Point-by-point response to the comments of Reviewer 1

I hope that I have been able to take into account all very constructive and helpful suggestions of the Referee, and to improve the manuscript accordingly.

*) Response to "I suggest the author better addresses what is "Boole's conditions of possible experience", without the need to refer to the cited papers."

According to the suggestion of the Referee, I have revised and added the following paragraphs, addressing what is meant by "Boole's conditions of possible experience":

The correlations in the discrete urn case are bound by linear constraints
\begin{equation}
\begin{split}
{-1 \le E_{13}, E_{14}, E_{23}, E_{24} \le 1}, \\
{ -2 \le -E_{13} +E_{14} +E_{23} +E_{24} \le 2},\\
{ -2 \le E_{13} -E_{14} +E_{23} +E_{24} \le 2},\\
{ -2 \le E_{13} +E_{14} -E_{23} +E_{24} \le 2},\\
{ -2 \le E_{13} +E_{14} +E_{23} -E_{24} \le 2},
\end{split}
\label{2022-epr-CHSHine}
\end{equation}
called the ``conditions of possibly experience" by Boole,
who encountered the following challenge~\cite{Boole,Hailperin-1965,Pit-94}:
When provided with (rational) numbers representing the relative frequencies (or reals representing the probabilities of expectation)
of specific events,
and these events exhibit logical interconnections,
a new layer of constraints emerges beyond the basic requirements of non-negativity and being less than one for each number.
In instances where events are intricately linked by logical relations,
additional equalities or inequalities arise among these numerical values.
Consequently, the central issue is to ascertain the precise numerical relationships---expressed
through a combination of equalities and inequalities---arising from a defined set of logical relations among the events.
The task involves unraveling the intricate numerical fabric woven by the interplay of logic and frequency,
thereby elucidating the underlying structure of these interconnected events.

A systematic way of deriving Boole's ``conditions of possibly experience" is by enumerating
all possible ``extremal" configurations---formalized by the two-valued states supported by the logic of events---and interpreting them as vertices of a convex polytope,
whose equivalent representation is in terms of its hull, thereby solving
the hull problem~\cite{froissart-81,pitowsky-86,svozil-2001-cesena}.
Some of Boole's conditions have been rediscovered by physicists in recent years, such as Bell-type or inequalities.
Indeed, the last four of these linear constraints in Equations~(\ref{2022-epr-CHSHine}) are called CHSH inequalities for historical reasons.
Relative to the assumptions, such as value definiteness of all hypothetical (counterfactual) observables and strict Einstein locality,
As they are violated by quantum events Boole's ``conditions of possibly experience" pose a challenge for the classical interpretation of quantum mechanics.

*) Response to "I would also like a more thorough explanation of the adaptive/non-adaptive delayed choice experiments

and the Peres argument."

According to the suggestion of the Referee, I have added now the following detailed explanation to the paragraph introducing adaptive protocols:

This particular type of adaptation refers to adapting or changing the relative positioning of the pairs of observables
${\boldsymbol{\alpha},\boldsymbol{\beta}}$, ${\boldsymbol{\alpha},\boldsymbol{\beta}}$,
${\boldsymbol{\alpha}',\boldsymbol{\beta}}$,
and ${\boldsymbol{\alpha}',\boldsymbol{\beta}'}$
defining the four contexts containing $\boldsymbol{\alpha}$ or $\boldsymbol{\alpha}'$
on one side of the EPR arrangements relative to the direction of the shared $\mathbf{J}$.
This (re)alignment, which also affects the position of $\boldsymbol{\beta}$ or $\boldsymbol{\beta}'$ relative to $\mathbf{J}$
on the other side of the EPR arrangements, effectively resets those contexts in terms of $\mathbf{J}$
and thereby allows a reshaping or rescrambling of the correlation function to a uniform cosine form
that is instrumental for violations of a CHSH inequality.

Without these (re)alignments, the correlation function would not maintain its uniform quantum-type cosine form.
This absence of (re)alignments would enable a context-independent assignment of (counterfactual) observables
in a Peres-type valuation table, consequently preventing any violation of the CHSH inequalities imposed by classical value definiteness.
Conversely, the adaptive protocol results in a nonlocal,
context-dependent assignment of (counterfactual) observables in a Peres-type valuation table,
thereby allowing for violations of the CHSH inequalities.

*) Response to the "Minor comments - On page 2, 5th line of the left column there is a repetition of 2 an:

thank you; I eliminated one extra "an"

*) Response to the "Minor comments - It would be nice to say why conditions on page 4, are named VI and RE.

thank you; I have substituted "VI" by "value indefiniteness", and "RE" by "relational encoding" in all occurrences, in particular, also in the following sections.