What are the *contested elements* (if any) of the game, how does contestation happen and with what effect on the game?
- Who are the relevant *players* and what are their most important attributes? How are players included into/excluded from the game? Who are the powerful players and who is excluded from power?
- In what game-space, game-time, and game-context does the game take place and how do they affect the playing of the game?
- What are the *outcomes* of the game? Are these outcomes observed and monitored by the game itself?
- What are the central *parameter-changes* and *game-mechanisms* that create the game outcome?

In practice, this means that researchers will start with a - depending on their initial knowledge - often rather crude model and tentative game-elements that will then be specified in the course of the modelling.

General hypotheses

The theory of social games gives the researcher a number of very general hypotheses to start their theorizing about possible mechanisms. Again, once the initial model is created, mechanisms and corresponding hypotheses can then be worked out in detail and refined. Some very general hypotheses of game heuristics - that create evident links to major sociological theories of the classics - are:

- *Success hypothesis*. Players have more chances to win a game, the more resources they have, the stronger they are advantaged by the rules and the representations.
- *Legitimacy hypothesis*. Players who consistently lose out in a game will tend to lose their faith in the legitimacy of the rules and representations of the game. Players who who consistently win out in a game will tend to be strengthened in their faith in the legitimacy of the rules and representations of the game
- *Seeking change hypothesis*. Players who consistently lose out in a game will try to innovate, change the rules and representations in their favour, transgress the rules, or try to leave the game.
- *Power preservation hypothesis*. Players who consistently win out in the game will try to preserve their privilege. They will try to preserve the current rules and representations of the game, possibly change them if this is necessary to keep their power, or even make them more favourable for themselves. They will try to find representations that legitimize the current state of affairs. They will put followers into important positions of the game to consolidate their own power.
- *Social closure hypothesis*. If a game brings important benefits to players, people from outside will try to get into the game to take part in the benefits. The current players will try to set up entry barriers to prevent this and keep their benefits to themselves.

Social closure exists concerning players trying to enter a game from the outside or concerning players trying to enter higher-ranked sub-games (e.g. elites, professions) from below.

- *Anomie and corruption hypothesis*. If transgressions to the rules of games are not sanctioned, the rules tend to disappear and a state of anomie ensues.[iii] This may lead to the collapse of the game. A special case concern cases where players with special positions in the game use this position to their own or their allies' advantage (against the rules of the game). This may be called corruption.
- *Functional competition hypothesis*. If the function of a game A is better served by another game B, players tend to lose interest in game A and redirect their resources to game B.
- *Emotion hypothesis*. When players enter or exit a game and when they win or lose the game, they are struck by strong emotions. The emotions are all the stronger, the bigger the stake (the profit, prestige, loss), the more unexpected the win / loss, the larger the audience.
- *Reaction to change hypothesis*. When a game resource, rule or representation is to be changed in a game, the change is supported by those who expect to benefit from the change, but fought by those who expect to be disadvantaged.
- *Differentiation hypothesis*. When a game becomes large, a division of labour ensues, i.e. certain players or groups of players become exclusively responsible for certain tasks / roles.
- *Representation hypothesis*. When a game becomes large, representation games will be set up where players represent whole groups of people. The outcomes of the representation game will "count" as the outcomes for the represented groups.

Game heuristics and empirical research methods

One of the strengths of the theory of social games is the fact that it seems to lend itself well to a bridging of the "quantitative-qualitative"- divide. Social game theory makes it obvious that both quantitative and qualitative data are needed to describe and explain social games. Social games have elements that are evidently meaning-based and that have to be "understood" qualitatively (e.g., rules, representations). But they also have inputs and outputs that can be counted, measured, and explained quantitatively (e.g., player attributes, game scores).

"Qualitative" research methods (e.g. participant observation, loosely structured interview, expert interview, collecting of documents in the locale, interpretive means of data analysis) are eminently important because social games are games that are created from language and whose elements carry meaning. Qualitative methods are useful when the researcher wants to explore (1) the form and meaning of game-elements, (2) the way game-elements are combined to create game-interaction, (3) the way changes/differences in relevant game parameters and game-mechanisms combine to create the outcome, (4) unknown forms and elements of context. The drawback of these methods is that it is normally unclear how to disentangle multiple causalities, how to test if effects are significant and if findings can be generalized.

"Quantitative" research methods (e.g. standardized survey, questionnaires, structured observation; statistical means of data analysis) are often useful when one wants to (1) measure and describe distributions of game-parameters and game-outcomes, (2) correlate game-

parameters and game-outcomes and explain variance in game-outcomes statistically, (3) make inferences to a population of players or games. Typical weaknesses of quantitative methods are that quantitative methods normally decompose the cases (that is here: the "games") and may lack a knowledge of the form and meaning of the relevant game parameters. (Kelle 2007, 104).

As behavioural economics shows, social games can also well be researched with *experiments*. The great advantage of experiments being the possibility to actually manipulate the game parameters and to assess causal effects by comparing with control groups. The disadvantage of experiments is, of course, that experimental games have to be so strongly simplified that they often bear little resemblance to the social games that are played out in social reality (a problem of ecological validity).

6. Examples

The following examples cannot prove the fruitfulness of the social game approach. They only attempt to illustrate that it can be applied to very different phenomena. We give five classic examples that may be recast as social games and two examples of our own research where game heuristics has been used together with empirical research methods, both quantitative and qualitative.

Bronislaw Malinowski on Kula. Malinowski (2014 (1922)) describes a seemingly pointless system of exchange in his famous book "Argonauts of the Western Pacific". The practice consists in exchanging *mwali*, white shell bracelets, against *soulava*, red shell necklaces across a number of islands. Men who can afford it and who own Kula objects will regularly go on dangerous expeditions to travel by sea to another island in order to exchange Kula objects. Since this happens on all the islands involved, the Kula objects travel in a circular fashion around the islands: shell bracelets counter clockwise, and shell necklaces clockwise. The Kula exchange is given great importance in the Trobriand society, and the Kula objects are highly valued. Every Kula object has its history of past ownership attached to it and gives prestige. Only men with a certain level of wealth and prestige take part in the Kula exchange that is regulated by an important number of rules and representations. From a social game perspective we can the Kula as one gigantic social game with a number of players, rules, representations, objects, actions and interactions, etc. (Huizinga 1963 (1956)). It may be impossible to explain the historical origin of the game, but seeing the Kula as a social game, we immediately understand the interest the players may invest in this enterprise. Players seek to have many and important Kula partners and to receive many and important Kula objects - all of which gives prestige in the society and legitimates one's position of power. Playing the game means being part of the society and playing it well means being respected. The Kula is an example of how the theory of social games may be used to reconstruct and understand social practices that may seem at first sight enigmatic.

Raymond Boudon and Pierre Bourdieu/Jean-Claude Passeron on social reproduction. In France in the 1960s and 1970s, two very different explanations of the reproduction of social stratification through the educational system confronted each other. The book "Les héritiers" (Bourdieu and Passeron 1985 (1964)) argued that higher classes in France used their "habitus" to keep children with a lower class background from climbing the educational ladder. In contrast, Boudon (1979 (1973)), in his "L'inégalité des chances" argued that while lower class parents would accept lower achievement of their offspring as "normal", higher

class parents would not do so. Instead, they would use, at every decision point, their resources to find ways to make their children achieve a higher position than they would have achieved otherwise. Aggregated, these rational adaptations would lead, Boudon argued, to the reproduction of the educational structure even though no discrimination or class warfare existed (Goldthorpe 2000a). Seen from a social game perspective, we can say that Bourdieu/Passeron and Boudon both describe the social game of the school system and give us to different game mechanisms that may independently be true or false. Our point here is not to argue for one or other of these (or other) mechanisms, but rather to show that we can reconstruct these arguments as game mechanisms in our scheme (for a recent discussion see Torche (2015)). This is therefore an example of different game mechanisms in a given social game.

Robert Merton on societal anomie. In a seminal article, Merton argues that the US-american society he writes in is one that puts "great emphasis upon certain success-goals [...] without equivalent emphasis upon institutional means"(Merton 1968b, 190). Individuals are pressured into having the highest possible ambitions in terms of money and social status - the American dream being the dishwasher to millionnaire story - while the possibilities of actually achieving such a success remain for most individuals minimal and the emphasis on legitimate means becomes secondary. Making a comparison with competitive athleticism, Merton writes that in such a situation, "winning the game" becomes more important than "winning under the rules of the game" and "a premium is implicitly set upon the use of illegitimate but technically efficient means" (Merton 1968b, 189). Such a society, Merton argues, creates "a high rate of deviant behaviour", in other words, a situation of societal anomie (Merton 1968b, 200). From a social game perspective, what Merton describes is a social game where the goal is success and the game parameter "emphasis on success" is varied to explain variance in the outcome "deviant behaviour". Mertons article is therefore an example showing theoretically how the change in game parameters may lead to systematic changes in the game outcomes.

Leon Festinger on a UFO religion. The famous book "When prophecy fails" by Festinger et al. (1964) is framed as a study of how people react to cognitive dissonance. In covert participant observation the researchers investigate how a small group assembled around a prophet called "Mrs. Keech" predicts the imminent end of the world in late 1954 and the arrival of extra-terrestrials who will save the group of believers in spaceships just before the cataclysm. From a social game perspective, the book can, however, be read in a very different way. In fact, the authors show in great detail what social game the group is playing and just how, in a matter of a few months, a quite detailed UFO religion emerges as a result of this very game. How is this game able to create a religion with its own language elements, beliefs, and rituals? The answer is that the group plays a sort of "improvisation game" with rules that resemble what theatre improvisers might do. Some rules and actions lead to a very quick creation of a new social reality: Mrs. Keech, the prophet, engages in extended sessions of "automatic writing". The messages and everything that happens to the group is interpreted in the light of previous messages, thus retrospectively justifying and verifying these earlier messages. New terms and insights are re-utilized in the new messages such that new language elements are stabilized. Other rules have the effect that the creation of the new group-reality is not blocked: Members are pushed to show great commitment and it is proscribed to doubt or criticize the messages or Mrs Keech. The study is an example of how the theory of social games may explain the emergence of a cultural system (a system of representations).

Peter M. Blau on bureaucracy. In his fascinating book "The Dynamics of Bureaucracy", Peter M. Blau (1955) describes the very different effects of a new monitoring system - productivity

statistics - on two sections of a job-referral agency of a large bureaucracy. From a social games perspective, the sections can be seen as social games (with their rules, representations, outcomes, etc.) that are influenced by a new monitoring system and react with different game mechanisms. Blau shows how section A starts a "competition game"; everybody tries to make as many placements as possible and uses "dirty tricks" to be able to do so (hoarding of job openings; false information on job openings). Section B starts a "cooperation game"; everybody works with everybody; competitiveness of all players is low. There are norms that forbid fast and competitive work. Interestingly, the cooperative section B is as a section more productive than the competitive section A. Blau explains the difference in reaction by three combined factors: The supervisor in section B put less emphasis on statistics as a measure of individual productivity than the supervisor in section A; the agents in section B had previously developed a professional code of employment interviewing; the agents in section B had more job security than the agents in section A. The study is an example of how an initial common cause may trigger different game mechanisms dependent on differing context.

The classical examples given so far show that one may reinterpret studies by famous sociologists with the social game perspective. I now give two examples that have from the outset tried to incorporate a social game perspective and that show how game heuristics may inform the use of current empirical sociological methods.

Pentecostal healing practices. Stolz (2011) has presented a model of how Pentecostal healing workshops are conducted by an orator and an audience of believers.[iv] From a social games perspective, the author describes a series of mechanisms having the effect that a number of miracles and healings are produced - even if there are actually no biomedical healings and no actual miracles given. The most important mechanisms of the game are as follows. The orator brings, through his preaching, participants into a light trance, eliciting bodily manifestations. He then claims that at various moments during the workshop various healings by the Holy Spirit are taking place and calls those healed to come forward to give testimony. The participants interpret their bodily symptoms as healings and self-select as representing those claimed to be healed by the orator. They then come to the stage and claim to have been completely healed, leading to applause and excitement - and possibly more healings of other participants. The Pentecostal game incorporates goals (to be healed, to experience the Holy Spirit), rules (only the healed should testify), representations (God, Jesus, the Holy Spirit, satan etc.) and all the other elements of a social game. The authors present a model of how the change of different game parameters leads to different outputs (e.g. more or less healings, more or less spectacular miracles). The study is an example of how ethnographic and other qualitative methods can be used to reconstruct the phenomenon as a social game for comprehensive and explanatory purposes.

Survival probabilities on the Titanic. Stolz, Lindemann and Antonietti (2018) and Stolz and Lindemann (2019) seek to explain the spectacular differences in survival of different groups of class/crew and gender. To do so, they integrate a qualitative content analysis of survival testimonies (our qualitative dataset with N = 214) and a survival analysis with data on attributes and survival of all passengers and crew (our quantitative dataset with N = 2207). They then interpret the happenings on the Titanic as a "social game" and use game heuristics to code their qualitative material, set up their quantitative model, make meta-inferences, and more generally find the central game-mechanisms. The authors conclude that the rule "women and children first" was interpreted differently by different actors, and that this, together with the fact that different classes of passengers had different levels of access to the boat deck, explains much of the gender/class differences in terms of survival that we were

observed. The study shows how game heuristics works in practice, using both qualitative and quantitative methods in order to explain a quantitative outcome.

7. Conclusion

In this article I have given an outline of a meta-theory for the social sciences called "theory of social games" or "game heuristics".

Reader acquainted with sociological theory will have noticed that much of what the theory of social games says is based on an integration of ideas that come from various strands of existing sociological traditions. While some previous insights are simply included, often the new metatheory adds a new twist. For example:
- the idea that the social may be seen through the lens of "social games" has been hinted at by many social theorists (see the introduction, but especially strongly by Coleman (1969), Garfinkel (1967), and Goffman (1961, 1967, 1969). In such a theory, "social game" takes the place of what is called "social system" "field", or "generative model" in other metatheories. What is added in our theory, is that we identify and theorize a limited number of game elements that can be empirically researched.
- the idea that social games are both symbolic and causal and therefore have to be understood and explained is taken from Weber (1978 (1920)). What is added is the insight that all understanding of games presupposes the existence of causal effects; and that all explaining of game outcomes presupposes the understanding of the meaning of different game elements.
- the idea of causal game mechanisms is very close to the mechanisms described in the analytical sociology tradition (Boudon 1998, Hedström and Swedberg 1998, Manzo 2010). What is added is that game mechanisms are assumed to consist of interlinked game elements and are therefore always not just causal but also symbolical.
- the idea that social games are both real and socially constructed, using objects, actors and context elements by weaving them into a new symbolic entity owes much to the writings of Searle (1995, 66-68). What is added is that such a games perspective can be put to explanatory use, because games have (often quantifiable) outputs that are the causal effects of the playing of the game.
- the idea that games are goal-oriented, specifying the legitimate means to reach the goals owe much to the writings of Merton (1968b). Our theory integrates the Mertonian ends-means-rules structure into the more general game-format, thus adding the elements of representations, objects, time, space, context, and function.
- the idea that a game action is created conjointly by individual behaviour, rules, representations, and other game parameters is close to Parsons' "unit act" that is created conjointly by the personality system, the social system, and the cultural system (Parsons 1937, 44). What we add, however, is that these game actions become part of an explanatory scheme.
- the idea that the means to achieve ends in social games are different types of resources draws heavily on the theories of capital both of Bourdieu (1990) and Coleman (1990).
- the idea that players consistently disadvantaged by the playing of the game will try to change the rules while the players advantaged by the game will try to preserve and legitimize them is of course, inspired by Weber (1978 (1920)) and the different field theories (Bourdieu 1990, Fligstein and McAdam 2011). What is added is that this element of contesting the rules of the game as well as other game parameters can be generalized from strategic action fields to games in general. We find it in children's games, everyday interactions just as well as in "societal fields" like art and science.

In my view the theory of social games may have several advantages over its meta-theoretical competitors. I acknowledge that I have in this outline only been able to suggest the advantage concerning these points and not yet to actually demonstrate it.

(1) The metatheory consists of a small number of interrelated theoretical concepts that are very easy to grasp, but that permit to capture a large complexity of phenomena. It may therefore be that the theory has an edge concerning its theoretical possibility to being able to describe and explain a larger array of phenomena with a simpler and more elegant framework.

(2) The nature of the game elements permit to end a number of sterile theoretical discussions that are still present in some of the competing metatheories. Thus, the theory of social games by its very construction shows that it is not useful to ask if actors are either norm-abiding or goal-seeking (homo sociologicus vs homo oeconomicus) (Stachura 2017). Instead, in social games, goals are possible only because of rules and vice versa). Also, it is not useful discuss whether social structures are "real" or "socially constructed" - the theory of social games shows that both must necessarily be the case. Third, it is not meaningful to discuss whether social structure is "symbolically" or "causally" influenced - because the theory shows that theses dimensions cannot be separated in social games.

(3) The theory of social games has a very clear way of stating what it means both to "understand" and "explain" outcomes of social games. In this, it resembles the Weberian theory. Its concept of "game mechanism" actually links interpretive and explanatory sociology. Other metatheories are either mainly conceptual (e.g. Systems theories by Parsons or Luhmann) or have a clear preference for either understanding/interpreting (e.g. Giddens' Structuration theory) or explanation (e.g. Rational Choice, Analytical Sociology).

(4) The theory of social games may be easier to link to theories of the middle range. As already stated in the introduction one of the most frequent and important criticisms of "grand theory" is that it impossible to translate its statements into empirical research. Remember that metatheories are conceptual schemes that give a general framework for theory construction and research. When conducting empirical research, they have to be supplemented by "theories of the middle range" that formulate ideas about causal mechanisms closer to the field of interest (Merton 1968a). Theories of the middle range can be recast as competing "game mechanisms".

(5) The theory of social games may be easier to link to empirical research methodology because
- its concepts are easy to grasp and operationalize
- social games seem to be able to be researched in a straightforward way with qualitative, quantitative, and experimental methods (Stolz 2016).

Of course, this article has important limits.
- The theory of social games is new and is in need of further development and empirical applications before we can see if it is a useful tool in the sociological toolbox.
- The ultimate usefulness of the metatheory can only be shown by applying it to a wide range of substantive issues.
- For reasons of lack of space, we have omitted everything that concerns the theory of social games in society. Here, one would have to talk, for example, about the the types of social games in society, about the way social games are coupled and nested (e.g. a seminar

in a curriculum), about game differentiation, games and power, games and integration, the individual perspective etc.
- This article is only an outline, setting out the major ideas in a very general way. A large number of deeper issues have had to be skipped or are not yet theoretically developed. We acknowledge that because of this outline character, many arguments are open to all sorts of criticism - yet, this seems to be difficult to avoid in a first sketch of a new theory.

These limits notwithstanding, I am convinced that there is some promise in the development of a general theory of social games. I welcome both theoretical and empirical studies that further develop this new research avenue.

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[i] Sometimes people can be used *as objects* in games, such as in the infamous Scottish sport of "throwing dwarfs".

[ii] Paraphrasing Goffman (1974, 8) we can say that actors continually have to ask themselves: "What game is played here?". This includes the question. "What is it that I can and should want in this game", "who are the other players?", "what resources do I have that count in this game?", "do I know how to play this game, do I have the skills?", "what are the rules of this game?", "what are my possible game-actions, what can I do next?".

[iii] Some of the best examples of anomie are classrooms with teachers lacking authority.

[iv] The article uses game heuristics *in practice* even though it does not use the *term*.