measurable, has the property of Baire and is Ramsey, all $n < \omega$. And if there are $\omega + 1$ Woodin cardinals (actually ω Woodin cardinals plus a measurable cardinal above them all suffices), then the same holds for every set of reals in $L(\mathbb{R})$. Now this is indeed a *Happy end*, since by later results of Martin and Steel (see *Iteration trees*, reviewed below), the existence of n Woodin cardinals is consistent with the existence of a non-Lebesgue-measurable $\mathbf{\Sigma}^1_{n+2}$ set of reals.

Given the enormous importance of the theorems proved in the paper, it is unfortunate that it is written in a somewhat peculiar way and that the proofs omit many non-trivial details. Thus, the paper can only be fully understood by proficient set theorists who are already familiar with the subject matter. A further annoyance is that, apparently, the paper was not carefully edited before its publication: some references to the literature are wrong, several cross-references do not match, some non-standard notations are left undefined, and there are quite a number of typographical errors and small mistakes. Before going through the paper, the interested reader is therefore advised to consult section 3 of the aforementioned paper by Foreman, Magidor, and Shelah [F-M-S] and Chapters V and XI of Shelah's ***Proper and improper forcing***.

Further results than those contained in the paper under review have been proved by Woodin (*Supercompact cardinals, sets of reals, and weakly homogeneous trees*, JSL LVII 1132), where he shows that the existence of a supercompact cardinal implies that every set of reals in $L(\mathbb{R})$ is the projection of a weakly homogeneous tree, a very strong property that implies Lebesgue measurability, Baire property, and so forth. The result also follows from the existence of infinitely many Woodin cardinals with a measurable cardinal above them all. Finally, Martin and Steel [M-S] proved that the existence of infinitely many Woodin cardinals implies that all projective sets are determined and, by Woodin's result, that if there exist infinitely many Woodin cardinals with a measurable cardinal above them all, then all sets of reals in $L(\mathbb{R})$ are determined.

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D. A. MARTIN and J. R. STEEL. *Iteration trees*. ***Journal of the American Mathematical Society***, vol. 7 (1994), pp. 1–73.

The main result announced in this paper is the construction, assuming the existence of a Woodin cardinal, of an inner model with a Woodin cardinal and a Δ^1_3 well-ordering of the reals; however, this statement does not fully explain the continuing importance of the paper. The model itself is unsatisfactory (for example, it is not known whether it satisfies the GCH) and is now largely obsolete, but the techniques used to construct it represent a major breakthrough and provide the foundation for most of the explosive growth of inner model theory since the paper's publication in 1994.

The development of inner model theory leading to this paper, and the problems that it solved, are very nicely described in the introduction which should be of general interest even to those who are not interested in the technical details. Briefly, recall that the success of Gödel's L, the original inner model, depends largely on the following crucial property: given any two well-founded models of the sentence "$V = L$," one of the models is an initial segment of the other. In order to obtain inner models with a measurable cardinal, and later to obtain models with sequences of measurable cardinals, it was sufficient to modify this property to state that any two such models have iterated ultrapowers, one of which is an initial segment of the other. In order to construct models approaching a Woodin cardinal these straightforward linear iterated ultrapowers must be replaced by *iteration trees*, in which an extender E_α may be applied not to the model M_α of which it is a member, but instead to some earlier model M_{α^*} of the iteration. This greatly complicates the problem of showing that a