FACULTY OF ARTS
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IN PRAGUE

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A REPORT ON THE THESIS

Mrva, M. Reflection principles and Large Cardinals

submitted at the Department of Logic, Faculty of Arts, Charles University in August 2016 in partial satis-faction of the requirements for the degree Bachelor of Philosophy in Logic.

The topic of the thesis is the relationship between the so-called Reflection principles and large cardinal axioms in Set Theory. The thesis is written in English, and though much improved from the first version, it still contains many mistakes contributing to the impression that the author had little time to proof-read the text. There is a slight inconsistency in citation style, the author can't decide whether to cite in footnotes (as is common in the humanities; see footnote 1 on page 4) or directly in thext (as is more common in mathematical texts). Additionally, starting on p. 19, the text is typeset in a completely different font (probably due to an unbalanced TEX environment; while this is an understandable mistake to make, it is not understandable that the author did not notice it or correct it).

The factual content of the thesis is again much improved when compared to the first version. Unfortu-nately, many serious mistakes are still present. For example the definition of the empty set (1.5) is wrong, definition 1.14 refers to a *set* where *class* would be more appropriate, definition 1.15 refers to the class Ord which is only defined later, the formulation of the axiom of choice is wrong, axiom of regularity is not defined but refered to (should be foundation), the definition of cardinality (1.32) is wrong and the next definition 1.33 uses the undefined notion of a *cardinal*. This is only defined in definition 1.34, but this makes it a circular definition. The proof of lemma 1.45 is wrong. Definition 2.3 is wrong, as is definition 2.5, and the list could continue.

Overall the thesis looks rather like a promising first draft then a finished thesis. On the other hand, the author has chosen a complicated topic and it seems that he spent considerable amount of work trying to understand it. I therefore hesitate to unconditionally reject the thesis. Although I strongly recommend that the thesis be **returned for yet another revision**, I would be willing to consider awarding it a passing grade, provided the author satisfactorily answers the following questions during thesis defense:

What is the problem in definition 1.18?

Why one cannot do without replacement in definition 1.29?

What is wrong with definition 2.3? (Hint: can V_α be a model of ZFC for some countable α?)

What is essential about choosing xs of minimal rank in the proof of 2.11?

What is wrong with the statement, found on p. 45, that "P is a function" is a first-order formula?

What is wrong with definition 3.38? (Hint: Is it definable?)

Hamburg, September 7, 2016   *Jonathan Verner, PhD.*

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