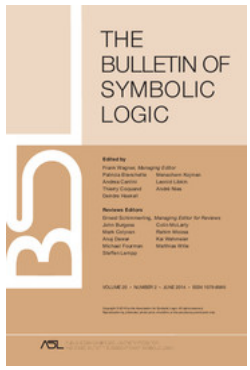

2013 EUROPEAN SUMMER MEETING OF THE ASSOCIATION FOR SYMBOLIC LOGIC LOGIC COLLOQUIUM '13 Evora, Portugal July 22–27, 2013

The Bulletin of Symbolic Logic / Volume 20 / Issue 02 / June 2014, pp 204 - 255
DOI: 10.1017/bsl.2014.10, Published online: 26 June 2014

(3) *There exists a* Δ^0_4*-computable Friedberg enumeration of* $\mathcal{E}^c_\lambda/\cong_{\Delta^0_1}$.

(4) *There is no* Δ^0_3*-computable Friedberg enumeration of* $\mathcal{E}^c_\lambda/\cong_{\Delta^0_1}$.

This work was supported by RFBR (grant 11-01-00236), by the Grants Council (under RF President) for State Aid of Leading Scientific Schools (grant NSh-276.2012.1), and by the Federal Target Grant "Scientific and academic specialists for innovations in Russia" for the years 2009–2013 (Agreement No. 8227).

[1] S. S. Goncharov. ***Countable Boolean algebras and decidability***. Siberian School of Algebra and Logic, Consultants Bureau, New York, 1997.

[2] N. T. Kogabaev. *Universal numberings for constructive I-algebras*. ***Algebra and Logic***, vol. 40 (2001), no. 5, pp. 315–326.

► LAURENT BIENVENU, RUPERT HÖLZL, CHRISTOPHER PORTER, AND PAUL SHAFER, *Algorithmic randomness and semimeasures*.
LIAFA, Université Paris Diderot – Paris 7, Case 7014, 75205 Paris Cedex 13, France.
E-mail: laurent.bienvenu@computability.fr.
Institut für Theoretische Informatik, Mathematik und Operations Research, Fakultät für Informatik, Universität der Bundeswehr München, Werner-Heisenberg-Weg 39, 85577 Neubiberg, Germany.
E-mail: r@hoelzl.fr.
LIAFA, Université Paris Diderot – Paris 7, Case 7014, 75205 Paris Cedex 13, France.
E-mail: christopher.p.porter@gmail.com.
E-mail: pshafer@liafa.univ-paris-diderot.fr.

Although Martin-Löf randomness for various probability measures is wellunderstood (for both computable and noncomputable measures), there is no canonical definition of Martin-Löf randomness with respect to a semimeasure, where a semimeasure can be seen as a defective probability measure (as it need not be additive). In this talk, I will discuss some ongoing work on the problem of providing a natural and useful definition of Martin-Löf randomness with respect to a lower semicomputable semimeasure (or equivalently, a semimeasure that is induced by a Turing functional). I will introduce several candidates for such a definition, considering how they relate to another, as well as the relative strengths and weaknesses of each candidate definition.

► LAURENT BIENVENU, LUDOVIC PATEY, AND PAUL SHAFER, *Reverse mathematics: Classifying principles by the no randomized algorithm property*.
LIAFA, Université Paris Diderot – Paris 7, Case 7014, 75205 Paris Cedex 13, France.
E-mail: laurent.bienvenu@computability.fr.
E-mail: pshafer@liafa.univ-paris-diderot.fr.
E-mail: ludovic.patey@computability.fr.

A principle P studied in reverse mathematics has the *no randomized algorithm* (*NRA*) *property* if when picking a sequence of X_i at random, and considering the ω-model M consisting of the reals which are computable from some finite join of the X_i, then the probability that M is a model of P is zero.

We provide a classification of almost every principle of the current reverse mathematics zoo in terms of the NRA property by providing proofs of NRA property for very weak principles in the zoo. This provides easy separation results like rainbow Ramsey theorem for pairs (RRT^2_2) implies neither the stable version of thin set for pairs ($\mathsf{STS}(2)$) nor the stable version of Erdős Moser theorem (SEM).

► CAROLINA BLASIO, CARLOS CALEIRO AND JOÃO MARCOS, *On B-entailment*.
IFCH/UNICAMP, Cidade Universitária "Zeferino Vaz" – Rua Sérgio Buarque de Holanda, 251 – Barão Geraldo – 13083-859 – Campinas, SP, Brazil.
E-mail: carolblasio@gmail.com.
Department of Mathematics, IST/UTL, Lisboa, Portugal.
E-mail: ccal@math.ist.utl.pt.

DIMAp/UFRN, Campus Universitário – Lagoa Nova – 59078-970 – Natal – RN, Brazil.
E-mail: jmarcos@dimap.ufrn.br.

The received notions of logical consequence, either introduced by semantical means or by way of some proof formalism, or even studied in their own right as abstract relations/operations between sentences or collections of sentences, are often explicated in terms of standard judgments such as assertion and refutation/denial. As a matter of fact, from the semantical viewpoint such judgments are often confused with truth-values. For a fresh view on the matter, we propose substituting judgments by a richer collection of cognitive attitudes concerning acceptance or rejection, by an agent, of a given piece of information, and organize such attitudes into an opposition structure from which we show how to extract a generous four-place notion of entailment, henceforth called B-entailment, that generalizes the well-known approaches by Tarski and by Shoesmith & Smiley ([5]). We study and prove a general characterization result about the underlying abstract consequence relations in terms of a bilattice-based structure of truth-values, show that it extends earlier results by G. Malinowski and S. Frankowski ([4, 3]), and show how this connects to recent research on the structure of truth-values ([6]). Finally, we prove a normal form result that shows how the B-entailment formalism is expressive enough so as to define any 4-valued (partial) nondeterministic matrix ([1, 2]).

[1] Arnon Avron and Iddo Lev. *Non-deterministic multiple-valued structures*. ***Journal of Logic and Computation***, vol. 15 (2005), no. 3, pp. 241–261.

[2] Matthias Baaz, Ori Lahav, and Anna Zamansky. *Effective finite-valued semantics for labeled calculi*. ***IJCAR 2012*** (Manchester) (B. Grämlich and D. Miller and U. Sattler, editors), Lecture Notes in Artificial Intelligence, vol. 7364, Springer, Berlin, 2012, pp. 52–66.

[3] Szymon Frankowski. *Formalization of a plausible inference*. ***Bulletin of the Section of Logic***, vol. 33 (2004), pp. 41–52.

[4] Grzegorz Malinowski. *Q-consequence operation*. ***Reports on Mathematical Logic***, vol. 24 (1990), no. 1, pp. 49–59.

[5] D. J. Shoesmith and Timothy J. Smiley. ***Multiple-conclusion logic***. Cambridge University Press, Cambridge, MA, 1978.

[6] Yaroslav Shramko and Heinrich Wansing. ***Truth and Falsehood: An inquiry into generalized logical values***. Springer, Berlin, 2011.

► WILL BONEY AND RAMI GROSSBERG, *Forking in abstract elementary classes*.

Department of Mathematical Sciences, Carnegie Mellon University, 5000 Forbes Avenue, Pittsburgh, PA, 15232, USA.
E-mail: wboney@andrew.cmu.edu.
URL Address: http://www.math.cmu.edu/~wboney/.
E-mail: rami@cmu.edu.
URL Address: http://www.math.cmu.edu/~rami/.

We outline work to develop a forking-like relation over models, for Abstract Elementary Classes under mild assumptions (stability, tameness, type-shortness, and existence). This replaces and extends a much more complicated notion of Shelah called good λ-frame. After describing the basic properties of this relation, we will explore extensions, such as the U rank and local character.

► BRANISLAV BORIČIĆ, *Multiple von Wright's preference logic and social choice theory*.

Faculty of Economics, University of Belgrade, Kamenička 6, 11000 Beograd, Serbia.
E-mail: boricic@ekof.bg.ac.rs.

We define the multiple von Wright's preference logic, a generalized version of the basic von Wright's preference logic (see [5] and [6]), allowing to express simultaneously individual P_i and social P preference relations. In this context, for instance, the Pareto rule gets the following form $\bigwedge_{1\leq i\leq n} AP_iB \rightarrow APB$. This, simple and almost propositional system, makes possible to analyze the crucial results of the Arrow–Sen theory (see [1], [3] and [4]), as well as to consider some new mutual relationships between social choice theory axioms (see [2]). It is possible to prove the analogs to well-known Arrow's and Sen's impossibility theorems,