

Haskins Laboratories Strategic Plan

2009

Haskins Laboratories

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May 12, 2009

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Introduction

Haskins Laboratories *Mission Statement*

Haskins Laboratories is an independent, international, multidisciplinary community of researchers conducting basic research on spoken and written language. Exchanging ideas, fostering collaborations, and forging partnerships across the sciences, it produces groundbreaking research that enhances our understanding of — and reveals ways to improve or remediate — speech perception and production, reading and reading disabilities, and human communication.

Historical Context

The **Haskins Laboratories Strategic Plan: 2009** is based on the “*Report of the Haskins Laboratories 2008 Strategic Planning Committee*,” released on March 18, 2009. The 2008-2009 strategic planning process follows from, and extends, three earlier exercises (Strategic Planning Committee in 1997; Long-Range Planning Committee in 2001; and the Strategic Planning Committee (SPC) in 2005; key recommendations from these earlier exercises are summarized in Appendix 1). In the last decade the Laboratories has grown considerably and research themes have diversified. In part this growth and diversification was a result of the overall increase in funding at the National Institutes of Health (NIH) and of our portfolio shifting from a primary reliance on program projects (A-40, A-64) to a relatively greater emphasis on investigator-initiated NIH proposals (R01s). This portfolio change has resulted in an infusion of new people, energy, skills, and many new research ideas, but at the same time presents a potential challenge to cohesion, communication, and interaction among Haskins research groups. At its heart, Haskins Laboratories exists as a center — a place where synergistic cross-disciplinary collaborations lead to unique theoretical and empirical accomplishments. Perhaps the best example of the rich scientific yield stemming from this synergistic approach is the 40 plus years of cutting edge work on the “Nature and acquisition of the speech code and reading” (our continuing A-40 program project). The empirical discoveries that A-40 has produced have promoted important theoretical developments in our understanding of speech perception, speech production, and phonological competence. Moreover, they have fed our understanding of the relation of speech to reading, clarifying, in particular, the parasitic relation of reading, a cultural invention, to speech, a result of human evolution.

Pioneering research at the Laboratories underscored first the reality of a tight linkage of speech production to speech perception in the cognitive systems of language users. Later research promoted the development of cohesive and mutually compatible theories of speech perception by listeners, of speech production by talkers, and of linguistic phonology by language users who adopt both roles. Moreover, the discoveries that we have produced in charting the relation between written and spoken language range from the importance of phonological awareness in literacy acquisition to the crucial role of sub-lexical phonology in visual word identification across languages varying in orthographic transparency. More recently, research progress has been aided by new tools in neuroimaging that are useful for illuminating the brain bases of typical and atypical development in speech and reading. The ongoing research from this program project has had substantial and sustained impact, both nationally and internationally, on theory and practice in reading instruction and remediation. It can be reasonably claimed that none of these discoveries would have been possible without the synergistic, interdisciplinary focus allowed by the program project mechanism.

At this juncture, we need to evaluate our current research and institutional priorities to ensure that Haskins remains at the forefront of research on human communication in all of its forms. Strategic planning is especially timely given: 1) shifting funding priorities at NIH; 2) a transition from one generation of researchers to a larger influx of young researchers with new skills and new questions; 3) the rapid explosion of new techniques and technologies in all of our respective disciplines; and 4) the need to improve the integration of the many research themes that have sprung up in recent years, including developments in translational research in both reading and speech relevant to treatment and best practice.

The 2008-2009 Strategic Planning Process

Our broad mandate was to develop a shared vision of Haskins Laboratories' future. To accomplish this we formed a *Strategic Planning Committee* (SPC) made up of 19 Haskins scientists, administrators and support staff (see Appendix 2 for a list). In addition, to gain external, and potentially critical, perspectives we organized a panel of outside experts designated

as the *Haskins Strategic Planning Scientific Advisory Committee* (HSPSAC) (see Appendix 3 for the HSPSAC list). The HSPSAC panel agreed to 1) provide feedback on the Strategic Plan; and 2) attend an annual meeting at the Laboratories to assess progress in plan implementation.

The SPC was asked to: 1) review our current institutional identity and direction; 2) conduct a thorough SWOT analysis (assess strengths, weaknesses, opportunities, and threats); 3) consider how best to position Haskins as an innovative intellectual and experimental hub; 4) identify future research directions and develop a vision statement; 5) consider how to improve our institutional infrastructure; 6) consider how to improve the nurturing and mentoring of the next generation of our scientists; 7) consider ideas to solidify and expand our partnerships; and 8) develop a process for regularly assessing progress and success on each front. A full narrative account of the strategic planning exercise, with a detailed presentation of results from the SWOT analysis, is presented in Appendix 4. The Strategic Plan is organized into two sections: 1) Key Research Goals, and 2) Key Institutional Goals.

Haskins Laboratories Strategic Plan: 2009

1) Key Research Goals

Overview: With regard to research priorities in the coming years, the Laboratories will need to strike a balance between new lab-wide initiatives generated from strategic planning and the preservation of an institutional culture that also encourages “bottom-up” directions arising naturally from ongoing interchanges among scientists in the varied content areas. Striking this balance will be a high priority and regular community-wide meetings will be convened to assure that we preserve this balance. In addition, new research themes receiving institutional resources and attention should reinforce and strengthen current research projects. Care is needed to preserve our strengths in current areas of research including, among others: continuing investigations into the role of phonology in speech and reading (i.e., maintenance and development of our A-40 Program Project is a high priority), links between production and perception, goals of speech production, dynamics of speech planning, the brain basis of speech and reading, individual differences and atypical reading, remediation of reading, cross-language comparative studies, computational modeling of speech and reading, and sign language. To this end, we begin with two “*continuing*” goals related to our ongoing work on speech and reading that will help to maintain and enhance current strengths, followed by three “*cross-cutting*” goals that will help to promote greater synthesis across major content areas. Finally, we propose two “*high priority new research*” goals. In choosing these two new initiatives that will receive enhanced attention and investment in the short-term, we considered both scientific importance and potential fundability at the center or program-project levels. Fundability is a non-trivial consideration given the challenges of securing federal support and major changes in NIH and other federal agencies’ research priorities.

Continuing Goals

Continuing Goal 1: Priorities in speech research

Ongoing research exploring the relation between production and perception, goals of speech production, and the dynamics of speech planning must be maintained. In addition, new speech research that would broaden the scope of current work in modeling and synthesis will be

supported and includes: increased focus on embodied/embedded cognition in speech perception/production, and continuing attention to the acoustic/articulatory basis of speech perception.

A traditional Haskins strength is in modeling and synthesis, and considerable in-house expertise is available to develop the next generation of Haskins models. Creation of a *working group to focus on next generation of acoustic and articulatory synthesis and modeling*, and the development of workshops, talks, and grant writing seminars thematically organized on technical issues in modeling and synthesis will be prioritized and led by the CEO and Vice President for Research along with core members from these content areas.

Continuing Goal 2: Priorities in reading research.

Haskins has long been at the forefront of research on reading development, reading disability, assessment, cognitive studies of skilled reading (including cross-linguistic comparisons of lexical access), the neural bases of skilled and less skilled reading, and links between reading and speech. Work has been theoretically grounded and methodologically cutting edge (i.e., from fast priming to eye-tracking to fMRI). Four broad themes that merit increased attention in the next phase of reading research were identified. First, while single word reading has been studied with tremendous sophistication at the Laboratories for many years and should continue, *syntax and comprehension in reading* need increased emphasis. Second, *changing technology might challenge some of our conceptions about how the reading process should be taught (e.g., technology in reading instruction and remediation; digital literacy skill development)*. Third, although Haskins has conducted foundational work on specific reading disability (both the behavioral and neurobiological bases), exclusive emphasis on the “tail of the distribution” of readers would leave many psychologically and educationally relevant questions unaddressed. These include questions about the larger percentage of struggling readers who are not reading disabled, but nonetheless lag behind due to complex combinations of neurobiological, environmental, and educational factors. (For example, major factors include instructional methods, bilingualism, and socio-economic status.) In addition, we must explore reading in a broader range of clinical populations including autism, Specific Language Impairment (SLI), low IQ, and deaf populations. Fourth, potential new applied research themes include collaborations with lab schools and schools for learning disabled children to explore optimal instruction

(already underway in several projects). In addition, development of Haskins approved assessment tools and web-based learning will be an important focus in the next phase of Haskins Literacy Initiative priorities.

Cross-cutting goals:

These broad methodological commitments are geared toward increasing cohesion across both the speech and reading domains, and assuring state-of-the-art research. Each will receive strong lab support in terms of training and workshops, as well as targeted new collaborations and partnerships.

Cross-cutting Goal 1: Increased emphasis on a lifespan approach to language

We will focus on how language changes with maturation and experience across the lifespan (from early development through aging and loss of plasticity). A lifespan approach presents measurement challenges, but it will encourage theoretical advances in our models of speech, language, and reading, a greater synthesis across content areas, and new collaborations within the Laboratories and with our partners. Although initial language acquisition (birth to five) will receive major prioritization in the near term (see "High priority new research goals" below), the general focus must be broader in the long term. Indeed, with respect to aging and language several Haskins investigators recently have formed an *aphasiology and aging interest group* and are examining potential projects focused on *injury and loss of plasticity in aging*. This theme will be encouraged by the Laboratories' administration, and we will consider funding sources such as the NIH National Institute on Aging (NIA) for proposals emerging from this interest group.

Cross-cutting Goal 2: Increased emphasis on integrated systems-level cognitive neuroscience.

Haskins has received positive attention in recent years for ongoing work on the neural basis of reading development and speech perception/production. The increased emphasis on cognitive neuroscience has filtered into a number of grants including A-40 and several R01s. This work has been generally well received because of its emphasis on systems-level analysis and its exploration of brain/behavior relations in the service of cognitive science theory. Although imaging research continues to grow here, several methodological advances are needed to allow

us to go beyond imaging as description into a deeper understanding of the mechanisms of typical and atypical language development. We will increase emphasis on the genetics of individual differences in language and reading and support methodological innovation in multi-modal imaging. (That is, we will integrate data from distinct but potentially complementary modalities such as EEG, fMRI, and structural imaging.) We will also increase computational neuroscience expertise to support research into the neuroanatomy and neurochemistry of language learning and plasticity. The Director of Research and Director of Neuroimaging will share responsibility for developing a multi-year plan to secure new grants and collaborations and to develop training and workshops to support this set of goals.

Cross-cutting Goal 3: Increased emphasis on learning and plasticity across domains.

Dynamical approaches to language have been a Haskins hallmark for many years. As we move toward increased emphasis on lifespan issues in language and promote greater focus on systems-level cognitive neuroscience, we must increase our use of research paradigms in all content areas that focus on how the language systems change with experience. Paradigms that stress adaptive learning, plasticity, and dynamics that underlie individual differences will be encouraged across core content areas. To these ends we also aim to increase staff expertise in formal computational approaches to learning and plasticity including *dynamical modeling and analysis*. This will be accomplished through new collaborations, staff talks, and thematic workshops.

High priority new research goals

In choosing two new initiatives that will receive enhanced attention and investment in the short term, we considered both scientific importance and potential fundability at the center level. Two major new lab-wide initiatives are proposed. These initiatives are: 1) consistent with extant lab mission and strengths; 2) extend current research themes in scientifically appropriate new directions; and 3) are suitable for center-level funding plans.

High Priority New Research Goal 1: Perception/action relations in typical and atypical “birth-to-five” development.

Assessment and rationale: As noted above, a lifespan approach to language will encourage theoretical advances in our models of language and reading, greater synthesis across research domains, and new collaborations within the Laboratories and with our partners. With regard to *early language*, the Laboratories has devoted significant resources to the Haskins *Child Language Studies* laboratory and development of this facility is vital to future growth. Both basic and clinical research on spoken language and reading will benefit significantly from an increased focus on *the onset of language and early emergence of risk*. Indeed, there is growing evidence from clinical research in specific language impairment, speech sound disorders, dyslexia, and autism that early problems in oral language development may be better predictors of later language and reading difficulties than measures of perception alone. Research on infant speech perception is conducted at numerous laboratories, but relatively few have focused on solving the problems of measurement and modeling related to early speech production development and perception/ production relations in typical and atypical populations.

Given our unique theoretical strengths in areas such as articulatory phonology and task dynamics, and our technological sophistication in modeling and studying production/perception relations in general, we propose a *Birth-to-five initiative with special emphasis on speech gestural development*. Broadly, we see this as an opportunity to generate center-level projects focused on both basic research on language acquisition and clinically significant research on the early identification of risk for speech, language, and later reading disorders. This new initiative must be grounded in an ecological context (with full consideration of the child and his/her environment) and thus will attend to the wide range of factors that can promote or retard language development and later reading readiness in this age range. Therefore, in addition to a cross-disciplinary focus on solving the measurement problems inherent in the study of speech-gestural development, we must also examine perception/action relations, physiological and neurobiological maturational constraints on development, effects of early language environment (e.g., infant-directed speech, bilingualism), individual differences in vocabulary and language learning, and links between speech and pre-reading skills.

The feasibility of this initiative is high given our current strengths in speech production and perception and reading readiness, and a solid partnership with the Montreal based Centre for Research on Language, Mind and Brain (where ongoing work on measurement of gestural development in young children is already underway). Technical resources available for this initiative include physiological modeling skill, ultrasound, EEG, and Near Infrared Spectroscopy (NIRS), along with state of the art facilities for behavioral testing and recruitment in the Haskins Child Language Studies laboratory.

Recommendations: A working group will be convened in the spring of 2009 to:

- Plan workshops and speaker series on language acquisition to commence by spring 2009.
- Identify concrete themes and necessary pilot studies.
- Generate initial R01 or R21 grant proposals by winter 2010.
- Explore possible funding mechanisms for the Birth-to-five initiative (e.g., P01, P20, at NIH or a National Science Foundation (NSF) Science of Learning Center (SLC)); our goal is to develop a program project level proposal by Spring 2010.
- Develop a plan for progress monitoring and establish meaningful timelines.

High Priority New Research Goal 2: Bilingualism.

Assessment and Rationale: Haskins is traditionally very strong in cross-linguistic comparative research (both in spoken and written language). There is growing interest, both in the scientific community and especially in the public health sector (NIH and IES), in gaining a better understanding of the cognitive and neurobiological foundations of bilingualism and bi-literacy, and associated difficulties. A lab-wide initiative on this theme is a high priority, and major funding is feasible with the addition of a few critical partners including colleagues at Penn State University, McGill University, and the University of Southern California, to our current community of international partners in satellite labs in several countries.

The *bilingualism* theme will facilitate and will be facilitated by other initiatives. For instance, our *Birth-to-five* theme will benefit from a focus on how varied primary language (L1) experience modulates the development of speech perception/production competence and pre-reading skills in a secondary language (L2) when L2 is English. Loss of plasticity in L2 learning with aging will connect with our lifespan focus on aging and loss of plasticity. Ongoing work on L1 vs. L2 speech perception (e.g., Cathi Best) and production (e.g., Lucie Menard), dialect (Hollis Scarborough), language immersion programs in indigenous populations (Ken Pugh), accent modification (Carol Fowler), L1/L2 morphology in reading (Laurie Feldman), and speech research in Thailand (Arthur Abramson), will add strength and context to general research on the cognitive and neurobiological mechanisms of bilingual processing. In addition, ongoing collaborations with our colleagues in Thailand, Finland, Beijing, Taipei, Korea, France, Israel, and other countries permit a concerted focus on L2 development in English among native speakers of a variety of languages literate in a variety of orthographies. Computational work by Mark Seidenberg, Jay Rueckl, and others, and a plan for building a Haskins cross-linguistic database are under discussion as well. Although Haskins is not particularly known for addressing bilingual research themes, the critical mass of talents and tools (including state of the art neuroimaging here and at other sites) make this both timely and desirable.

Recommendations: A working group will be organized in the spring of 2009 to:

- Plan workshops and speaker series on bilingualism to commence by summer 2009.
- Identify concrete themes and necessary pilot studies.
- Generate initial R01 or R21 proposal development by spring 2010.
- A center or program project proposal by fall 2010. Senior research leadership will be charged with monitoring success. Possible funding sources for bilingual work include the NIH, the Institute of Education Sciences (IES) at the U. S. Department of Education, the European Research Council, and the NSF.
- Develop a plan for progress monitoring and establish meaningful timelines.

2) Key Institutional Goals

Overview: Based on the initial analysis of strengths, weaknesses, opportunities, and threats (SWOT analysis summarized in Appendix 4), we identified several major domains related to career development, partnerships, communication, and alternative funding opportunities. At present, these are our priorities, listed as a set of goals. Senior management and staff will meet bi-monthly to assess progress on each of these themes. As needed, specific working groups will be formed to assess specific issues, and to ensure that institutional changes facilitate the successful implementation of the new research initiatives discussed above.

Goal 1: Promote career development and scientific productivity.

The issue of improvement in the *mentoring* of junior scientists (and corresponding relations with scientific productivity) is seen as an overriding institutional priority. Accordingly, a *Career Development Task Force* will be convened in the spring of 2009 with the goal of producing a report by the spring of 2010 that will focus on how to improve our support for career development and mentoring and to assure optimal productivity. This group will be led by the Director of Research and will consider various models of incentives, disincentives, mentoring, refinement of job descriptions and expectations for full- and part-time scientists, and management changes needed to support development. This task force will consider how to refine or implement the following recommendations:

Career Development Recommendations:

- Develop clear *job descriptions*.
- Articulate *productivity incentives and disincentives*.
- Refine our *annual review policy*, including recognition of various forms of service.
- Provide *clarity about institutional procedures and practices*, including assistance/support during unfunded periods.
- Provide *grant training* that covers the full grant lifecycle: from thinking about submitting a grant through writing, running, and administering one.

- Institute *professional development workshops*. Possibilities include a review of funding agencies; a review of grant opportunities; the development of grant proposals; tutorials on specific methods or technologies.
- Consider how to *obtain affiliations* at academic institutions for those full-time scientists who want them.
- Evaluate the *impact of the Haskins Laboratories affiliation* on part-timers' career development.
- Revisit the issue of *job titles*.
- Clarify current *barriers and opportunities related to recruitment, promotion, and retention*.
- Consider potential opportunities for "*bridge funding*."
- Identify steps that need to be taken related to *grooming from within and succession planning*.
- Identify strategies for *increased recruitment and retention of junior researchers*.

Recommendations for institutional modifications to support career development and increased productivity and morale.

- *Increase communication and collaboration within the community and create vehicles to cut across organizational levels and constraints:*
 - Institute regular, short *lab meetings* (at least quarterly) to provide updates about progress and concerns across all aspects of our endeavors. These meetings would include principal investigators (PIs), project leaders, interested scientists, educators, and relevant members of our administrative and technical support teams.
 - Designate *scientific group leaders* to help provide clarity of oversight for scientific research areas.
 - *Use the regular Haskins Staff Meetings as a vehicle for communication* about the diverse work currently taking place at the Laboratories and to provide an opportunity to hear from younger scientists.
 - Institute periodic *laboratory-wide theory meetings* on existing and emerging topics.

- Create a *task force for regular consideration of scientific/technical issues*, including the evaluation of and improvements in technical support.

- *Ensure that we have adequate scientific and technical support, including the equipment and resources needed to facilitate achievement of our scientific goals:*
 - *Evaluate the needs of the scientific community* (such as programming, engineering, technical), to determine the implications for support efforts and staffing.
 - *Enhance our remote work/access capabilities* and provide greater support for *collaborative communications and computing*.
 - Institute *long range infrastructure planning*. Evaluate needs and concerns related to personnel, space, equipment, communication capacity, and other areas.
 - Develop a *mechanism for proposing* the need for *new equipment*.
 - Create a standing committee to consider issues related to *human subjects concerns*.
 - Engage in *contingency planning* for catastrophe through the development of a formal continuity of operations plan (COOP).

- *Devote adequate resources to the development of: (1) an employee policy handbook; and (2) an employee handbook of procedures and practices.*

Goal 2: Enhance our scientific mission by strengthening existing partnerships and creating new ones.

Haskins has always been an intellectual hub and a virtual center. We have a long history of successful partnerships ranging from formal affiliations such as those with University of Connecticut and Yale University to grant-driven, long-standing ties with institutions such as the Kennedy Krieger Institute in Baltimore, Maryland. Changing priorities at NIH have brought increased attention to translational inter-disciplinary themes and this often requires multi-site collaborations to increase populations or resources available. The pressure for these partnerships will only increase and Haskins has always been ahead of the curve on this topic. We need to preserve and extend this in the coming years.

Recommendations:

- *Maintain and strengthen our connections to the University of Connecticut and Yale University*

Possibilities include:

- A potential physical presence at partner institutions.
 - Shared equipment grants.
 - Joint pre-doctoral training programs, IGERT-like grants and T-32 mechanism.
 - Occasional off-site team meetings.
 - Contribute to cognitive neuroscience initiatives at the University of Connecticut and Yale University.
 - Develop Haskins-led training courses and workshops at both institutions.
 - Give greater consideration to how people are paid: summer salaries versus consulting
 - Create a UConn-Haskins Working Group and a Yale-Haskins Working Group with regularly scheduled meetings to identify risks and develop strategies.
- *Explore local and regional opportunities for expanded research partnerships.*

Extant Possibilities include:

- Southern Connecticut State University.
 - Albertus Magnus College.
 - Quinnipiac University.
 - New York University.
 - Institutions that focus on teacher training, such as Sacred Heart University.
- *Formalize long-distance and international relationships*

Possibilities include:

- The Montreal based Centre for Research on Language, Mind and Brain (McGill University and Concordia University).
 - University of Southern California.
 - University of British Columbia.
 - University of Western Sydney.
 - University of Jyväskylä (Agora Center), Finland,
 - Institute of Cognitive Neuroscience, National Central University, Taiwan.
- *Other priorities:*
- Promote Haskins as an intellectual and technological “virtual” center, emphasizing the special nature of the skills and resources at the labs.
 - Center grants with funds distributed across partner institutions.
 - Increased attention to the needs of our partner institutions.

Goal 3: Pursue alternative funding opportunities.

Given the changing funding priorities at NIH and the increased challenges of securing federal support, we must consider new funding sources in conjunction with primary mechanisms.

Recommendations:

- Explore and evaluate the feasibility and potential impact of *for-profit and other corporate entities*, including LLCs and other spin-offs.
- Review our *Intellectual Property (IP) policy* and its interaction with NIH and other federal funding requirements.
- Actively pursue other *funding possibilities*, including different federal agencies and/or institutes and types of grants. Opportunities for foreign cross-country projects are viable and should be explored.
- Increase efforts, and administrative support, related to *foundation funding*.

- Improve our fundraising from individuals.
- Strengthen the linkage between our *fundraising and public relations activities*.
- Analyze the *overhead issues* related to these and other matters.

Goal 4: Develop effective vehicles/strategies for communicating our message.

We have made substantial improvements in communications and community involvement in recent years. These developments can support both the identification of new funding mechanisms and donor bases. We must continue to sharpen our communication skills to ensure that Haskins continues to draw new talent and new opportunities for collaboration.

Recommendations:

- *Haskins Newsletter* featuring information about new research, people, and grants.
(Notes: professionally-designed; distribution in PDF format via website and email to save costs; increase dissemination of relevant stakeholders.)
- *Brochures*: short, simple, focused brochures that feature important issues and/or areas.
- *Annual Report* that is attractive, eye-catching, and of professional design.
- *Consistency of “look and feel”* in all promotional materials.
- *High-profile speaker series* to attract visitors.
- *Featured Haskins speakers program*.
- *Haskins “tutorial” seminars* on a variety of themes and techniques.

- *Website enhancements*, particularly the development of a Haskins “*Kiosk*” and the creation of up-to-date, attractive *interactive, on-line tutorials* and demonstrations to capture the eyes, imagination, and hearts of visitors.
- *Community outreach* expansion, including the revival of the art shows.

Appendices

Appendix 1: Summary of previous planning exercises

Strategic planning is always ongoing. The work of the 2008 Strategic Planning Committee builds upon and extends work from a 1997 Strategic Planning Committee, a Long Range Planning Committee convened in 2001, and a 2005 Strategic Planning Committee. These exercises yielded the following goals and recommendations:

A. 1997 Strategic Planning Committee

- 1) Increased emphasis on speech production, child language, and applied reading research.
- 2) Diversification of our research portfolio, particularly via NIH funding, to emphasize a balance of individual investigator and program projects.

A renewed emphasis on bringing in a new generation of researchers and on discussion of how to handle this institutionally.

B. Long –Range Planning Committee

- 1) The move to a new facility to support current projects and to allow future growth.
- 2) Development and Communications: new website, case statement, brochures, public relations.
- 3) Recruitment of younger researchers.
- 4) Creation of a Child Language Studies laboratory.

Note that all of these goals were attained.

C. 2005 Strategic Planning Committee

This committee identified current strengths and weaknesses, identified future research directions, and addressed questions regarding staff development and mentoring. These discussions formed the starting point for the 2008 Strategic Planning Committee exercise. Increased focus on translational research in reading, greater emphasis on early speech and language development, better integration of neuroimaging with behavioral work, and increased mentoring for junior scientists were all seen as important priorities.

Appendix 2: 2008 Strategic Planning Committee

Larry Brancazio	Haskins Laboratories and Southern Connecticut University
Louis Goldstein	Haskins Laboratories and University of Southern California
Joseph Cardone	Haskins Laboratories
Richard Crane	Haskins Laboratories
Carol Fowler	Haskins Laboratories and University of Connecticut
Margie Gillis	Haskins Laboratories
Vince Gracco	Haskins Laboratories and McGill University
Julia Irwin	Haskins Laboratories and Southern Connecticut University
Khalil Iskarous	Haskins Laboratories
Jim Magnuson	Haskins Laboratories and University of Connecticut
Einar Mencl	Haskins Laboratories
David Ostry	Haskins Laboratories and McGill University
Kenneth Pugh	Haskins Laboratories and Yale School of Medicine
Philip Rubin (chair)	Haskins Laboratories and Yale School of Medicine
Jay Rueckl	Haskins Laboratories and University of Connecticut
Mark Seidenberg	Haskins Laboratories and University of Wisconsin
Christine Shadle	Haskins Laboratories
Julie Van Dyke	Haskins Laboratories
Douglas Whalen	Haskins Laboratories

Appendix 3: Haskins Strategic Planning Scientific Advisory Committee

Sheila Blumstein	Brown University
Patricia Davies	Purdue University
Robert Fulbright	Yale University School of Medicine
Elena Grigorenko	Yale University School of Medicine
Patricia Kuhl	University of Washington
Fred Morrison	University of Michigan
Kevin Munhall	Queens University (Kingston)
Charles Perfetti	University of Pittsburgh
Glen Rosen	Harvard University Medical School

Appendix 4: 2008 Strategic Planning Committee Narrative Account

Our broad mandate was to develop a shared vision of Haskins Laboratories' future. To accomplish this we formed a *Strategic Planning Committee* (SPC) made up of 19 Haskins scientists, administrators, and support staff (see Appendix 2 for a list). We began the 2008 exercise with an open Town Hall Meeting held on May 1, 2008. At this meeting the strategic planning rationale and timeline was discussed, and community members were encouraged to provide regular feedback and input to SPC members from their content areas, in order to promote community-wide participation. (Subsequently two "Brown-bag with the President" meetings have been held to sustain enthusiasm and participation.)

In addition, to gain external, and potentially critical, perspectives we organized a panel of experts designated as the *Haskins Strategic Planning Scientific Advisory Committee* (see Appendix 3 for the HSPSAC list). The HSPSAC was asked to 1) provide feedback on the final plan; and 2) attend an annual meeting at the Laboratories to assess progress in plan implementation.

The SPC met five times and focused on assessment of current strengths and weaknesses, a consideration of both opportunities and factors that might put the institution at risk, on our consensus view of where we think we should be going in the coming years, and on a specific plan for what needs to be done to get us there.

The SPC met for the first time on June 5, 2008, and was charged to: 1) review our current institutional identity and direction (strengths and weaknesses); 2) consider how to position Haskins as an innovative intellectual and experimental hub; 3) discuss future research directions and develop a vision statement; 4) consider how to improve our institutional infrastructure; 5) determine how to nurture and mentor the next generation of scientists; 6) consider flexibility and incentives for innovative work and new models; 7) solidify and expand our partnerships; and 8) develop a process for assessing our progress and success.

At each successive meeting these themes and initial recommendations were refined. The President then drafted a plan and at a November 6, 2008 meeting SPC members reviewed the content. Following this, members of the HSPSAC were given the draft to review, and finally a

draft of the Strategic Plan was presented to the Haskins Laboratories Board of Directors on December 2, 2008.

The 2008 exercise began with a formal SWOT (strengths, weaknesses, opportunities and threats) analysis conducted at the first full meeting of the SPC. This analysis was fruitful and formed the basis for all subsequent discussions regarding Laboratories priorities, new research directions and institutional modifications. *Strengths* identified included: 1) the large interdisciplinary community; 2) a strong reputation for research quality and integrity; 3) theoretical, methodological and technical innovation; and 4) good facilities. Indeed, the synergistic combination of perspectives and talents makes us well suited for program projects (like the current A-40) and center mechanisms. Recognition of this signature strength and the opportunities it supports led to a focus in subsequent meetings on identification and prioritization of several new “center-level” themes.

Weaknesses identified included: 1) limited career development guidance and scientific mentoring for junior staff and post-docs; 2) no policy for recruitment and retention; 3) a lack of integration between reading research and the arm of the Laboratories devoted to bringing relevant findings from research on reading into the classroom (the Haskins Literacy Initiative); 4) poor lines of communication between scientists and support staff and among scientific area groups that results in missed opportunities for new interdisciplinary projects; 5) lack of a clear plan for the Child Language Studies facilities at present; 6) misperceptions regarding Haskins Laboratories that might result from limited efforts on our part to get our message out; 7) no systematic plan for identification of new funding sources and opportunities; 8) technical infrastructure changes that are often reactive rather than proactive; 9) limited funds for critical research support staff including research assistants (RAs) and post-docs; and 10) confusion about “who we are” leading to missed opportunities for bigger projects.

With respect to *opportunities*, we focused on: 1) benefits of the increased use of communications to get our message out (including newsletters, website improvements and Haskins sponsored conferences); 2) expanding the Haskins Literacy Initiative and other translational work; 3) making better use of current institutional partnerships (especially with regard to opportunities for faculty lines for staff, and recruitment of new staff members), and identification of new partnerships; 4) a more flexible management scheme that would allow for a larger role for area

leaders in promoting communication within the Laboratories; 5) more effective use of regularly scheduled Laboratories staff meetings and staff talks; and 6) new scientific initiatives consistent with NIH funding, discussed in the plan, can maintain larger scaled project strengths.

Not surprisingly the biggest *threats* were seen to be: 1) shrinking NIH funding availability; 2) retirement of important senior scientists; and 3) lack of attractiveness for new researchers due to limited mentoring and career development plans.

This summary of the SWOT exercise is illustrative not exhaustive, and is presented to set the stage for the detailed recommendations that follow.

At the second and third meetings the SPC generated a prioritized list of research and institutional recommendations; breakout groups were formed to focus on these issues.

For the *research breakout group* the following questions were supposed to be addressed for each recommendation regarding research directions that Laboratories researchers might pursue.

- 1) In what ways might this theme relate to, enhance or modify our mission?
- 2) What are the likely scientific and/or public health benefits of this theme?
- 3) What would it take to pull this off in terms of people, technology, training, workshops, changes in infrastructure, etc., (can we do it with current resources)?
- 4) How does this theme relate to other current lines of research or proposed themes (focus on synergy)?
- 5) What are avenues of funding or support that might be relevant?
- 6) In general, rank the importance of this theme in relation to others (both current and proposed).

For the *institutional breakout group* the following similar questions framed the discussion for each issue that the group proposed needing addressing.

- 1) In what ways might this institutional theme relate to, enhance, or modify our mission?
- 2) How would this institutional theme improve lab efficiency and facilitate ongoing or proposed research?

- 3) What would it take to make this adjustment in terms of people, technology, or infrastructure to pull it off?
- 4) What is the anticipated impact on lab organization, career development support, and relations with partner institutions?
- 5) What is a realistic timeline and cost for this theme?
- 6) In general, rank the importance of this theme in relation to others (both current and proposed).

The ongoing refinement and prioritization of both research and institutional goals at subsequent meetings resulted in the final set of research and institutional recommendations in the Strategic Plan.