

Réflexions sur les Jeux de hazard*

D'ANIERES

Nouveaux mémoires de l'Académie royale des sciences et belles-lettres: Berlin. 1784 pp. 391– 398.

Socrates taught that the essential & direct end of Philosophy must be useful. He did not prohibit from applying himself to some speculative sciences; he himself studied the theory of numbers, Geometry, Astronomy.

But he wished that the philosopher made his principal study of the most immediately interesting objects for man in society.

His disciples themselves are too removed from this principal: it was reserved to our century to be bought together with their teacher; & it is not in error that one names it the *philosophical century*.

The science of the just & the unjust was that to which Socrates applied himself with the most ardor: there is none more interesting: one senses it today; Legislation is submitted to examination; one unveils the faults; one seeks to remedy them.

The vices of actual Legislation, however grand that they be, disappear before the united efforts of the philosophers. The immense chaos of these laws which weigh on the people, laws dictated at random, adopted inconsiderably, obscured by a cloud of commentaries, we know, if one wishes, but very little reasoned, will be replaced by some thoughtful codes, analogous to the position of each State, & put in the reach of the citizenry: our century will see without doubt spread on this object a light which we create only to glimpse.

If some isolated particulars were able in some manner to contribute to perfecting this science, it would be perhaps principally in working to fix the precise idea which one must attach to each of the objects of the legislative code.

In the most enlightened countries there exists some penal laws, applied each day, & which however have no sense, because the object on which they bear is expressed or represented by a term, by a word, of which the true sense has not yet been determined.

The present Memoir is destined to make sense, by an example, the importance of a rigorous examination of the true sense of the terms that the greater part of the Legislators & the Judges use inconsiderately in their codes & in there arrests.

*Translated by Richard J. Pulskamp, Department of Mathematics & Computer Science, Xavier University, Cincinnati, OH. December 26, 2009

Everywhere one proscribes the games of chance: the laws pronounce some severe pains against those who play them, or tolerate them: but how does one know what is a game of chance?

One contents oneself, in prohibiting the games of chance, to add, such as Pharaon, Quinze, Prime, Passe-dix; & other similar games. But what does the Law intend by other similar games? This clause puts the citizen at the mercy of the Judge, who will pronounce & will condemn perhaps in blindness, & on the simple resemblance of such game deferred to his tribunal with one of the nominally proscribed games.

Barbeyrac defines well enough the game in general: “it is, he says, a kind of recreative combat, in which two or many persons, after being agreed to certain laws, make to what will be more fortunate or more skillful, with respect to certain movements of which the effect, either depends not at all on all of their direction, or depends on it at least only in part.”

It seems that one could define the game more exactly, by saying

“that two or many persons play, when after being agreed to make a final advantage or many particular & successive advantages depend, to the profit of one, & at the expense of the other or the other players, on a series of events which they can & wish to produce, they produce them effectively according to some rules which they establish or adopt.

This is not the place here to examine in detail the definition of *Barbeyrac*, nor that which could be substituted for it, the more because one could not deepen this matter, without entering into a long discussion on the difference to put between *game* & *wager*.

It suffices that the idea of the game in general is distinct enough in order to exclude ambiguity.

But it is very difficult to avoid it, as soon as one undertakes to trace a line between the Games of Commerce & the Games of Chance, already known, or possible.

According to *Barbeyrac*, the games of chance are those where the event, although procured by a movement of which the Players themselves are the authors, is absolutely outside of their direction, so that they act only as blind causes & without any deliberation.

This definition is suspicious, & does not know besides how to be applied to the known, & nominally prohibited games of chance.

All those who have played Quinze, know very well that this game is not outside the direction of the players, that the players do not determine blindly fortune, & that a lot of attention, of calculation, of presence of mind, of phlegm, & consequently a lot of deliberation, is necessary in order to play it well.

Pharaon is not so difficult: however the punters can in large part counterbalance by conduct, the advantage that the rules of the game give to the banker. Some authors have indicated a part of the resources that a calculating punter finds in an exact theory of the principles of this game: it is demonstrated that

the disadvantage of the punter is the least possible, when he takes cards only in the first cuts, puts always less onto the game in proportion as there is a greater number of passed cuts, & prefers to all the cards those which are passed twice: but this matter is not exhausted. It does not appear that the disadvantage that there is for the punter to lay on the face card has been calculated; it merits however attention. The impatient punters fall easily into this trap: they see their lot rather decided; but they pay quite dear this frivolous advantage. The banker, who has for him only the folded & the last card, smiled to each punter who goes on the face card: out of twelve face cards, six appear to must fall on each side; having only 26 cards which can be found opposite to the face card which wins, it must itself present six cases out of 26 where there will be a fold; this is therefore about 6 against 26 or 3 against 13 to wager that the face card which falls to the right will be accompanied by another face card to the left; clear & net profit for the banker, who should draw nothing, & who takes the half of the stake. Another profit for him: it must arrive nearly one time out of five deals that the last card is a face card; the banker does not pay the last card, although it wins; therefore the one who punts & who lays on the face card, courts a risk much greater than the player, who puts his money on a determined card, must himself expect to see it appear last only one time out of thirteen deals.

Pharaon & Quinze are prohibited by all the laws; these are however the games in which one would not know how to apply the definition of *Barbeyrac*: this definition is therefore faulty in the legal sense of the term.

It appears that in the expression *game of chance*, the word chance has lost its original signification.

This must not surprise; the terms composed of two words present very often a sense absolutely strange to the ideas which one has custom to attach to the elements of which they are composed.

When one pronounces *Gentilhomme*, *vif-argent*, *verdigris*, does one think of the sense of the words, gentil, argent, gris?¹ Have these expressions not lost in the compositions of complex terms, their original sense?

In order to find the true legal sense of the composite term *game of chance*, it is necessary therefore perhaps to begin by clarifying the idea of *chance*.

It is the intention of the Legislators that it matters to discover, in order to arrive to a distinct idea.

The intention of the law appears to be to prevent the ruin of the inexperienced & passionate players.

The Legislators have seen that one is ruined at certain games, & not in others; & that the most dangerous games were ordinarily those where the players give the most to chance: they have in consequence forbidden the ruinous games under the name of games of chance.

But why does one see so many people ruin themselves in certain games, & never a person is inconvenienced even in some others?

¹ *Translator's note*: Gentleman, quicksilver or mercury, and dull or grey green. Originally, this was Greek green.

The following response presents itself naturally: there are some games which are such, that each player can evaluate with certitude in putting himself into the game the greatest loss to which he exposes himself: of others do not include a similar evaluation.

One ruins oneself not at all in the game of the first kind; when one puts oneself into the game one is composed: the loss is regulated out of the mental faculties; but any prudent person that one knows, one can by playing the game of the second kind, to grow warm, & to take upon oneself beyond all that which can be foreseen.

Experience shows that the strongest loss to a simple man does not go to two hundred stakes. In all rigor it is possible to lose at this game, in a session of three hours, around six thousand times the amount of the stake, because one can play in three hours time nearly 140 trials, & it is not contradictory that the same person loses 140 times in sequence by playing without taking *codille*² with four matadors; under this assumption the unlucky player at the highest point will lose six thousand stakes or around; if the stake is great deal, he will lose eight hundred écus; but at least he is sure that he would not know how to lose more; he can not lose 1000 écus; his greatest possible loss can be exactly evaluated; this greatest loss that one can suppose, is also unlikely that the gain of a player who would win at the *lotto* 140 times in sequence on the same number. But by according likewise the possibility of this outrageous misfortune, it is always true to say that the player of *hombre* knows exactly that which he can lose in a session of three hours.

There are many games which exclude yet more the possibility of a very considerable loss, because their march does not involve a successive increase of the value of the trials. At *piquet* the value of a *repic*³ & *capot*,⁴ of a double game &c. is the same at the beginning & at the end of a session; at *taroc*⁵ equally *Pagat*⁶ at the end, a King makes at the end &c., pays themselves no more at the end of a session of three hours, as at the moment when one just puts oneself into the game.

But there are also some games which include no kind of calculus, & the loss to which one exposes oneself by putting oneself into it is indefinite.

Pharaon is of this genre: one can not, in truth, deny the possibility to evaluate the sum that a punter can lose on a card who, bent on this card, always doubles: although the sum he must lose, by supposing, as in the case of the player of *hombre*, a sequence of 140 contrary chances, is so prodigious, that it can be expressed only by 36 digits at least, it is however assignable: but it is necessary to remark that the punter can go much further, & that the result of his temerity is really inassignable, because he can, at will, lay on more than one

² *Translator's note*: *Codille* is a term used in *Hombre* to indicate the game is won.

³ *Translator's note*: A *repique* occurs in the game of *Piquet* when a player earns 30 points through combinations alone before any trick is played.

⁴ *Translator's note*: Winning all tricks in the game of *Piquet*.

⁵ *Translator's note*: The card game played with a deck of 78 cards composed of four suits and 22 Tarot cards as trumps.

⁶ *Translator's note*: The *Pagat* is the 1 of trumps in the game of Tarot. It possesses a high point value since it is the most difficult to retain.

card, & to charge yet, at will, of this that one names mass, each of the cards which he has on a game, to each card that the banker draws.

Without entering into an ulterior detail, it appears to result from that which comes to be said, that one can arrange all the possible games under four classes.

The first includes the games where the value of the stakes & of the chances increases not at all; such are piquet, taroc.

In the second can be placed the games where these values increase or can increase, in an arithmetic progression, as of 1. 2. .3. 4. 5. or 1. 3. 5. 7. 9.; such are hombre, quadrille.

The third is that of the games where the successive value of the stake increases or can increase in geometric progression; only there are here two things to remark: the first, that the geometric progression going always by doubling, as 2. 4. 8. 16. 32. 64. 128. 256. 512. 1024, the march of the games of this kind is very rapid; the second, that until now one knows not of a game which is contained in the limits of this progression. By adopting it however, all the known games, in which the geometric progression takes place, return to the following class.

The fourth class is that of the games where the geometric progression can still be forced according to the caprice of the players.

Pharaon is of this kind: the player which lays only on one card, & who is content to double his stake, follows a geometric progression; he hazards successively in 22 chances, for example, 1 ducat, 2. 4. 8. 16.; 32. 64. 128. 256. 512.; 1024. 2048. 4096. 8192. 16384.; 32768. 65536. 131,072. 262,154. 524,308.; 1,048,616. 2,097,232. ducats. But if he lays at the same time on two cards, or if he makes mass at each chance or at one chance only, it is clear that he forces the geometric progression & that his loss can be yet greater than that in which he would be exposed by doubling only.

One can see at first glance that the games of the first two classes are never dangerous, & that those of the last two are & must necessarily be. The following remarks will develop this idea.

A player who is calm in putting himself into the game, sees first, if he plays a game of one of the first two classes, that which he risks, & regulates his stake in consequence; if he undertakes to chance some thing in a game of the third or fourth class; he sees only confusedly to what his loss can rise; rarely he has an idea of the depth of the precipice which is open under his step: where is the player who knows that he can lose 22 times on the same card, that which is however arrived more than one time; & that this loss, if he has had imprudence to double the stake at each card, an ordinary resource of the players in loss, is not less than 2,097,232 stakes? Where is the player, likewise of profession, who knows that by putting a great deal on a card, & doubling 22 times, he must lose 87,000 écus?

If the player is not composed, he sees only the expectation of a considerable gain; how would he calculate the greatest possible loss?

But suppose an educated player: who will guarantee him from the skill of

the Greeks?⁷ One plays not at all with some friends the ruinous games; these are of some unknowns that one seeks to count up: in their number there will be found perhaps an able fleecer, & the most complete good luck will not guarantee the honest player from the danger against which he is pushed by the cheat: in the games of the first two classes, of which the march is slow, a Greek has little advantage: his artifices can serve him only by repeating them frequently: the risk to be discovered is very great; but it is necessary in order to ruin a man only one card played à propos at Pharaon or Quinze, in the decisive moment where the geometric progression has carried the losses to some immense sums.

One can infer from all that which just said, that the ruinous games are the only ones that the laws proscribe, & that one can give this name only to the games which admit in the stakes & the chances the simple or susceptible to be forced geometric progression; that these are there the only games of chance in the legal sense; & that the games where the arithmetic progression is observed, or which do not include it itself, are the games of commerce, always innocent, never dangerous, in which the penal laws would not know how to be applied.

An essential remark will terminate this essay. There is nothing in the name of a game that it invites to be stopped, if one wishes to decide with knowledge of a cause in which class it must be arranged; if it is a game of commerce or a game of chance. Without any changing of essential in the march of a game, nothing is easier than to transform a game of commerce into a game of chance. In Venice one plays *hombre* on the same principles as in Berlin: but the *bêtes*⁸ are always double of the sum which is found on the game; in Poland one plays at *quilles* by adopting the rules of *passee-dix*: it is palpable that in Italy *hombre*, & the game of *quilles* in Poland are some games of chance.

⁷ *Translator's note*: Greek here stands for sharper.

⁸ *Translator's note*: In the game of *Hombre*, *bête* occurs when the declarer takes as many tricks as the defender with the most.