Aristotle's Square in a Logic of Scientific Discovery

Christopher Dartnell, Dominique Luzeaux, Jean Sallantin

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Christopher Dartnell
christopher.dartnell@euriware.fr

Dominique Luzeaux
dominique.luzeaux@polytechnique.org

Jean Sallantin
js@lirmm.fr

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Abstract

We present our use of Aristotle's square and its extensions (see [1] [2]) to formalize a pragmatic logic of scientific discovery. We provide an interpretation of the resulting hypercubic structure to frame the paraconsistent and paracomplete representation of the computation of a theoretical predictive model corroborated by experimentation. This activity of producing a predictive and explicative model is at the core of the scientific interactive process of publication, refutation, and model confrontation that occurs during the construction of a consensual theory by a community. Finally, we describe in a constructive way how this logic can be achieved by a hierarchical and modular community of auto-epistemic and adaptive agents, as in [3].

References

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