

**TIME, ORDER, AND MOTOR ACTION DOMAINS:
ON THE PRAXIOLOGICAL CLASSIFICATION OF SPORTING GAMES**

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ABSTRACT: Games and sports are nothing but action. Therefore, anybody interested in understanding human action should be interested in understanding what games and sports are and how they work. Motor praxeology is the science of motor action proposed in the 1960s by Pierre Parlebas whose study object is the internal logic of sporting games. Developed as a semiology of game-playing, it is conceived both as a science of action-systems and a science of sports agency. His classification of sports in eight motor action domains, based on the consequences generated by the relationships of the agents with their physical milieu and social entourage, is revisited trying to answer to a simple question: Is snooker, a one-on-one billiards game, member of the family of individual sporting duels like judo, fencing or tennis? Our inquiry deals with fundamental issues about the nature of games and sports, their classification, and the structural constraints that shape human actions and situations. Our main conclusion is that snooker's sequential structure of interaction transforms the corporal semiosis proper to the family of sports duels into a space-mediated semiosis.

Keywords: physical education, sporting games, motor praxeology, game theory, snooker

The pragmatism that arose in the United States constitutes an entirely original and autonomous way of interpreting the creativity of action. For pragmatism, the guiding metaphor is neither poetic expression, nor material production, nor revolutionary transformation of society, but instead the creative solution of problems by an experimenting intelligence.¹

Hans Joas

1. Introduction

Games and sports are nothing but action. Therefore, anybody interested in understanding human action should be interested in understanding *what* games and sports are and *how* they work. Play and games were for

Dewey (1897) key elements of general education in primary school. There is no need today to keep vindicating the social relevance and curricular importance of physical education, even less if understood as an education of motor action competences, as the *experiential development of motor intelligence to creatively find adaptive solutions to the problems posed by ludic situations*, rephrasing Joas. However, such an endeavour will be pedagogically untenable in the absence of a theory that link together the intelligence of teaching and the intelligence of playing. Fortunately, such a theory exists since it was proposed and developed in the last half century by an outstanding French physical education teacher and university scholar in La Sorbonne with two honorary doctorates, born in 1934 but more active today than ever: Pierre Parlebas. "Physical education will be scientific or it will not be", he said in 1971 after producing, in the 1960s, a synthesis based on the state of the art of the social sciences in form of a new project he called *motor praxeology*: science of the motor action.

As an expert in physical education and sports confronted with such a sound, open topic as *Action, Agency and Praxis*, my objective is to answer to a question that may seem too concrete in the first place, but pertinent when it comes to understand human action: Should the temporal structure of interaction, that is the order that players can be forced to keep when attacking, be included as *prima facie* classifying trait of sporting games? For instance, can judo, tennis, and snooker be included in the same class of sports from a praxeological point of view? Do they belong to the same *motor action domain*? Even more, and taking into account the double structure of praxic communication (rule-coded and sign-mediated), is sheer-opposition domain as solid a class as it seems to be?

From a pragmatic point of view, these questions point at the consequences of *order* on human praxis, both on the informational, structural conditions of decision making and the semiotic, cognitive strategies put in play by intelligent agents. In this case, these two matters impact on the praxeological categories of sporting games, on one hand, and on the basics of learning and

¹ Joas, Hans. 1990. "The Creativity of Action and the Intersubjectivity of Reason: Mead's Pragmatism and Social Theory." *Transactions of the Charles S. Peirce Society* 26 (2):165-194.

teaching, on the other. Judo, tennis, and snooker are individual sports duels: games of opposition without collaboration, one-on-one sports competitions in which two agents interact in accordance to bodily counter-communicative procedures determined by the rules (e.g., throws and immobilizations in judo, drives in volleys or tennis, safeties in snooker...). Any other interaction possibilities, like the use of snooker cues as spades or canes, are casted out no matter how interesting they might be from the spectator's position, but something else could be missing in this precise game due to a temporal structure in which players can only take their shots in turns. It could be argued that tennis players also take their shots in turns, but it is obvious that the Mead's *conversation of gestures* (1982) that judo and tennis consist of seems to be totally absent in snooker.

I have structured my contribution in three parts. The first, shorter one is kind of a preamble about Parlebas and his scientific project, which I believe to be of the utmost interest for the pragmatist community. The following part, on *the theory of motor action domains*, deals with the controversial issue of game definition, its juridical nature, and the praxeological classification of sporting games. Even though definition is not but a second degree of clarity, as Peirce proposed, it can also be interesting to reflect on the juridical nature of sporting games: any game is a cultural, legal action-orienting device which is best defined this way. Law and the laws give shape to the social world, reason why the human conducts are to start with signs of the *legal* systems they belong to, before becoming motor, praxic interpretants of a specific semiosis that Parlebas named *semiotricity*. The final part: *Judo, boxing, fencing, tennis... and snooker. The same combat?*, considers how the praxeological classification of sporting games can be seriously challenged by that *alternate interaction* proper to snooker, curling, and the likes. A look into the family of individual sports duels will let us wonder if temporal sequentialization of agency has any consequences that might take us to reconsider certain elements of the theory of sporting games. In this case, the systemic angle of games will be

prioritized while keeping an eye on the pragmatic, subjective nature of sports action. Our main conclusion will be that snooker's peculiarity consists of a semiotic drift: the alternating, sequential interaction of snooker transforms the bodily semiotricity of judo and tennis into a spatial, mediated semiotricity.

Motor praxeology deals with human action in a way that may be interesting in a broader sense: epistemologically, as an example of sound reflection and systematic inquiry on a realm of human action that relate to the multiple dimensions of experience, that is societies, communities, groups, and individuals; educationally, as a way to reconcile pedagogics and didactics, theory and practice illustrating that *everyday problems* are the source of most valuable issues; and methodologically, as a prove that transdisciplinary contributions can enrich those communities that Peirce likes to name *science*. For this reason, I have decided to focus on my area of expertise trying to give the reader enough information to carry on reading, to hopefully find as many connections with other areas as I expect, and, in any case, as much as to enjoy with me thinking about games and sports *as outsiders could not understand*.

In search of a science of motor action

On the 26th of October, 1984, at the Durkheim Amphitheatre of the Faculty of Sociology of La Sorbonne, Pierre Parlebas obtained his *Doctorat d'État ès-Lettres et Sciences Humaines*.² Accompanied by many "come from really far sometimes, so numerous that not everyone would be able to enter; come out of curiosity, interest, sympathy, friendship" (Delaunay, During, and Paris 1985), the fifty-year-old researcher presented and outstanding piece of research: *Social psychology and game theory: study of certain sporting games*, a title much less intriguing than audacious the challenge defended in front of a jury that included top-class experts in different

² At the time, higher than a 3rd degree doctorate, it enabled for the direction of research.

fields of humanities.³ One of the members of the jury, Jacques Ulmann, professor of philosophy and a key academic figure in French physical education, finishes his account on that Friday by saying: “Pierre Parlebas’ work is a remarkable contribution to the knowledge of sport, the first attempt to approach it in a truly scientific way. This large work can only inspire admiration and recognition for the clarity and depth of its analyses and the honesty of its author. This thesis, matured for a long time in contact with the facts by a physical education teacher who is not only a theorist but also an educator, a man with his feet on the ground, brings a lot to his readers, hopefully, a great lot.” (1985, 75)

We have access to the text of his presentation, so we can share somehow the effervescence and passion of that day. To start with, the why of the topic, a double one: “Originally, dissatisfaction, a desire for better understanding the situations we faced every day (...) We were continuously immersed in both practice and teaching of physical activities: athletics, team sports, ski, swimming, diving, outdoor pursuits. (...) Besides, I had the feeling that, under certain conditions hard to understand, motor tasks exerted a very important influence on the dynamics of the groups. The conducts of kids and teenagers in action, their verbal as well as bodily reactions permitted to think that ludomotor situations harboured an unsuspected cognitive, affective and relational richness.” (Parlebas 1985, 86) In a very acquainted way, teaching practice had put his beliefs to the test, urging him to rethink the foundations of his educational action almost from scratch.

As far as the thesis was concerned, the object of study were *games and sports* and praxeological the perspective, equivalent to say that the questions, doubts, and hypothesis that so profoundly disturbed his

beliefs had to do with the way that pupils behaved when involved in the situations generated by games and sports. “Taking action as a topic, from the specific angle of sporting games, became a very stimulating matter. Based in the first place on psychosociology and game theory, the direct study of field conducts, in connection to theoretical and methodological references which had already proved their value, was already possible.” (86) This approach would be complemented with different levels of qualification in sociology, linguistics, semiology..., but not at all costs, not in any way: “The intelligibility of sporting games demands a new pertinence, independent from the pertinence of an existing discipline as much as from the juxtaposition of any of them.” (87). As he recalled in a recent paper about interdisciplinarity in social sciences, a sort of professional autobiography actually, the search for a transdisciplinary, specific knowledge of motor action was in the end like being at the wheel of a *drunken ship* (Parlebas 2014), very much an experience as Rimbaldian as sports practice can be.

Unsurprisingly, doubts and questions gave way to conclusions and stronger beliefs: “At the end of this work, it seems to us that the hypothesis of the specificity of the field of motor action attains an undeniable probability of validity. A new intelligibility of the motor action seems possible, for all the results are compatible with this original hypothesis: every phenomenon related to space and distance, time and sequentialization, communication and violence, decision and strategy, organize themselves in remarkable coherence around a unitary interpretation in terms of motor action” (Parlebas 1985, 89). The resulting *motor praxeology* was conceived as “science of motor action, in particular of the conditions, modes of operation and results of its accomplishment” (LEX, P:44)^{4 5}, developed in a transdisciplinary way, with

³ The panel was composed by Marc Barbut (mathematics, Paris V), Jacques Lautmann (sociology, Paris V), Raymond Boudon (sociology, Paris V), Claude Bremond (semiology, EPHE), Claude Flament (mathematics, Aix-Marseille), Jacques Ulmann (philosophy, Paris I) and Roger Daval (social psychology, Paris V), Parlebas’ tutor. Anyone familiar to the history of social sciences can easily appreciate how high the standards faced by the *defendant* were.

⁴ One of the three parts of Parlebas’ thesis was published 1981 as a lexicon: *Contribution à un lexique commenté en science de l’action motrice*. The second, updated edition was published in 1999 with a slightly different title, but same spirit: *Jeux, sports et sociétés: lexique de praxéologie motrice*. This book is online at <https://books.openedition.org/insep/1067>, reason why all references will be related to this online edition, indicated as LEX. More precisely, any citation will be identified by the initial

physical education in mind, and from a structural-systemic point of view.

In the vein of Alfred Espinas' "technology for the agent", that dealt with the "conditions and laws of action efficacy", and "mathematical praxeology" as Marc Barbut understood it; in the same way that Roger Daval differentiated "the very necessary distinction between a science of the actor and a science for the actor", Parlebas ventured to claim action as the *spearhead*, as he would say years later (2006), of physical education:

At the outset, it should be noted that motor praxeology is much less ambitious than the theories of Baudouin or Parsons. It does not nourish the project of covering all human actions, and even less that of unifying the social sciences. More simply, it aims to study specifically motor action, the kind of action that makes sense of its bodily performing, of the actualization of motor conducts. The field is vast - motor situations of play, leisure, work - but limited.

The fact remains that the two perspectives identified by Roger Daval will also compete here: a science of motor action that studies phenomena from the outside as a physicist would do, and a science serving the individual acting on the demands of a concrete task. It is this duality, very badly perceived, which underlies the violent conflict opposing, in the field of sport and physical education, theory to practice. (LEX, P:53, 54).

In 1981 his closest collaborator Bertrand During presented Parlebas structural physical education as a scientific physical education based on a *semiological approach to sporting games*, the exit to "The crisis of bodily pedagogies": "The experimental dimension introduced in physical education by P. Parlebas is all the more fertile as it is organized from a perspective that does not vary: that of considering motor conduct as communication, as a particular mode of relation between individu-

als and their physical and human environment." (233) Semiology, the science for the study of the life of signs in the social life conceived by Saussure would drive Parlebas' thinking on both planes: the understanding of motor agency as the pedagogical objective of physical education, and the understanding of games and sports as motor action situations whose internal logic can be brought out to light. The Copernican turn that put the person, not the movement in the centre of teaching action in physical education had to be reinforced, complemented by an equally necessary turn in the comprehension of the psycho-social systems to which individuals belong when they play: *malgré tout*, the new praxeological paradigm (Parlebas 2013) needed to be a Kuhnian revolution too, and that is the deeper layer of this essay on snooker that can hopefully be of any interest for a general reflection on action.

The theory of motor action domains

In search of its scientific, autonomous foundation, Parlebas realized that "motor conduct", the "meaningful organization of motor behaviour" (LEX, C:105), is the cornerstone of physical education, understood consequently as the "teaching of motor conducts" (LEX, E:11). If motor conduct is equivalent to linguistics *parole*, "motor action", understood as "process of accomplishing the motor conducts of one or more individuals acting in a determined motor situation" (LEX, A:1)⁶, is the equivalent to linguistics *langue*, "a system that knows only its own order" as Saussure put it. Praxeological inquiry aims at bringing this order to light by understanding the "internal logic" of ludomotor situations. In the same way that the grammatical structures of a language materialize human language and make verbal interaction possible, the internal logic of a sporting game sustains its emergent action making possible motor communication. Athletic shotput, baseball, fencing or hide-and-seek are different games

letter of the term in French, the chapter it is included in, and the ordinal number of the paragraph: P:54 for instance is the 54th paragraph in chapter P.

⁵ *Praxéologie motrice : Science de l'action motrice, notamment des conditions, des modes de fonctionnement et des résultats de la mise en œuvre de celle-ci.*

⁶ *Action motrice : Processus d'accomplissement des conduites motrices d'un ou de plusieurs sujets agissant dans une situation motrice déterminée.*

because when each of them is practiced a unique motor action emerges, a unique cultural phenomenon with its own “internal logic: system of pertinent traits of a motor situation and consequences which it entails in the performance of the corresponding motor action.” (LEX, L:4)⁷

Games and sports are one of the most valuable *assets* of physical education: “Miniature societies, true laboratories of human conducts and communications (...), effervescent microcosms” (Parlebas 1985, 90). For this reason, a praxeological classification of sporting games is an essential instrument for scientists and educators alike, challenged in different ways by a triad of issues that many times come as one without notice: that of the meaning of game-playing, that of nature of games and that of game classes.

A game language called “game”

Any handbook of philosophy of sport dedicates one of its first parts to the definition of game and sport. It seems sensible and wise, unavoidable, one of the things philosophers are expected to do. The seminal paper by Bernard Suits (1967) “What is a game?” is still cited nowadays when it comes to discussing about *how much game or sport* an activity is. To make things worse, Suits discovered years later that this ontological question concerns another element, that the problematic couple was, in fact, a threesome, a “tricky triad” (1988) composed by *play*, *game*, and *sport*. ESports, for instance, has been in the official program of the 2019 Asian Games endorsed by the International Olympic Committee, the very same institution that hosts the World Federation of Bridge since 1995 and the World Federation of Chess since 1999, no matter how far these games are from Pierre de Coubertin’s original project.

Institutional interests are also defended in the linguistic arena, many times with as much drama and intelli-

gence, cruelty or subtlety as in Shakespeare’s plays. *What’s in a name?* -asks Juliette in despair- *That which we call a rose// By any name would smell as sweet.* “What is a game?”, we ask ourselves once and again, hoping to find *the answer* without taking into account that a disciplinary or professional field usually depends on and generates its terminology; that we need to expect that *the same word* refers to a different object in the mouth of a psychologist, a sociologist, a historian or a mathematician; that we cannot ignore that semantic fields from different languages about *the same object* do not match perfectly, being that of “game” a perfect example.

Should we speak in French or Spanish, we could easily agree with Jacques Henriot (1969) about three substantive levels of analysis when thinking about games:

The first sense of game is *what is playing* who is at play. Structured, more or less necessarily codified, it presents itself as a system that draws for the players the scheme of a hypothetically compulsory conducts.

In a second sense, game can be conceived as *what a player does*. When a person is engaged in a certain game, for her the game also consists of the act of playing itself. This type of conduct can also be produced in the absence of any constituted ludic structure.

In a final sense, game is *what makes a player play*, precisely what makes possible in them (and by its intermediation) game-playing and the very reality of the constituted game.

Suits’ definition seems to cover these three levels in one single proposition: “By means of a critical examination of a number of theses as to the nature of game-playing, the following definition is advanced. To play a game is to engage in activity directed toward bringing about a specific state of affairs, using only means permitted by specific rules, where the means permitted by the rules are more limited in scope than they would be in the absence of the rules, and where the sole reason for accepting such limitation is to make possible such activity” (1967, 148). A game, any game, would be *action, guidance, and attitude* to play: a course of action oriented by rules only tolerated by an inclination... to play! Tricky indeed.

⁷ *Logique interne : Système des traits pertinents d’une situation motrice et des conséquences qu’il entraîne dans l’accomplissement de l’action motrice correspondante.*

Parlebas does not dismiss the question about play: “A game is a dream. The act of play is not reducible to the functioning of a biological machine that spends a surplus of energy. Nor can it be compared to a futile, meaningless relaxation. Play makes sense, and the playful sense is of the same order, or disorder, as the dream-like sense” (1975, 784). In *Sporting games, dream, and fantasy*, a text of outmost beauty, he too reconciles three different levels, but in a subtle distinctive way that shows, as he would claim in 1984, that sporting game and motor action are a genuine, complex and pertinent study object:

Dream of the acting person, dream of the confronted groups, dream of the hosting society, sports games are the fulfilment of a fantasy. The body, the sports body, is the valuable place on which the dictates of the institution are massively projected. On the other hand, the ludic body, impulsive and much less comprehensible, tends to be depreciated by the authorities. Rejecting the traditional game, sport has become the revealing myth of the contradictions of technical civilization.

Despite what a tenacious tradition claims, playing a game is neither free, disinterested, nor sterile. On the contrary, a sporting game deeply engages the player, the team and the society in praxis, in a motor creation that entails a sense often unconscious and difficult to decipher. Usually dead letter in the discourses, the body reappears here as a body of life and action, all at the same time permeated by the norms of society and passionately charged with the aspirations of the player. This deep implication, this power of expression is at the source of this little scandal: the pleasure of game playing. (803)

We play because it is pleasurable to engage in such activities, and understanding these activities is a highway to understanding this scandal that, for many, is the only way to “good life” (Carlson 2018, Suits 1978).

Even though, what Parlebas really needed at the time was a solid corpus of analysis, and, maybe because of that, he came to the conclusion that the only way to tame the polysemy of “game and sport” was an operational define-

tion of the object he was interested in: “Sporting game: motor situation of codified confrontation, called ‘game’ or ‘sport’ by social authorities. A sports game is defined by its system of rules, which determines its internal logic.”⁸ As he explains in *Éléments de Sociologie du sport*: “Clearly poor as far as its notional content is concerned, this is an ostensive definition that refers to repertoires of practices managed by federations or educational organizations.” (1986, 46) Far from the logical problems caused by Suits’ one (Meier 1988), this definition may be poor, but relies on pertinent traits that allow us to identify fundamental categories of human activity and culture:

- Sporting games suppose *la mise en jeu du corps*, to *put-body-at-play* roughly translated. Chess and bridge are not sporting games because the players’ decisions are not affected by the characteristics of their bodily materialization; the players do not display motor conducts, they do not participate in a “motor situation” (LEX, S:106).
- Sporting games are *competitions*, either with memory (like all sports) or without memory (like many traditional games): confrontations regulated by rules that create a task to be completed. Cricket, rounders, and blob-tag are sporting games; having a stroll in the woods or jumping over the waves are not sporting games, because agency is not regulated by any constraint other than individuals’ needs, whims, and desires.
- Sports are *institutionalized* sporting games. This feature is not included in the definition of sporting game because it is external to the motor task. Undoubtedly, there is a linkage between internal and external logics of sports that flows in both senses: not every game is selected by the institutions (unstable or ambivalent ones

⁸ *Jeu sportif* : Situation motrice d’affrontement codifiée, dénommée « jeu » ou « sport » par les instances sociales. Un jeu sportif est défini par son système de règles qui en détermine la logique interne.

are kept away from it), and the governing institutions (federations or international committees) change the rules to align them with their interests, economical ones mainly (Parlebas 1986).

Games, play action and game? *Jeux, jouer et jouant? ¿Los juegos, el jugar y el juego?* Let's admit that the understanding of the nature of "game and sport" is a formidable exercise that challenges our most basic conceptual tools, just like any vital, truly important matter can do, just like Wittgenstein himself appreciated when presenting his concept of language-game. From now on, "sporting game" refers both to any situation - understood in the most Goffmanian way (1964) - that put agents in a motor competition and to the category of such situations generally speaking. But before becoming a real situation *hic et nunc*, a sporting game has another, previous kind of *existence* that we need to deal with to understand the connection between games and action.

Sporting game as a juridical entity

Games are not necessary, but after their creation a new necessity is born: a *juridical*⁹ *necessity* consisting in a certain manner of acting that must be respected should the game not disappear. Unlike natural or logical necessities, which impose their authority through universal laws or mathematical relations, a sporting game is a juridical entity whose only *raison d'être* is to orient human action in the selected direction by creating a framework where the legitimate agents are *free to act*

(Robles 1984). It is generally accepted that games are a rule governed kind of activity, but it is rarely mentioned that rules are, as the professor of philosophy of Law Gregorio Robles points out, "linguistic expressions oriented to directly or indirectly direct human action" (95) that create a system of action possibilities or "competencies". Games and sports have been frequently used to explain what law is, like card games (Weber 1971), chess (Ross 1994) and cricket (Hart 1990, Raz 1991). Surprisingly enough, it is very rare to find juridical analysis of sporting games, despite Law, no matter how complex, intricate and paradoxical it may become, is the way we have given ourselves to coordinate our actions sustainably for the last three millennia.

Parlebas is the only one who takes this path somehow. "A sporting game is first and foremost a corpus of rules that governs the conditions of practice and sets the modes of interaction, thus defining each ludosystem." (1988, 97) Furthermore, he ventures to explain *why games of rules* are even possible, why they are respected and operate, getting to the conclusion that for ludic confrontation to happen collaboration must reign at a deeper level. If societies are built upon Rousseau's social contracts, sporting games are also based on a "founding pact", on an "explicit or tacit agreement that binds the participants to a game by fixing or renewing the system of its rules". Parlebas names it "ludic contract" (LEX, C:154): "The ludomotor contract must be understood in the first place as the juridical category that legally founds the game. The players' conducts would lose their coherence and profound significance if they were not supported by this contract and its clauses." (1986, 101) In this sense, any kind of confrontation, any sports competition is the visible consequence of an invisible *cooperative infra-game* that casts out anarchical behaviours and, in the case of sports at least, puts "relational perverse effects" (114) under control.

Most likely, the only internalist account of why it is reasonable to expect a certain course of action instead of another when a game is practiced is its *legal nature* (Martínez-Santos 2018). A game is the covenanted result of extrinsic actions, of "extra systemic" decisions (Robles

⁹ I have decided to use "juridical" -the sematic root "*iure*" to be more precise- when needing to refer to the *legal* nature of any phenomenon, games and sports in this case. LAW is a clear example of non-matching semantic fields for English and Spanish or French speaking people. Just in case they could be different issues, these different languages combine with different traditions of building Law, *el Derecho, le Droit*. I do not feel comfortable with "legal" or "lawful" when it comes to refer to the system or perspective that constrains, guides, orients human action by means of *acts, statutory laws, carters, ordinances or statues* that belong to *civil or criminal divisions*, in order to determine by *judgment, sentences or decisions* whether an act is *legal or lawful*, whether any *remedy, redress or relief* must be ordered (Alcaraz 1994).

1984, 40), like the ones made by a group of dissidents who gathered in London in 1863 and recognized each other as the members of the new-born Football Association, or the ones made in 1891 by a single man who created a game with two bottomless baskets of peaches and a football for a group of troublemakers. When Naismith typed and published his 13 rules a new action-sphere was created, whose existence was independent of its later actualization and consisted in a system of intrinsic possibilities of action: “What a game is does not depend on it being practiced or not, for its nature is identified by a set of linguistic propositions conventionally adopted. As a whole, the purpose of these linguistic propositions is to direct action, but the fact the action is not produced does not imply that those propositions have no meaning nor, consequently, the game they compose and constitute exists no more.” (Robles 1984, 38).

The intriguing process of transformation of these *speech acts* into motor action is beyond our scope, but it is fundamental to understand that it as an expression of how intelligence operates in two complementary senses (Martínez-Santos and Oiarbide 2020): *From the words to the acts*, when the players interpret the rules and explore the possibilities they have to resolve the task with respect to the laws, and *from the acts to the words* when they have to assess any displayed action and give them the first value a game-playing action always receives: their juridical legitimacy. Robles calls the first ones “immanent decisions” and the second ones “diriment decisions”, and, strangely enough, the *survival* of a game does not depend on the players’ respect of the rules, that is on them always abiding by the rules, but on the acceptance of the consequences of the diriment decisions, that is on the application of the remedies provided by the convention if acted against it.

It is pertinent at this point to put on the table von Wright’s clarification about “act”, not only because in a book entitled *Norm and action. A logical inquiry* (1963)¹⁰

he refers to “rules of a game” as “the prototype and standard example of a main type of norm”, but mainly because his most basic assumptions about act and activity allow us to understand motor action better, the “activity” of game-playing: acting is about intentionally effecting changes in the state of affairs, or stopping them from happening, having the opportunity to do so; the result of an act can be both the factual doing of the act and the act already done; the consequence of an act is linked to the transformations of the world produced by the results of the action. Sporting motor action is based on a juridical fabric on which playing acts, results, and consequences are weaved through the players’ choices.

In sports, the first interpretation of players’ conducts is on their *lawfulness*, and the consequences to them attached have always a *legal sense*: faults, penalties, scores, cards, disqualifications, etc. Sports agency is juridical all along and, as action-orienting systems, sporting games protect themselves from *disrespectful* or unskilled players by resorting to one of two kinds of legal remedies: annulment and sanction (Robles 1984; Martínez-Santos 2018):

- *Annulment based sports*, like athletics and gymnastics, endure because any rule-breaking has as a consequence the annulment of the sports-person’s action, totally or partially: illegal acts are non-existing acts, and there is nothing worse in competition than not having acted. Athletes and gymnasts have no better reason to play by the rules than their interest in producing a valuable result, for in these sports it is impossible to win breaking the rules.
- *Sanction based sports*, like combat and team sports, endure because any rule-breaking has as consequence a penalty, sometimes on the scoreboard, sometimes on the playing conditions. In some of these sports, it is possible not to lose in spite of breaking the rules.

Under these two juridical logics, infinite games are possible: athletic races and contests, acrobatic contests, combat sports, team sports... All of them coerce action

¹⁰ This book can be found on <https://www.giffordlectures.org/books/norm-and-action/iii-act-and-ability>

juridically but create different, unique problems that challenge intelligence and creativity in distinctive ways. We can call the content of this challenges the “motor tasks” that the players have to solve: “Objectively organized set of material conditions and constraints defining an objective, the achievement of which requires the actualization of motor conducts by one or more participants” (LEX, T:1), and considerer our final step in this analytical effort to reduce this infinity of tasks to a finite, structured system of categories that allow us to foresee their most relevant consequences on sports agency.

The praxeological classification of sporting games

“A classification responds to a desire for inventory and organization, to a search for intelligibility in front of a collection of objects or phenomena. All disciplines devote their first efforts to classification censuses.” (LEX, C-2) What makes two sporting games alike depends on the classification criteria used to compare them. There is no need to insist on it. In our case, we aspire to distinguish types of challenges and problems, classes of situations that put creativity to the test in significantly different ways.

The principle behind the development of the classification that we propose consists of considering any motor situation as a system of global interaction between an agent, the physical milieu and any other possible participants. The agent is therefore not seen as an individual isolated from the context, so anatomical or purely descriptive criteria become obsolete. The relevant criterion is that which indicates a connection between the agent with the environment on one hand (criterion: uncertainty of information from the environment), and with others on the other hand (criterion: motor interaction). The key factor present in any situation is the notion of uncertainty: the informational dimension, therefore, takes on prominent importance. (LEX, C:11)

Uncertainty, understood as “property of unpredictability attached to certain elements of a situation” (LEX, I:1), is the subjective correlate of the informational characteristics of the world around, the most determining feature of the circumstances in which an agent has to act:

- uncertainty due to the physical milieu is null

when we play on a tennis court, an athletics track or a gym, but it can grow out of control when hiking or skiing, diving or sailing, gliding or climbing;

- uncertainty due to the presence of other agents is null when we perform alone, as in many athletics and gymnastics disciplines, or present and disturbing when we must confront another intelligence opposed to ours, face to face, a team against a team or in many other ways, even paradoxically as in traditional games like *sitting ball*, *elbow tag*, or *puss in the corner*.

These two vectors can be transformed into three distinctive dichotomic traits: presence or absence of *uncertainty* due to the physical milieu, presence or absence of *opponents*, and presence or absence of *partners*. Figure 1 shows the praxeological classification system of sporting games proposed by Parlebas fifty years ago. Each of the eight classes of equivalence that compose this taxonomy, exemplified with sports, in this case, is a “motor action domain: field in which all the bodily practices included are supposed to be homogeneous about precise criteria of motor action.” (LEX, D-74) This is one of the new terms contained in 1999, extended second edition of the lexicon, a good chance to recapitulate about the classification itself:

It is advisable to choose carefully a small group of criteria that will determine action domains in a sufficiently important number to offer the desirable variety but sufficiently reduced to guarantee essential ease of use. (C-77)

These factors, proposed in 1967, were unusual and disconcerting at the time. In reality, they are in harmony with the knowledge that has since then been confirmed in the human sciences, in particular with cognitivist conceptions: in fact, these three traits refer to uncertainty, to information in other words, which can be taken from the environment or others (partner or opponent). This is a way of favouring information processing and decision-making processes, that is to say a way of favouring cognitive competencies directly related to motor action. (C-78)

These cognitivist principles may seem obvious today, but in an article published in 1971 with the title *L'éducation physique, la mal aimée*, Parlebas was kindly invited to

get rid of so many technicities and speak more clearly. In the end, a compromise was settled, and a few footnotes included to explain concepts like cognitive, empathy and creativity...

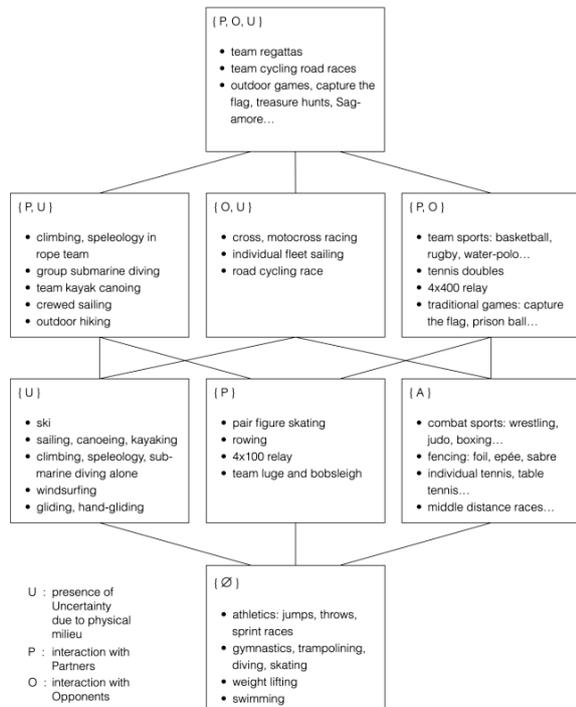


Figure 1. Praxeological classification of sporting games in eight action domains (Parlebas 1986, 80).

Every action domain is a category of equivalent problems, so to speak, of problems that can be resolved in a similar way. But how real are they? How certain can we be that team sports are different from athletics? Is not athletics the most fundamental sport? If basketball fundamentals are *running, passing, jumping* and *shooting* athletics must be the basic practice for basketball players of any age and condition. The syllogism behind the reasoning looks solid. The only problem with it is that athletics is not even the basics for athletics itself! A simple calculation of binary correlations between the scores obtained by athletes in every discipline of the Olympic decathlon shows that best performances in jumping do not have to correlate with endurance or throwing: there is no such thing as an athletic core competence, not to speak about an allegedly *general factor* of motricity (Parlebas 2000). Moreover, the presence of opponents dramatically transforms the internal logic of motor situations, so how certain can we be

that *running, jumping* and *shooting* be equivalent in athletics and basketball?

This is the general postulate behind the praxeological classification of sports. "This organization in motor action domains will not be enough to predict all the consequences of practicing the planned activities, but it will offer a decisive basis for reasonable educational projects and propose capital orientations for research of all kinds. In this line, it will suggest experimental work which will verify whether the effects obtained correspond to the expected effects and the desired effects." (LEX, D:83) In 1998 Parlebas published the results of an experimental piece of research designed twenty years back to test whether the expected "learning transfer" (LEX, T:90) from athletics is factual or not. Through a precise definition of the *controlled variables* (academic and socioeconomic levels, gender, basic motor competence, and intervention style), it was possible to relate the differences on the *dependent variable* (sociomotor competence) to the characteristics of practice proposed to the four groups of twenty-four 10-11-year-old boys and girls during the eight sessions between the pre-test and the post-test, interpreting the presence or absence of differences as the effect of the *independent variables* (internal logic and level of institutionalization of activities) on learning transference.

Results showed that the practice of athletics does not prepare for team sports, nor traditional games with the same relational structure (symmetric confrontation of two teams). On the other hand, learning transfer between team duels is positive in both directions, no matter the cultural relevance of the practiced activities: traditional games prepare for sports, and sports prepare for traditional games, but athletics prepares for none of them! Motor conducts are domain-specific, and even if we considered appropriate to analyse *sports technics*, we should realize that it is praxeologically specific too: at the service of energetic efficiency in sports races, of normative efficacy in sports contests, and of semiotic effectivity in sports duels. "The individual that plays is not a biomechanical machine in a Cartesian way, nor a thermodynamic machine *à la Carnot*, nor a cybernetic machine in a Wienerian

way: a player is a person who adopts attitudes, chooses strategies, experiences pain and pleasure, invents new motor conducts, creates unusual meta-rules of communication, is stirred up in illusion and symbols" (1986, 72), and the science of motor action keeps trying to prove it on the basis that motor conduct is one, complex, multidimensional, biographical expression of a personality that always acts as a whole (Collinet 2005).

The praxeological classification of motor situations is the perfect combination of pedagogical and epistemological awareness we claimed for above. Pedagogically speaking, the three main aims of education – learning about oneself, about the others and about the world – can be implemented from the information/communication vectors that generate the eight action domains. Epistemologically speaking, this classification is due to a *semiotor* perspective that substitutes the mechanistic outlook from which sports activity was, and still is, analysed: "The semiotor point of view introduces a decisive break. We can no longer be satisfied, as Demeny did, to speak in terms of 'movement'. Motor action does not exhaust itself in the extended thing, in a description of displacements in space and in time. The introduction of meaning, symbolism, and metacommunication requires the use of a concept capable of accounting for it: the concept of motor conduct". (LEX, S:263) As explained elsewhere (Martínez-Santos 2020), frontal opposition to cartesian dualism led Parlebas to semiology *in a similar, but totally different way* as it took Peirce to semiotics.

Furthermore, Parlebas identified three main semiotor areas in semiotricity (LEX, S:43)¹¹:

- *Referential semiotricity*: Bodily expression, mime, ballet, and artistic activities put in play communication processes in which "external references" are evoked to build up symbolic gestures.
- *Socio-affective semiotricity* regards to the interpretation of conducts in terms of their affective

and relational values. It finds its way in traditional sporting game in which players have the choice to freely determine with whom and how interact: for instance, *the sitting ball*, an ambivalent-unstable sociomotor game, has been proved to be a suitable substitute of sociometric questionnaires (Obœuf, Collard, and Gérard 2008).

- *Instrumental semiotricity* serves the interests of sportspersons whose behaviours must be first and utmost understood as a way to outperform the opponents: at any degree, the only pertinent interpretation of the agents' corporal behaviour is strategic, like in our sports duels.

We have learnt so far that sporting games are action creating entities; that sports agency is juridically controlled in two different ways; that uncertainty is key to understand sports performance; that we can distinguish eight motor action domains regarding the main features that characterize sports situations: relationships to the spatial milieu and social entourage. We can now turn our look back to the question posed in the title putting all these praxeological elements to play for us, and try to understand if the temporal structure of interaction affects anyhow the system of motor action domains presented.

Judo, boxing, fencing, tennis... and snooker. The same combat?

Whereas judicial combats on *fields of honour* were already something from the past in late XIX century, sport, developed in the very same century, has in duelling one of the quintessential modes of its expression. Every day, all over the world, a myriad of couples of individuals try to fight one another without any need of previous offense, but not always *to first blood*: Isn't this a clear example of the civilizing process described by Norbert Elias (Elias and Dunning 1992), a clear source of pride for humanity? From the classificatory point of view, these games focus the agents' attention and decisions on the competitive relationship with an opponent: *space* is limited but stable, produces no information, creates no

¹¹ *Semiotricité : Nature et champ des situations motrices envisagées sous l'angle de la mise en jeu de systèmes de signes directement associés aux conduites motrices des participants.*

uncertainty; there is *no partner*, so agents do not have to coordinate their decisions within a team.

Sport is a subset of the set of sporting games as previously defined, more exactly the finite set of sporting games controlled by national or international governing bodies in charge of updating its rules and monitoring their compliance. Institutionalized pure opposition can be experienced in a *face-to-face* encounter or an *each-on-their-own situations*. Sports in the class [O] can only have two different “motor communications networks” (LEX, R:26): *individual 2-exclusive-stable networks*, like combat sports, tennis or fencing; and *individual n>2-exclusive-stable networks*, like in 800 m or F-1 races. We can call *individual duel* any situation of the first kind, in which agents must overcome the opponent’s determination to obstruct and prevent them from scoring, a subcategory of “sporting duels”: situations of “confrontation between two adversaries whose interests are diametrically opposed: what one wins, it is to the detriment of the other one who loses it.” (LEX, D:110)

Snooker is a billiard game played on a large table in which two players, using long and sharp *sticks*, try to win the match by getting a number of *frames* sooner than the opponent. In a frame the objective of each player is to get more points than the adversary by potting as many balls as needed in accordance to certain rules: each one of the fifteen *red balls* is equal to one point, and *colour balls* (yellow, green, brown, blue, pink and black) are worth from two to seven points; the first ball potted at every break must be red, and after a red ball is potted any colour ball must be aimed; potted colour balls are replaced until there are no more red balls left to be aimed at; a player has the right to try to get more points until failing to pot or committing a fault, like playing balls in the wrong sequence, potting the cue ball, touching the balls, etc.; for every fault called the offender’s opponent gets a minimum of four points. As in any other billiard game, opponents play sequentially, alternating turns in a very polite and respectful atmosphere: when one of them is at the table the other is *at the chair*. Even though, *snooker* is the proper word to nominate a shot taken by an acting player who successfully leaves the other player’s cue ball (the white ball) without a direct shot on any object ball. In face of a too risky shot, or impelled

by a need of points in excess of the maximum available on the table to win the frame, the *acting player* will make the worst decision possible from the sitting player’s viewpoint: like in any other duel, snooker players deliberately try to produce one another as much damage as possible on each other’s behaviours and scores.

Snooker is certainly a duel, but is it a duel of the same class as judo, boxing, fencing or tennis? As we are about to see, sporting duels can be very peculiar, but is snooker’s peculiarity too acute for sociomotricity? In any of the aforementioned duels, interaction implies that both players act at the same time, that both agents produce their playing behaviours at the same time needing to take into account each other’s course of action. What are the consequences of the *alternating motor interaction* of snooker? That is the question we struggle with, the question that might force us to put in quarantine some of the axioms of praxic communication.

The internal logic of individual sporting duels

Some traits of the internal logic of a sporting game are deducible from the rules, while some others can only be properly discovered after observing rational, competent players in action. Among the first group we have the following features of sporting individual duels:

- The network of motor communications is reduced to two agents who can only *counter-communicate* against each other, without a trace of instrumental collaboration. It is the most simple form of sociomotricity, although it possesses all the same features of the sports networks found by Parlebas (2010)¹² long ago.

¹² This is one of the main findings of Parlebas sociological research: the communication network of any sport is *exclusive* (two players are partners or opponents), *stable* (the relationship between two any players is always the same along the whole competition), *complete* (between any two players of the system there is always a positive or negative relationship) and *balanced*, strongly balanced as in team sports (between any three players of the system, it is always the case that the partner’s partner is a partner, the partner’s opponent is an opponent, the opponent’s partner is an opponent, and the opponent’s opponent is a partner), or weakly balanced as in long distance races (in these situations it can be the case that my opponent’s opponent be my opponent too).

- Both players perform *at the same time*: on a general basis, in combat assaults and fencing rolls they face each other in equal conditions, with same rights and constrictions; in rackets duels instead, they can only hit the ball by turns, being this right strictly determined by the service order.
- They are games with memory, that is, games with a *scoring system* that keeps a record of the most valuable acts: the *scoring interactions* (LEX, I:108).
- Scoring interactions are always *motor counter-communications*: throwing, holding or strangling in judo; hitting certain parts of the opponent's body in karate, boxing or fencing; forcing errors by the opponent in badminton or tennis, etc.
- The scoring system can be supported by two different structures, *time-limited* or *score limited*, which can apply separately or jointly: in tennis, fencing and karate there is a score-limited system and the first one who reaches a certain score wins the match; in combat sports, like Greco-Roman wrestling, judo or boxing, the match has a limited duration but ends as soon as one of the fighters is awarded a top score (*fall or pin, ippon, knock out*).
- In all these sports competitors can be *sanctioned* with penalties that can affect their scores: e.g., one point to the opponent for out-of-bounds in wrestling; victory to the opponent for repeated medium level infractions in karate; one touch to the opponent for repeated vindictive or violent actions in fencing, etc.

Duellists' decisions make sense in relation to these constraints, either when avoiding sanctionable behaviours, or when showing apparently too risky, almost irrational conducts when the bell is about to ring.

As Parlebas showed (1984), face-to-face opposition has been institutionalized in many ways, and according to a few pertinent traits it can be considered a self-organized subsystem of sports. On Figure 2 we can see how these features articulate with some other invariants of the generated duelling action, a high-resolution picture of some of this family of sports:

- *Direct praxic communication*, understood as the bodily interaction procedures created along with the rules refers to which elements of the body can be used, and how, to dominate, reduce and defeat the adversary.
- Occasionally, interaction is mediated by the use of objects that are sometimes real *weapons*, as in fencing, or mere instruments that cannot be used to hit the other player, as in tennis.
- Finally, action can develop around two types of *targets*: human targets, when scoring depends on reaching a specific part of the adversary's body and protecting one's own body from been touched, or material targets, when scoring depends on reaching the field areas defended by the opponent.

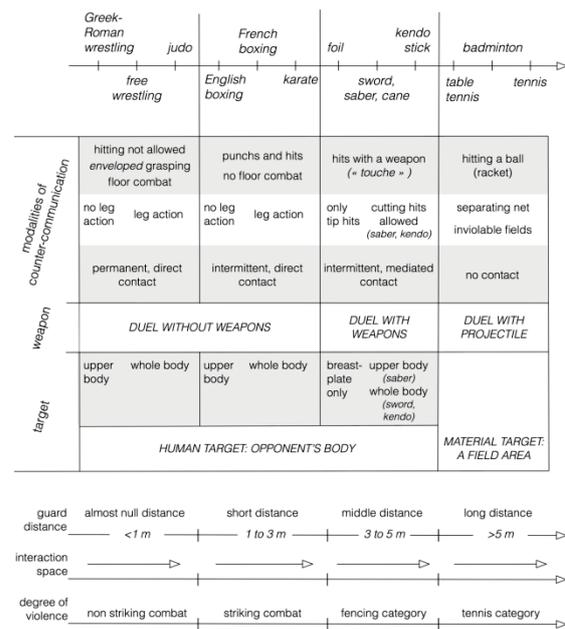


Figure 2. System of sporting individual duels (Parlebas 1986, 160).

Most interestingly, these options match together in specific ways that have worked well for centuries. "We can say about those sporting games practiced for ages that they are like pebbles rolled by the sea for a long time: polished by never-ending friction, they have become *good shapes*." (Parlebas 1986, 117). This applies not only to every duel individually but to the collection

of individual duels as a whole. In these sports, action is guided juridically and culturally, at the level of the situation and the level of civilization, because duelling, as a civilized effort to *annihilate* a member of our species, is accepted only when a certain balance between offense and defence is attained, when aggression, evasion, and retaliation are balanced and can still be *fun*. As a consequence, the quantity of space available per player in a game situation, namely the *individual interaction* space, increases within every subgroup along with aggressivity, permitted bodily violence. The same happens with *guard distance*, the distance that separates both duellists when ready for attack.

This system may seem today debatable and out of date. Certainly, Mixed Martial Arts or Ultimate Fight Championship challenge this internal articulation described decades ago, but reflection can be driven in both senses, and the ethical reproaches received by these highly sponsored, televised spectacles find in Parlebas' analysis a solid basis for denouncing them for being practices too far from our sports culture, and not only for the slightly edifying experience produced by the show on the octagon... and the stands. Even though it is a fact that these new modalities belong to combat sports however bloody they can be, that fighters are involved in the same decision making, risk evaluating process as wrestlers, fencers, and tennis players. In his research about risk as a distinctive trait of the internal logic sports, Luc Collard (1998) concluded: "Risk is a two-dimensional entity: it is made of stochastic processes (the random function of the situation) and compromises (the part of the severity of the situation)." (72)¹³ Both elements must be present for an activity to be considered *risky*, which is not the same as dangerous, unless we reconsidered what *to be in danger* is. Sports duels are risky sporting games: on the one hand, action is a stochastic process because agents cannot reduce uncertainty to zero no matter how trained and experienced

they may be; on the other hand, something is always put at stake when acting, there is always a competitive compromise in all actions, and there is sometimes a bodily compromise also, like in professional boxing or mixed arts. As in any other sports competition, dominating the rivals consists of anticipating their decisions and exhausting their energetic reserves, but in duels it also consists of making the other live emotions and calculations that may have to deal with pain and not so symbolic fear.

According to Collard's analysis, sporting duels belong to a category in which the "stochastic process is born from the 'simultaneous' action of adversaries who try to make their motor conducts as opaque and blinding as possible. Solutions in terms of 'pure strategies' are utopic, and the bets on the success or failure of the 'mixed strategies' introduce probabilities (objectifiable in theory) in motor decisions." (1998, 97). As in any motor situation with information, the conduct of a *duel agent* is always a "motor decision", a "motor conduct that manifests in its accomplishment a choice linked to the uncertainty of a situation. This decision presents the originality of taking shape in a motor behaviour, during the very flow of the action, and of participating in the field in the resolution of a motor task." (LEX, D:6)¹⁴

Generally speaking, no matter if intentional or unconscious, fast or slowly taken (Kahneman 2013), any motor behaviour displayed by a person acting under uncertainty is a decision, a sign that can be interpreted in accordance with the task. Sports motricity is instrumental, not expressive or purely affective, and for this reason, the semiotricity at play is instrumental when it comes to make decisions in a competitive situation. In this kind of sports, success depends on the competence to guess the opponents' intentions while hiding or faking the own ones. This is the key to success in duels, the praxeological cornerstone that puts risk under control,

¹³ *Le risque est une entité à deux dimensions ; il est fait de processus stochastiques (c'est la fonction aléatoire de la situation) et d'enjeux (c'est la part de la gravité de la situation).*

¹⁴ *Décision motrice : Conduite motrice manifestant dans son accomplissement un choix lié à l'incertitude d'une situation. Cette décision présente l'originalité de prendre corps dans un comportement moteur, au cours du flux même de l'action, et de participer sur le champ à la résolution d'une tâche motrice.*

defines individual competences and sustains game systems.

Having said so, it is evident that this body interpretation is not required in snooker. Isn't it solid, sufficient evidence against the claim that snooker is a duel? None the less, it is evident as well that snooker players are *doomed* by the same risk-taking logic as judokas and tennis players. Can we really get rid of such an essential feature of motor interaction without epistemological consequences? These are precisely the two questions we need to answer to get to a fruitful outcome no matter how dangerous it may be, but we all know that trying to make our ideas clearer is a risky game...

Praxic consequences of alternating motor interaction

A motor action domain contains activities that demand participants to put in practice the same "action principles" (LEX, P:94). In situations with opponents and information-free physical milieus, these principles have to do with *decoding the others*: feinting has a key role; semiotor encoding and decoding are of paramount importance; anticipation of anticipations are required; motor decisions and strategies are essential; it produces a vivid sociomotor dynamics (LEX, C: Figure 3). Everything said by Mead (1937) about game-playing applies in here: "The child who plays in a game must be ready to take the attitude of everyone else involved in that game, and [] these different roles must have a definite relationship to each other" (151), knowing that "the attitudes of the other players which the participant assumes organize into a sort of unit, and it is that organization which controls the response of the individual." (154). Sociomotor game-playing, understood as instrumental interaction and successful communication processes, requires Mead's *generalized other* to make possible those motor interaction systems that Parlebas studied so thoroughly:

One of the first authors to be concerned with bodily reactions during the communication process is certainly George Mead. One of his favourite expressions on this subject was "conversation of gestures". He illustrates certain modalities by

the interpretation of the fight between two dogs which both regulate their postures and their attacks on the bodily reactions of their opponent. In an explicit reference to sporting confrontation, George Mead cites boxers and fencers whose feints and guarding reveal how much their conducts are meaning bearers. As he writes: "Gestures become significant symbols" (45) He shows that communication favours the internalization of the others' attitudes and collective rules, representing, in the end, a major factor of the socialization process. (Parlebas 1986, 199)

As he says a little later: "It would be unreasonable to claim that bodily communication has been ignored by psychosociologists", but only to proclaim little further: "The specificity of the motor action deployed during motor situations requires an original and distinctive definition of the phenomena of communication; it will undoubtedly require a methodology adapted to its concepts" (201), meaning that approaching the study of this processes only with language in mind may lead to deadlocks like that of Birdwhistles's kinesics: "It is truly a delicate issue, and so have noticed those who research on kinesics, which, too dependent on linguistic methodology, seem to have fizzled out." (LEX, S:30)

In reality, wrestling or fencing can only be seen as "conversation of gestures" metaphorically, for they are not a process of non-verbal communication: in fact, Parlebas defines a "praxic function" (LEX, F:7) in contrast to Jakobson's language functions to claim the originality of motor communication. A smash in badminton or an uppercut in boxing are not hostile messages imaginatively wrapped: they are "essential motor interactions" from the agents' perspective: "During the resolution of a motor task, there is motor interaction when the motor behaviour of an individual observably influences the motor behaviour of one or more other participants." (LEX, I:118) This "praxic communication" happens in two different planes: *a direct one*, related to the motor procedures created by the rules; and *an indirect one*, related to the metacommunicative value of the direct motor communications, "subordinate to the first, which it guides, facilitates and prepares." (LEX, C:57, figure 7) This axiom of praxic communication regarding the gen-

eral axioms of human communication described by the Palo Alto Group is broken, shattered by the temporal separation of individual actions determined by the rules of snooker. In snooker, players are further away from each other than in judo, boxing, foil, or tennis because space is transformed into time, and the right to defend the goals switches on and off: distance between players is irrelevant and there is nothing like a guard-distance, because only the results of the acts count.

As far as interaction is concerned, snooker is a game with cues, but without clues. A duel of results and consequences, not of behaviours. Still, should it be considered a duel, the uncertainty faced by the players must be due to the relationship between them. It is clear that they do not have to *read* the other's bodily behaviours to make their decisions: snooker players do not have to produce "praxems" understood as: "motor conduct of a player interpreted as a sign whose signifier is the observable behaviour and signified the corresponding tactical project as it has been perceived." (LEX, P:26) A player's shot has no tactical meaning for the sitting opponent, who sometimes is not even watching. The bodily configuration of a player's motor conduct has no semiotic value for snooker players, whose playing would never be undermined for not guessing in time, for not anticipating enough. This is just the opposite of what has been said about duelling: Does it mean that snooker is not a fight between *two intelligences*? One may be likely to accept the absence of blood, but does one also have to accept the lack of brawl?

Snooker players have to find imaginative solutions to problems intentionally created by the rival, problems that consist of complex dynamical interactions of trajectories that must be foreseen, first, and actualized, later, in accordance with the rules and the capabilities of the actor. Each and every configuration of the table, frame-breaking shots excepted, can be totally new, unknown, impossible sometimes, and this newness is precisely what binds both players together in a 2-individual exclusive-stable network which makes their decisions creative and their conducts risky. At any time, a player has two

macro strategies at the tip of the cue: to try to pot a ball adding points to the score, or to pass up the opportunity to score trying to hinder the opponent's following shot. In between, a wise player would like to score and play *safety*, leaving the cue ball away from the developing area *just in case* a miss happened. Any decision is driven by a calculation of risks in which the pay to be obtained (the value of the potted ball) must be balanced by the objective conditions of the shot (distances and angles between cue ball, object ball and pocket), subjective rate of success on similar shots already taken, tactically acceptable positioning of the cue ball after the shot, running score in the frame, etc. By default, players choose the first strategy and try to get as many points as possible in any scoring break, a maximum of 147 if possible, but many times they have to give up the table, never before trying to *snooker* their untouchable adversary. Eventually, the snooker way of thinking is a slow, thoughtful calculation of risks in the way explained by Collard (1998, 72), a two-dimensional reflection composed by the probability of success attached to any of the conceivable micro strategies and the scoring value of the corresponding stakes.

Unlike combat sports, fencing or tennis kind of games, this *alternating intermotricity* is based only on the material results of the players' performance, not on corporal behaviours themselves. The radical consequence of this sequentialization of actions is that *spatial semiotricity takes the place of social semiotricity* in a sociomotor situation, breaking the two-layer structure of praxic communication: counter-communication does not rely on the bodily configuration of action – totally pertinent as far as the resolution of the task is concerned – but on the situation of the balls on the green cloth. The signs to be interpreted, the other player's intentions to be fought are the still balls to be played according to the rules. Whereas in the duels in Figure 2 an agent's conduct is not only a sign of their intention, but also a motor interpretant that instantly connects it to the other agent's intentions, in snooker the technical configuration of the shot (direction, intensity, spins, screws, swerves,

etc.) has no communicative value for the opponent. For this reason, this semiotic drift from social to spatial semiotricity also affects the way this billiard task is solved and the action-principles involved: tendency to motor stereotypes, pre-programmed behaviours, and predominantly proprioceptive regulation (LEX, C:figure 3) characterize both competence and training practice in snooker, like in sports without opponents.

Alternating interaction seems to be a subdomain of sociomotricity, but intermotricity in the end. Although based in action's results only, the relationship instituted between snooker players is instrumental, necessary, unavoidable in a way that long jumpers or gymnasts ignore. The allegedly impact that scores can have on the sports agents while competing is not systemic, but personal; not necessary, but contingent from the angle of the internal logic of the situation when that is all that connects agents to each other in a sporting game. The emotional impact of competition is not enough to accept that any game or a contest be a sport; it is not enough either to assert that competition and interaction are the same from our praxeological point of view. But we also have to admit, as the first consequence of all that has been discussed so far, that the observational influence that players exert on each other in sociomotor situations can be as well based on the results of action only, not necessarily on motor behaviours themselves: (*simultaneous*) *intermotricity* integrates acts, results and consequences; *alternating intermotricity* consists of a battle of results and consequences; *co-motricity*, acting separately but side-by-side (100 m) or one-after-another (high jump), can only involve scoring consequences.

Taxonomic consequences of alternating motor interaction

Snooker, the strangest, most unique member of this family has taken a good shot on our beliefs about praxic communication leading us to an interesting conclusion: essential motor interaction can be based on the action's results only, and in these cases there is a semiotic drift from the social vector to the physical vector

of the situation. This essay has dealt more with the action-system perspective that the acting individual's perspective. It is obvious too that both perspectives are so intimately interlinked that it has been necessary to put ourselves in the agents' shoes to illustrate those structural properties that make all duels one unique kind of game while belonging to one family of sports.

The second praxeological consequence of sequentialization has to do with the cornerstone of the theory of sporting games: information and uncertainty, Parlebas' classification criterion and Collard's constitutive element of risk. Decision making depends on how reliable our beliefs about our circumstances can be, and Collard (1998) distinguishes three types of games in regard to information in his exploration of the stochastic processes in sporting games:

- *Games of complete and perfect information*, like gymnastics, ice figure skating, weightlifting, diving, etc. In these games information is complete because any athlete can be fully aware of the possibilities of action, other competitors' choices, the full spectrum of results and their values, and any agent's motives. "Artistic gymnastics fully verifies these properties. Each gymnastics difficulty is listed and officially rated so that the athletes know all the possible choices and their value." (76) Besides, gymnastics competitors perform one after another, making information perfect.
- *Games of complete, imperfect information*, like team sports and combat sports. Just like in the previous category, any player can know about the choices, results, pays, and motives inherent to the game and game-playing, but the agents' simultaneous actions result in an imperfect certainty that avoids them from having all behaviours pre-established and automatized in advance.
- *Games of incomplete information*, like Formula 1. In these situations the "blind spots" permitted by the rules limit the knowledge about results, choices, pays and motives, dramatically affecting the decision-making process: "These situations can get

to such a high level of complexity that the search for a systematic 'solution' is doomed to fail." (86)

Does this scheme fit the theory of motor action domains? On one hand, as Collard himself writes: "There are cases in which information is not just incomplete but outright 'absent' (we call it 'game without information', like the case of the first cyclists in a time trial)" (92); and, on the other hand, according to Binmore "a game is being played when two people interact" (2009, 10), whether they might be spouses, car drivers, a company and a trade union or two states. Moreover, for Binmore chess is the "archetypical example" (61) of perfect-information games, "in which nothing that has already happened in the game, until a certain moment, is hidden from the players when they make a move." (63)

Without any randomness at all, either due to a natural or a personal *probability distribution function*, there is no need to analyse a situation from the perspective of any decision theory: the solution of the game and the pay depend only on the execution of an automatized pure strategy. Furthermore, the situation is the same not only for the first gymnasts or athletes in jumping or throwing contests, but for all of them, because any potential influence operated on contestants by the scores previously obtained by other athletes is "inessential interaction", so negligible as previously discussed: "This is the case of the influence exerted by coaches or spectators during a sports competition, evidence of the marked impact that affective phenomena have on motor conduct, but which does not fall within the framework of praxic communication. This is also the case of what may happen between high jumpers for example, when they take into account the decisions and jumps of their competitors to choose their strategy, knowing, among other things, that the regulations to decide the ties are based on the number and scores of the tries already done." (LEX, I:144) Therefore, *snooker, not gymnastics, is a perfect-information sporting game*, which forces us to redefine the categories of informational constraints that sportspersons deal with.

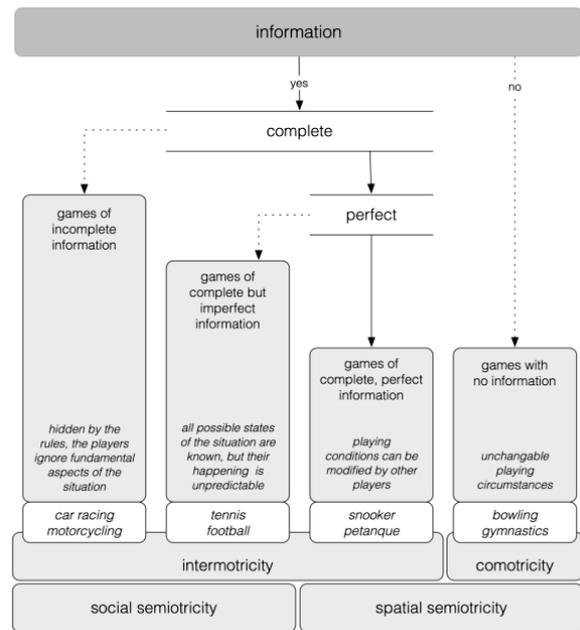


Figure 3. Information and theory of sporting games.

Figure 3 shows the overlapping of intermotricity and spatial semiotricity produced by the sequentialization of actions in snooker. It has been necessary to include a fourth category and rearrange them to reveal that snooker is the sport that the Olympic Committee needs if they want to complete their summer program with a perfect-information motor game, not chess! This subclass of sociomotricity that includes sports like snooker, curling, petanque or lawn bowling, is a nice prove of the wonder that has permitted all of us to enjoy motor praxeology: "When examining the lush field of ludomotor activities can one perceive the incredible diversity and complexity of situations, and realize that we have only taken the first steps for its study." (Parlebas 1988) This second consequence is just another step towards a better understanding of (motor) action that only in community can be attained.

Conclusion

On August 26, 1969, a lecturer of the Normal Graduate School of Sports and Physical Education of Paris finds the first part of his "Advocacy for physical education" at the front page of *Le Monde*, a French, national newspaper.

The combative lecturer was about to open another heated debate in which supporters and detractors crossed *letters to the director* to such a point that forced the recipient to abruptly cut down the discussions. His first part, subtitled *An independent discipline at last?*, was a clear statement in favour of the pedagogical nature, not medical nor military, of physical education, and the need of its adscription to the Ministry of Education: "An advocacy in favour of physical education is by no means an indictment against intellectual education (...) We must no longer think in terms of substitution or hierarchy but in terms of relationship and complementarity. It is better to decompartmentalize disciplines and foster the intimate connections that intertwine those multiple verbal, motor and expressive conducts, to allow the fulfilment of the connections between thought and action. From reflex to reflection, to an acted reflection." (Parlebas 1969a, 11)

The subtitle of the second part - *From magic to scientific research* - was itself a declaration, a declaration of war for many colleagues:

In short, three points can be identified. The first is that physical education has a specific object: motor conducts, that can be considered according to two dominants: psychomotor conducts when the individual confronts the inert forces of nature, and sociomotor conducts that place individuals in situations valuing the relationship with others either in opposition, either in cooperation. In the second point, the specific purpose of physical education is the conquest of motor self-control (*maîtrise motrice*) directed to a greater capability of adaptation to new situations. Finally, the last point, articulated on the other two, concerns psycho-pedagogical and socio-pedagogical implementation itself. Favoured by a long past, it must be relaunched relying on a wealth of experimental works (Parlebas 1969b, 14).

The 1967 Official Instructions for physical education were the epitome of the prevailing sport centred, technical perspective, very much aligned with the post-WWII era values (During 2013).

Parlebas, educated in the best schools, had already made his position clear against that technical, mechanistic and reductionist understanding of *sports performance*. His

very first article, published in 1959 right after graduated from the normal school of teachers, was titled *Physical education and philosophical education*, and already contained the basis of his project: frontal opposition to Cartesian dualism, continuity between motor activity and mental activity, complexity of a personality appealed in each situation, vindication of the person with a self-controlled capacity for action... In brief: "[The role of the physical education teacher] is to make students aware of their existence as agents and their value as creators of action, emphasizing participation and rejecting passivity. Fully involved in each action, the child is recognized as an original being endowed with possibilities of action, with the possibility of contributing and responsible for his psychomotor responses." (Parlebas 1959, 9) As his closest collaborator Bertrand During puts it, these articles, and many more, were "linked to the context by two observations. A profound change came to be added to the 'splitting-up' of physical education that gradually called the old dualist conceptions into question, placing at the heart of a renewed physical education not the articulation of techniques, approached in a mechanistic way, or ascetic values, but the unity of a person involved in the action." (2013, 155) A praxeological physical education is an education of motor decision, an education of adaptability and self-control. If we are born into a world of words, signs, and beliefs that action and its consequences make real, understandable, and controllable, we should not forget that game-playing is a most meaningful source of reality for children and adults.

Both as experience and education, motor action deserves as much attention as any other research field or academic area receives. I have no doubt that pragmatism has much to contribute to physical education (Barrera 2015), and possibly a little to learn from motor praxeology regardless Lally's declaration: "I do not believe that pragmatism provides any sort of answer to questions regarding sport and movement, but I do believe it is a useful idea for conducting inquiries into the meanings, practices, cultural uses, and truths of sport and movement" (2013, 1). Lally seems touched by the

same reluctance to games and sports that motor praxeology tries to prove wrong:

The body has long been neglected in university studies and scientific research. As a result of this, physical activity, games, and sports have generally been seen as infantile pastimes or, at best, accepted as a way of letting off steam or recharging intellectual batteries. However, over recent decades numerous research projects in many different disciplines have challenged these perceptions. Studies carried out in biology, neuroscience, the humanities, and the social sciences have shown the physical activity makes demands on many aspects of the personality -in a physical sense, of course, but also regarding cognition, emotions, and relationships. Playing ball games like baseball or puss in the corner, running a marathon, taking on a tennis player, or steering a yacht deeply affects individuals and offers them infinite possibilities for expressing themselves (Parlebas 2013, 127).

Fortunately, the volume as a whole proves me wrong giving enough evidence of how close approaches pragmatism and motor praxeology are, in regard to their conceptions of experience, education, learning, and inquiry.

I do not know if I am pragmatist, but if a pragmatist like Lally (2012) thinks that "the experiences an individual undergoes during training and competition shape her worldview in a fashion that is unique" (1); aspires to a "description of lived experience" (2); agrees with James in that a experiencer "feels the tendency, the obstacle, the will, the strain, the triumph, or the passive giving up, just as he feels the time, the space, the swiftness or intensity, the movement, the weight and colour, the pain and the pleasure, the complexity, or whatever remaining characters of the situation may involve" (2); stands by the "intimate connection between though, action, and outcome" (7); and shares that "the depiction of the individual as an agent of action immersed within the universe also generates an undercurrent of optimism regarding the individual's potential to self-determination" (7), I am willing to drop my weapons, whether sword, racket or cue, give up my compulsion for collision, and explore the world of sports action in sheer collaboration with the pragmatist community.

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