

The Mind Articulation Project: Prospects

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The achievements of the Mind Articulation Project at JST and at MIT will be given in some detail in the remarks of Professors Miyashita and Marantz as well as in several of the papers presented at this symposium by other persons connected with the Project. It is my task here to discuss what I believe to be the long-term consequences of the Project, its future.

It is, of course, impossible to predict the future of most things with any degree of clarity or success; yet I believe it is possible to outline where the work of the Project will likely go on the basis of where it has been during the several years of its life. In my remarks, I will focus on the likely consequences of two achievements of the Project:

- the fruitful collaboration that has been established between and among persons working with the Project in the United States and in Japan, collaborative research that would not have taken place without the Project's existence;
- the reunified (in Marantz's sense) linguistics education of the graduate students and the post-doctoral research associates in the Project, education that would not have been possible without the Project's existence.

Collaboration. Professor Kuniyoshi Sakai's role in the Project is perhaps emblematic of the collaborative research the Project has fostered: Professor Sakai came to Broca's Area (the MIT site of the Project) late in 1996 as a Visiting Scientist. In his short time at MIT, Sakai absorbed a great deal of linguistic theory, returning to Japan in Spring 1997 to establish Wernicke's Area at the Komaba campus of the University of Tokyo, one of the Tokyo sites of the Project. And it is in Wernicke's Area that the research that led to Embick et al. 2000 was conducted, a true unification of the two areas.

The collaboration continues; for example, Sakai together with David Poeppel and Colin Phillips has now proposed to work on the brain mechanisms of sentence processing, "bring[ing] together [in the language of their proposal] a group from Japan with expertise in cellular mechanisms for representing combinatorial information, and a group from the United States with expertise in dynamic models of linguistic processes. Through a merger of the neuroscientific and linguistic mechanisms identified independently by the two groups, a detailed linking hypothesis emerges for the neural encoding of linguistic structures."

It is this sort of collaborative research that we expect to continue to grow out of the working relationships that have been established by the Project.

Education and training. Marantz writes about the reunification of theoretical and psycho-/neuro-linguistics that has characterized the Project. It is important to point out that the clearest manifestation of this reunification is in the people who have been educated through the Project and who have "graduated" from it over the past few years. To mention just four persons who

have worked in the Project and who have now moved on to research that they could not have imagined doing when they first arrived at MIT:

Colin Phillips, the first Mind Articulation Project post-doctoral research associate, is now a member of the linguistics faculty at the University of Maryland/College Park, carrying on research in Maryland's Cognitive Neuroscience of Language Laboratory. This laboratory is co-directed by David Poeppel, who -- although he precedes the Project -- is in fact the first true graduate of the Project.

David Embick, formerly a post-doctoral research associate in the Project, is now a member of the linguistics faculty at the University of Pennsylvania and of Pennsylvania's Institute for Research in Cognitive Science. While a post-doc, Embick's presence in both Broca's and Wernicke's Areas unified the two physically and intellectually.

Martin Hackl, a recent graduate of the MIT linguistics program and formerly a Research Assistant in the Project, is now a post-doctoral research associate in Maryland's Cognitive Neuroscience of Language Laboratory.

Jonathan Nissenbaum, also a graduate of the MIT linguistics program, formerly a Research Assistant in the Project and now a member of Harvard University linguistics faculty, is the recent recipient of an NIH research fellowship. His research will investigate how the brain represents the primitive phonetic features by means of which speakers and hearers store the forms of words in memory.

As you will learn from Marantz's and from Liina Pytkänen's presentations, the education and training that the Project offers continues and will continue with ever more interesting research results.

Reference.

David, David, Alec Marantz, Yasushi Miyashita, Wayne O'Neil, & Kuniyoshi L. Sakai (2000). A syntactic specialization for Broca's area. *Publications of the National Academy of Sciences*, 94: 6150-6154.