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Louis H Kauffman* (kauffman@uic.edu), 5530 South Shore Drive, Apt 7C, Chicago, IL 60637-1946. *Simplicial Homotopy Theory, Link Homology and Khovanov Homology*. Preliminary report.

The purpose of this talk is to point out that simplicial methods and the well-known Dold-Kan construction in simplicial homotopy theory can be fruitfully applied to convert link homology theories into homotopy theories. The construction is independent of the particular link homology theory. A simplifying point in producing a homotopy simplicial object in relation to a chain complex occurs when the chain complex is itself derived (via face maps) from a simplicial object that satisfies the Kan extension condition. Under these circumstances one can use that simplicial object rather than apply the Dold-Kan functor to the chain complex. We will give examples of this situation in regard to Khovanov homology. The purpose of this talk is to discuss the basic relationships for using simplicial methods in this domain. Thus we do more than just quote the Dold-Kan Theorem. We give a review of simplicial theory and we point to specific constructions, particularly in relation to Khovanov homology, that can be used to make simplicial homotopy types directly. (Received January 21, 2017)