We present a detailed formalization of Lipschitz and Wadge games in the context of second order arithmetic (SOA) and we investigate the logical strength of Lipschitz and Wadge determinacy, and the tightly related Semi-Linear Ordering principle. We show that the topological analysis of the complete sets in Hausdorff difference hierarchy (with respect to Wadge reducibility) developed in [2] can be adapted to prove the determinacy of these games in SOA. As a result, we extend the work developed in [1] and characterize the basic systems from Reverse Mathematics WKL_0, ACA_0, and ATR_0 in terms of these determinacy principles.

Given two formula classes Γ_1 and Γ_2 in the language of SOA, let (Γ_1, Γ_2)-Det_L denote the principle of determinacy for Lipschitz games in the Baire space where player I's pay-off set is Γ_1-definable and player II's pay-off set is Γ_2-definable. A similar principle for Wadge games is introduced and denoted by (Γ_1, Γ_2)-Det_W. Likewise, let (Γ_1, Γ_2)-$\mathsf{SLO}_{L/W}$ denote the corresponding semi-linear ordering principles. If $\Gamma_1 = \Gamma_2 = \Gamma$ then we simply write Γ-$\mathsf{Det}_{L/W}$ or Γ-$\mathsf{SLO}_{L/W}$ and, when restricting ourselves to games in the Cantor space the corresponding principles are denoted by Det^* and SLO^*. Regarding games in the Cantor space we prove that:

1. Over RCA_0, Δ^0_1-Det^*_L and WKL_0 are equivalent.
2. Over RCA_0, Σ^0_1-Det^*_L, $\left(\Sigma^0_1, \Sigma^0_1 \wedge \Pi^0_1\right)$-$\mathsf{SLO}^*_{L/W}$, and ACA_0 are pairwise equivalent.
3. Over WKL_0, Σ^0_1-Det^*_W, Σ^0_1-$\mathsf{SLO}^*_{L/W}$, and ACA_0 are pairwise equivalent.
4. Over RCA_0, Δ^0_2-Det^*_L and ATR_0 are equivalent.

As for games in the Baire space we prove that:

1. Over RCA_0, $\left(\Delta^0_1, \Pi^0_1\right)$-$\mathsf{Det}_L$, Π^0_1-Det_L, and ATR_0 are pairwise equivalent.
2. Over ACA_0, Δ^0_1-Det_L, Δ^0_1-SLO_L, and ATR_0 are pairwise equivalent.
3. Π^1_1-CA_0 proves $\left(\Sigma^0_1 \wedge \Pi^0_1\right)$-$\mathsf{Det}_{L/W}$.

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► INÉS CRESPO AND ALBA MASSOLO, *Arguments against a Bayesian approach to the normativity of argumentation*.
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Corner and Hahn [3] argue in favor of a Bayesian grounding of normative standards for rational argumentation. We wish to take issue with this strategy, attacking two different angles.

Corner and Hahn find support in [4], but this sort of study presupposes logical monism, while in the past decades logical pluralism has become a strong position in the philosophy of logic [1, 2]. Assuming a contextual logical pluralism, we argue in favor of an externalist characterization of the normativity of logic, where practices themselves are to be seen as sources of normative standards for rational argumentation. Besides, Corner and Hahn's endorsement of a Bayesian account assumes that rational argumentation is only, or mostly, evidence-based reasoning. However, this model seems inadequate if one considers different contexts of argumentative practices, such as the case for mathematics.

Corner and Hahn claim that intuitions about argument strength, or logical validity, match the adequacy of Bayesian formalization as providing normative standards for rational

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argumentation. However, this match doesn't show whether those intuitions play any role as normative standards. Furthermore, one should wonder whether anyone's intuitions count. Resnik [5] claims that only expert's intuitions count when it comes to fixing the reflective equilibrium issued by inferential practices. By contrast, we argue that one can see normative standards be issued, not by individual's intuitions, but rather by the argumentative practices which take place within different communities.

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► VINCENZO CRUPI, ANDREA IACONA, AND ERIC RAIDL, *The logic of the evidential conditional*.

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In a recent work, Crupi and Iacona [1] have suggested an account of conditionals—the *evidential account*—which rests on the idea that a conditional is true just in case its antecedent supports its consequent. The idea that A supports C is spelled out in terms of two conditions. One is the *Ramsey Test* as understood by Stalnaker and Lewis: in the closest possible worlds in which A is true, C must be true as well. The other is the *Reverse Ramsey Test*: in the closest possible worlds in which C is false, A must be false as well. They call *Chrysippus Test* the conjunction of the Ramsey Test and the Reverse Ramsey Test.

The paper implements the Chrysippus test in a possible world semantic and presents a system of conditional logic which we show to be sound and complete for the evidential account. The proof adapts a general method elaborated by Raidl [2]. For this, the following insights are used: the evidential conditional can be defined from a known Lewisean conditional as a conjunctive strengthening of the latter. Conversely, and less obviously, the Lewisean conditional is back-definable from the evidential conditional. This is expressed by a translation between the languages of the two conditionals. It is this bridge which allows transferring results from the known Lewisean conditional to the defined conditional, as we show in [3]. We discuss the laws of the new logic for the evidential conditional, as well as some derived laws, including disjunctive rationality and some connexive principles.

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► AIGERIM DAULETIYAROVA AND VIKTOR VERBOVSKIY, *On local monotonicity of unary functions definable in o-stable ordered groups*.

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