Ontogenic analysis is the process of following a subject through an indexing language. There are many open questions about the power of this method, but more and more people find it useful.

**SUBJECT ONTOGENY**

Subject ontogeny is *the life of the subject* in an indexing language (e.g., classification scheme like the DDC). Examining how a subject is treated over time tells us about the anatomy of an indexing language. For example, gypsies as a subject has been handled differently in different editions of the DDC.

**SCHEME CHANGE**

Indexing languages (schemes) change over time. They do so to stay up to date. However, there are implications for discoverability when schemes change. Understanding how schemes change is part of ontogenic analysis and helps designers think about their future users.

**COLLOCATIVE INTEGRITY**

If an indexing language changes over time, how does that affect the power of the scheme to collocate? Is there a threshold below which a scheme becomes useless?

**COORDINATE ENUNCIATION**

Once we have examined the life of a subject, we want to ask whether the concepts in the indexing language match those contemporaneously published literature. We can now mine HathiTrust data to answer these questions.

**ARCS: TEMPORAL UNITS OF ANALYSIS**

When we examine change, we need to consider what timescale we operate on. Arcs are one way to do this. We can examine change in long time over different versions, different practices in the same version, and different stages of a single analysis using the same version.

**SEMANTIC GRAVITY**

Linked to collocative integrity, semantic gravity is the weight of the out dated class number in cataloguing practice. Often libraries will keep an old number because they think it helps users.

**STRUCTURAL, WORD-USE, AND TEXTUAL CHANGE**

There are three kinds of change that occur through revising an indexing language (scheme). The first kind is *structural change*, which affect the semantics of the scheme because they change the relationships that obtain between values in a scheme. E.g., moving eugenics out of biology.

Word-use change affect meaning, but not structure *per se*. An example of word-use change is changing gipsies-outcast races to people with status defined by changes in residence.

Textual changes are changes in the semantic relationship between the scheme and the literature it organizes. For example you can find collections that use the DDC that has both “sanitation of the race” books and “berries, nuts, and seeds” books in the same class.