

Yale Linguistics Colloquia Series, Fall 2005

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Title: **The Subset Principle: Essential but Impossible?**

Date: Monday, October 10, 2005
Time: 4:00pm

Abstract:

The Subset Principle is essential to avoid overgeneration in language acquisition, on two widely-held assumptions: (a) there is insufficient negative data to disconfirm all overgeneral hypotheses any learner might be tempted to adopt in the absence of SP; (b) it is not practical to rely on retreat mechanisms to cure all such imaginable overgeneration errors after they have occurred. Despite this, no currently implemented model of human syntax acquisition (including our own) incorporates the Subset Principle. Why is this so?

Our observations suggest that implementing the Subset Principle demands unrealistic resources of either on-line computation or memory. Before adopting a grammar G_i in response to input, the learner would have to check out all grammars which generate proper subsets of G_i 's language to see whether any of them could accommodate the input. One scheme for reducing this vast labor is Manzini & Wexler's proposal that subset choices can be made simply by favoring the default value of each parameter.

In our research we have discovered that this needs serious reinforcement if it is to contend with challenges such as: how does the learner establish which parameters are candidates for resetting; what if more than one parameter needs resetting at a time; when one parameter is set 'forward' to its non-default value, SP requires all others to be set back to their defaults; in incremental learning (widely assumed) the learner knows only its current grammar and its current input sentence, so adopting the smallest language compatible with the available input means adopting an absurdly small language lacking most of the phenomena the learner had previously acquired.

We welcome your suggestions about how to cope with these problems. At present no definitive solution is known, but we are exploring the benefits of adding some memory for past inputs and/or past grammar hypotheses.