PREFACE
LAWS OF CHANCE

JOHN ARBUTHNOT
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PREFACE

It is thought as necessary to write a Preface before a Book, as it is judg'd civil, when you invite a Friend to Dinner, to proffer him a Glass of Hock before-hand for a Whet: And this being maim'd enough for want of a Dedication, I am resolv'd it shall not want an Epistle to the Reader too. I shall not take upon me to determine, whether it is lawful to play at Dice or not, leaving that to be disputed betwixt the Fanatick Parsons *and the* Sharpers; *I am sure it is lawful to deal with playing at Dice as with other Epidemic Distempers; and I am confident that the writing a Book about it, will contribute as little towards its Encouragement, as Fluxing and Precipitates do to Whoring.*

It will be to little purpose to tell my Reader, of how great Antiquity the playing at Dice is, I will only let him know, that by the Aleae Ludus, *the Antients comprehended all Games, which were subjected to the determination of mere Chance; this sort of Gaming was strictly forbid by the Emperor* Justinian, Cod. Lib. 3. Tit. 42. *under very severe Penalties; and* Photius Nomocan, Tit. 9. Cap. 27. *acquaints us, that the Use of this was altogether denied the Clergie of that time.* Seneca[1] *says very well,* Aleator quantò in arte est melior, tantò est nequior; *That by how much the one is more skilful in Games, by so much he is the more culpable; or we may say of this, as an ingenious Man says of Dancing, That to be extraordinary good at it, is to be excellent in a Fault; therefore I hope no body will imagine I had so mean a Design in this, as to teach the Art of Playing at Dice.*

A great part of this Discourse is a Translation from Mons. Hugen's *Treatise,* De ratiociniis in ludo Aleae, *one, who in his Improvements of Philosophy, has but one Superior, and I think few or no Equals. The whole I undertook for my own Divertisement, next to the Satisfaction of some Friends, who would now and then be wrangling about the Proportions of Hazards in some Cases that are here decided. All it requir'd was a few spare Hours, and but little Work for the Brain; my Design in publishing it, was to make it of more general Use, and perhaps persuade a raw Squire, by it, to keep his Money in his Pocket; and if, upon this account, I should incur the Clamours of the Sharpers, I do not much regard it, since they are a sort of People the World is not bound to provide for.*

You will find here a very plain and easy Method of the Calculation of the Hazards of Game, which a man may understand, without knowing the Quadratures of Curves, *the Doctrin of* Series's, *or the Laws of* Centripetation *of Bodies, or the*

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[1]Not Seneca but Publilius Syrus. "A gamester, the greater master he is in his art, the worse man he is." Sentence 33.

Periods of the Satellites *of* Jupiter*; yea, without so much as the Elements of* Eu-
clid*. There is nothing required for the comprehending the whole, but common Sense
and practical Arithmetick; saving a few Touches of* Algebra*, as in the first Three
Propositions, where the Reader, without Suspicion of Popery, may make use of a
strong implicit Faith; tho I must confess, it does not much recommend it self to me
in these purposes; for I had rather he would enquire, and I believe he will find the
speculation not unpleasant.*

*Every man's Success in any Affair is proportional to his Conduct & Fortune.
Fortune (in the sense of most People) signifies an Event which depends on Chance,
agreeing with my Wish; and Misfortune signifies such an Event contrary to my
Wish: an Event depending on Chance, signifies such an one, whose immediate
Causes I don't know, and consequently can neither foretel nor produce it (for it is
no Heresie to believe, that Providence suffers ordinary matters to run in the Channel
of Second Causes). Now I suppose, that all a wise Man can do in such a Case is, to
lay his Business on such Events, as have the most or most powerful second Causes,
and this is true both in the great Events of the World, and in ordinary Games. It
is impossible for a Dye, with such a determin'd force and direction, not to fall on
such a determin'd side, only I don't know the force and direction which makes it fall
on such a determin'd side, and therefore I call that Chance, which is nothing but
want of Art; that only which is left to me, is to wager where there are the greatest
number of Chances, and consequently the greatest probability to gain; and the whole
Art of Gaming, where there is any thing of Hazard, will be reduc'd to this at last,*
viz. *in dubious Cases, to calculate on which side there are most Chances; and tho
this can't be done in the midst of Game precisely to an Unite, yet a Man who knows
the Principles, may make such a conjecture, as will be a sufficient direction to him;
and tho it is possible, if there are any Chances against him at all, that he may lose,
yet when he chuseth the safest side, he may part with his Money with more content
(if there can be any at all) in such a Case.*

*I will not debate, whether one may engage another in a disadvantageous Wager.
Games may be suppos'd to be a tryal of Wit as well as Fortune, and every Man,
when he enters the Lists with another, unless out of Complaisance, takes it for
granted, his Fortune and Judgment, are, at least, equal to those of his Play-Fellow;
but this I am sure of, that false Dice, Tricks of* Legerde-main*, &c. are inexcusable,
for the question in Gaming is not, Who is the best Jugler?*

*The Reader may here observe the Force of Numbers, which can be succesfully
applied, even to those things, which one would imagine are subject to no Rules.
There are very few things which we know, which are not capable of being reduc'd
to a Mathematical Reasoning, and when they cannot, its a sign our Knowledg of
them is very small and confus'd; and where a mathematical reasoning can be had,
it's as great folly to make use of any other, as to grope for a thing in the dark when
you have a Candle standing by you. I believe the Calculation of the Quantity of
Probability might be improved to a very useful and pleasant Speculation, and applied
to a great many Events which are accidental, besides those of Games; only these
Cases would be infinitely more confus'd, as depending on Chances which the most
part of Men are ignorant of; and as I have hinted already, all the Politicks in the
World are nothing else but a kind of Analysis of the Quantity of Probability in
casual Events, and a good Politician signifies no more, but one who is dexterous at*

such Calculations; only the Principles which are made use of in the solution of such Problems, can't be studied in a Closet, but acquir'd by the Observation of Mankind.

There is likewise a Calculation of the Quantity of Probability founded on Experience, to be made use of in Wagers about any thing; for Example, it is odds, if a Woman is with Child, *but it shall be a* Boy; *and if you would know the just odds, you must consider the Proportion in the Bills what the Males bear to the Females: The Yearly Bills of Mortality are observ'd to bear such Proportion to the live People as 1 to 30, or 26; therefore it is an even Wager, that one out of thirteen, dyes within a Year (which may be a good reason, tho not the true one of that foolish piece of Superstition), because, at this rate, if 1 out of 26 dyes, you are no loser. It is but 1 to 18 if you meet a* Parson *in the Street, that he proves to be a* Non-Juror, *because there is but 1 of 26 that are such. It is hardly 1 to 10, that a* Woman *of Twenty Years old has her* Maidenhead, *and almost the same Wager, that a* Town-spark *of that Age has not been* clap'd. *I think a Man might venture some odds, that 100 of the* Gens d'arms *beats an equal Number of* Dutch Troopers; *and that an* English Regiment *stands its ground as long as another, making Experience our Guide in all these Cases and others of like nature.*

But there are no casual Events, which are so easily subjected to Numbers, as those of Games; and I believe, there the Speculation might be improved so far, as to bring in the Doctrin of the Series's *and* Logarithms. *Since Gaming is become a Trade, I think it fit the Adventurers should be upon the Square; and therefore in the Contrivance of Games there ought to be a strict Calculation made use of, that they mayn't put one Party in more probability to gain than another; and likewise, if a Man has a considerable Venture, he ought to be allow'd to withdraw his Money when he pleases, paying according to the Circumstances he is then in: and it were easie in most Games to make Tables, by the Inspection of which, a Man might know what he was either to pay or receive, in any Circumstances you can imagin, it being convenient to save a part of ones Money, rather than to venture the loss of it all.*

I shall add no more, but that a Mathematician will easily perceive, it is not put in such Dress as to be taken notice of by him, there being abundance of Words spent to make the more ordinary sort of People understand it.