1106-03-143 **Menachem Magidor*** (mensara@savion.huji.ac.il), Institute of Mathematics, Hebrew University of Jerusalem, 91904 Jerusalem, Israel. *Inner models constructed using generalized logics.*

The constructable universe L is built by a series of stages where each successor stage is the set of (first order) definable subsets of the previous stage.The problem with L is that it misses many canonical objects like $0^\sharp$.

One possible attempt to define a rich class of inner models is by imitating the construction of L but using definablility by stronger logic. A classical theorem of Myhill and Scott claims that if we use second order logic we get HOD -The class of sets hereditarily ordinal definable.HOD is not very canonical ,it depends very much on the universe of Set Theory from which we start.

This work (which is joint work with J.Kennedy and J. Vaananen) st udies the inner models we can get by using logics which are between first order logic and second order logic. e.g. The logic of the quantifier $Qx, y\Phi(x, y)$ which means "The formula $\Phi(x, y)$ defines a linear order which has cofinality ω. The model we get is rather canonical (in the presence of large cardinals) and contains many canonically definable objects.

We shall similar results for other extended logics. (Received September 13, 2014)