

ANDREI SIPOȘ, *Playing with the logic of Moisil: nuances, games and representations.*

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Moisil algebras arose from a failed, but arguably fruitful attempt to give an algebraic semantics to the finitely-valued logic of Łukasiewicz. When they were deemed to be inadequate by being unable to properly represent Łukasiewicz implication, a separate logic was devised for them, thus bringing forward a new area of intensive study. A relatively short introduction is [Cig70], while an exhaustive monograph from the early 1990s is [BoiFilGeoRud91]

Following recent advances with regard to the structure [Leu08] and axiomatization [DiaLeu15] of the algebras of Moisil, we now present new results regarding the corresponding logic. On the syntactic side, we derive a normal form theorem that also characterises those many-valued functions which are representable by a Moisil formula. On the semantic side, we attempt to give a new way of looking at the meaning of these formulas, through the lens of guessing games. These results are joint work with Denisa Diaconescu and Ioana Leuştean.

References

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