Hochas and minimal toposes

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This talk presents the speaker's attempts to understand the notion of higher-order cylindric Heyting algebra (hocha) introduced by Dito Pataraia. We show that there is an equivalence of categories between the category of (finitary) hochas and the category of (locally small) toposes which satisfy a certain minimality property and isomorphism classes of logical functors between them. Since all minimal toposes occur as limit-slices (in the sense of Peter Freyd) of the free topos *F* on no generators, we conclude that the category of hochas is nothing other than the ind-completion of the dual of *F*.