Are the Brains of People Who Stutter Different?
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For the past four years, our research group has been interested in learning more about the biological basis of stuttering. In earlier studies, our group and others have found that specific brain regions that mediate speech, language and motor functions are "asymmetric" or larger in one hemisphere than the other, and the larger region is often functionally dominant. So, the left side of the brain is usually dominant for language functions, and the planum temporale, a portion of language cortex, is larger in the left hemisphere in most right-handed adults. Frontal cortical language areas, like the pars triangularis and pars opercularis, have also been found to be larger in the left hemisphere in most adults.

There is some evidence that these brain regions are atypical in individuals with developmental language disorders, like dyslexia and specific language impairment; but these regions have not been studied in individuals who stutter. Atypical anatomy can be defined as atypical asymmetry, or atypical size. In addition, atypical "bumps" or gyri have been found. Our goal was to determine whether adults with persistent developmental stuttering (PDS) have atypical anatomical features within cortical areas that mediate speech and language functions.

We studied sixteen adults with persistent developmental stuttering and sixteen fluent adults matched for age, gender, handedness, and education. Volumetric MRI scans were acquired, and anatomical brain regions that mediate speech and language functions were measured and the groups were compared.

We found that the right and left planum temporale was significantly larger with reduced interhemispheric

Stuttering Didn’t Keep Him Off TV
Actor Nicholas Brendon Chairs National Stuttering Awareness Week, May 14–20

Nicholas Brendon has won fans of all ages portraying Xander in the popular TV series, Buffy the Vampire Slayer. But what most of his admirers don’t know is that Nick has successfully dealt with a challenge that could have derailed his career.

Most actors must learn to overcome stage fright or face the possibility of never performing before an audience again. However, stage fright was not the challenge that confronted Nick—stuttering was.

Because he is such an admirable role model for young people who stutter, the nonprofit Stuttering Foundation of America is pleased to announce that Nicholas Brendon has agreed to be the 2001 Honorary Chair for National Stuttering Awareness Week, May 14-20.

Nick remembers that his stuttering developed when he was about seven years old. When his struggles to communicate persisted, Nick’s parents sought help from a speech-language pathologist. The therapist taught Nick helpful strategies. “Every day, I have to remind myself to slow down and concentrate,” Nick explained. He also learned special exercises, which he practices to this day. Over time, he has discovered that his best strategy is “patience, patience, patience.” Pursuing an acting career “has been instrumental in overcoming my stutter,” Brendon noted.

While he still has concerns about stuttering when he performs, Nick’s perseverance and determination have helped

New Avenues in Genetics Research

by Dennis Drayna, Ph.D.

Results emerging from several studies are confirming the view that inherited factors play a significant role in many cases of stuttering.

It’s long been known that as many as half of all people who stutter have a close relative who stutters as well. This, along with other evidence, has implicated genetic factors in a general way in stuttering.

Now, three different studies appear to be putting a finer point on these observations, and may be showing the way to specific genes involved.

One study carried out by researchers at several institutions in Illinois, has focused on a South Dakota Hutterite community, who have married exclusively among themselves for almost 200 years.

Recent results indicate several specific chromosome regions are preferentially carried by members of this community who stutter, strongly suggesting that causative genes lie at these locations.

A second study, lead by Dr. Dennis Drayna at the National Institutes of Health, focused on the general North American population. Here again, evidence for the role of genes on a specific chromosome seems to be emerging, indicating an important gene at work.

A third study involving researchers at the University of Utah and George Washington University is studying yet another group of large families in which stuttering shows a strong genetic pattern, that may lead to another gene which causes this disorder.

Publication of these findings in detail is expected in the medical and scientific literature over the next several months, and could lead the way to the study of specific genes and their functions, both in people who stutter and in normally fluent individuals.
Anne Founds
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In contrast, the majority of right-handed men who stutter (6 of 9) had extra-gyri and atypical planar asymmetries (5 of 9). Left-handed men who stutter had atypical planar asymmetries, but rarely had extra-gyri. Furthermore, 5 of 9 right-handed men with PDS had a double diagonal sulcus. This unique anomaly only occurred in one left-handed and one right-handed female with PDS, and was never seen in a control.

These results provide strong evidence that adults with PDS have anomalous anatomy in perisylvian brain regions. No one anatomical feature distinguished the groups, but multiple loci within a widely distributed neural network differed between groups.

These results provide the first evidence that anatomical anomalies may put an individual at risk for the development of stuttering, and suggest that distinct features may be more common in men versus women, and right versus left handers who stutter.

Our research efforts are currently expanding to include functional MRI and treatment studies in adults who stutter. These proposed studies will provide a biological framework to learn more about the anatomy and functional activation of cortical regions in individuals who do and do not stutter, and provide information to develop targeted behavioral and pharmacological interventions, and may lead to earlier detection of individuals at risk for developmental stuttering.

Acknowledgments: This study was supported by NIH grant DC00135, PHS Grant RR05096 Tulane-LSU General Clinical Research Center, and the Department of Veterans Affairs South Central MIRECC. These results will be presented at the 53rd Annual Meeting of the American Academy of Neurology, Philadelphia, PA, May 8, 2001, and are in press, Neurology. A Dana Foundation Grant has been awarded for the treatment study.

Unexpected Gifts Bolster 2001 Awareness Campaign

Soon after Nicholas Brendon was named as the 2001 Honorary Chairman of National Stuttering Awareness Week, the Webmaster of Nick’s fund club contacted the Foundation and said they would be making the Stuttering Foundation the beneficiary of several charitable activities planned for 2001.

Nick’s fund club held a bowling tournament to raise money, as well as organized a “birthday day campaign.” Nick’s birthday was April 12 and fans were able to make donations to the Stuttering Foundation in his honor via his website, www.nickbrendon.com, which is linked to the Stuttering Foundation’s website at www.stutteringhelp.org.

“We were thrilled to have Nick agree to be our 2001 NSAW spokesperson,” said Fraser. “To have his fans take such an active part in helping us educate the public about stuttering is an unexpected, wonderful benefit. We appreciate the support that Nick and his fans have offered us.”
New Book Targets School Age Children

The School-Age Child who Stutters: Working Effectively with Attitudes and Emotions is an exciting addition to the Stuttering Foundation's materials for speech-language pathologists.

Written by Kristin Chmela and Nina Reardon, this new publication is organized in a workbook format and offers school clinicians practical strategies for assessing and working with the attitudes and emotions school-age children may have as part of the stuttering problem.

Suggested dialogues, paper-pencil tasks, and case examples from actual children make it unique. Very few if any other resources are currently available for therapists working in the public schools.

“Speech pathologists have often struggled with helping children make changes in how they think and feel about stuttering and talking in general,” says Lisa Scott Trautman who edited the book.

“Implicating these materials into stuttering therapy is going to make a significant difference in the lives of children who stutter because they will learn to change not only how they talk but also how they see themselves as communicators,” she added.

Case examples from four children provide readers with a comprehensive look at the assessment and treatment process. Each child’s profile includes a case description, responses of that child to each assessment tool used, and samples of work produced during treatment.

Throughout the workbook, the authors help the reader understand both the rationale behind using a particular strategy to meet a specific child’s need and then to interpret that child’s responses.

For more information about The School-Age Child Who Stutters: Working Effectively With Attitudes and Emotions, contact the Stuttering Foundation at 800-992-9392, or www.stutteringhelp.org.

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SFA TV Spots in Prime Time

The Stuttering Foundation’s new-for-2001 public-service announcement for television features children in a playground setting and in the therapy room. They were aired by networks across the country in the first four months of 2001, thereby increasing the public’s awareness of stuttering.

The new Web site, www.stutteringhelp.org, is featured prominently during both the 30 and 10 second PSA’s. Viewers easily remember this new address; and because of this, hits to the Web site have doubled in recent weeks.

The PSA’s are currently featured in the national rotations of CBS, ABC, NBC and Fox Broadcasting and in many local rotations such as WLS Channel 7 in Chicago, Channel 4 in Nashville, Tennessee, Channel 24 in Baltimore, KMOV Channel 4 in Saint Louis, and WMAZ Channel 13 in Macon, Georgia.

This donated space is truly making a difference by increasing the public’s awareness about stuttering and giving viewers both a toll-free number to call for help and a Web site which encompasses a broad array of information for all ages.

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Annual Audit of Stuttering Foundation by Ernst & Young

The annual audit of the Stuttering Foundation financial reports for 2000 was recently completed by Ernst & Young, Certified Public Accountants. Following is a recap of funds and expenditures for the year.

The 3.5% of expenditures for administration and general expenses and the 7/10 of 1% for fund raising are very low; and since we are fortunate to have an endowment which more than covers our overhead expenses, donors can be assured that their gifts will go directly to support our program services.

<table>
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<tr>
<th>Funds expended for</th>
<th>$557,939</th>
<th>52.1%</th>
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<tr>
<td>Creation, production, printing and distribution</td>
<td></td>
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<tr>
<td>of educational materials</td>
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<tr>
<td>Public information and education</td>
<td>216,598</td>
<td>20.2%</td>
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<tr>
<td>Educational Symposia for Professionals and research</td>
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<td>Maintain Web site and toll-free Stuttering Information Hotline</td>
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<tr>
<td><strong>Total for Program Services</strong></td>
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<td><strong>95.8%</strong></td>
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<td>Administration and general</td>
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<td><strong>Total Expenditures</strong></td>
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<td><strong>100.0%</strong></td>
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</table>

The Stuttering Foundation of America is a private operating foundation which expends its funds on its own programs and does not make grants to other institutions.
Record Year for Public Service Ads in Magazines

This year's National Stuttering Awareness Week got off to a wonderful start with many generous public service ads featuring Honorary Chairman Nicholas Brendon. Magazines featuring PSA's in March, April and May were TIME, ESPN: The Magazine, Good Housekeeping, Cosmogirl, and Forbes. Golf, Essence, Prevention, Forbes, and Kiplinger's all ran PSA's which say "To someone who stutters, it's easier done than said." Bride's April-May issue—it's most popular one—had a full page PSA!

Cosmo donated public service ad space which resulted in hundreds of calls from their readers, and Redbook gave three generous PSA's in a row. The full page ad in Essence in May generated calls from an exciting new audience of readers who had not seen the PSA before.


The excellent support of so many magazines brought the total of donated space to a record $1,639,000 over the past twelve months! The Stuttering Foundation extends its heartfelt thanks to the more than 600 magazines which have been so very generous to us this year.

New Books Available in China and Lithuania


Says Dr. Vidimas Ramsa, "We have already translated two more Stuttering Foundation books in collaboration with Dr. Vilma Makauskiene, Do You Stutter: A Guide for Teens and The Child Who Stutters: To the Family Physician.

Several other translations have been done by the members of the Stuttering Problem Club of Lithuania, including Self Therapy for the Stutterer and To The Stutterer.

Stefan Hoffman and colleagues have completed a translation of Sometimes I Just Stutter by Eelco de Geus in Chinese as well as translations of five other Stuttering Foundation brochures and flyers. They have been received with enthusiasm.

We know these translations will play an important role in helping those who stutter in these two countries.

Classroom Awareness

Helping students and teachers understand how to relate to a student who stutters is an important and an ongoing process.

An activity that some children who stutter, teachers, and speech pathologists find helpful is a classroom presentation about stuttering. The purposes of this activity are to give information about stuttering such as facts and myths, famous people, and what happens when someone stutters. Additional information may include what the child would like listeners to do when he is stuttering or explaining what she is learning in speech therapy.

All students benefit from discussing stuttering in an open, honest manner, and many like to know how they can help make talking less stressful for their classmate who stutters. In addition, the child who stutters becomes the "expert," leading to increased self-confidence.

Michael Herron, a fourth grader from Utah, helped his class learn about stuttering by doing such a presentation. After giving information about stuttering, he handed out copies of brochures from the Stuttering Foundation including the fact sheet, pictures of famous people who stutter from the National Stuttering Awareness brochure, and How to React When Speaking With Someone Who Stutters.

His mother agrees that doing the presentation for the class has helped. They learned that talking about stuttering is better than trying to hide it.

In addition to the brochures that Michael used, the Foundation offers a brochure written especially to help teachers, The Child Who Stutters at School: Notes to the Teacher includes helpful tips for the classroom including how to handle teasing.
Videotapes at Record Number of Public Libraries

Web Site Features Libraries with Videos

The Stuttering Foundation reports that its videotapes are now available in over 4,000 libraries nationwide.

The listing of these libraries can now be found by visiting www.stutteringhelp.org. “Being able to pinpoint the Web which library has these videotapes on stuttering is going to save people a lot of time and effort,” noted Foundation Board member Kathy Klyce.

Some recent comments from librarians indicate that the need for these materials is great and that there is a demand for them from library patrons.

 writes Linda Meyer, Director of the Chatham Area Public Library in Chatham, Illinois. “I wish to thank you for your donation of the video Stuttering and the Preschool Child: Help for Families. This video, which is the latest in the series, is a welcome addition to our collection. The Chatham Area Public Library appreciates the opportunity to make these videos available to our patrons.”

“Thank you for the videos on stuttering. They are a welcome addition to our collection. I’m sure they will be used by those patrons needing reliable information on this subject,” comments Deborah Brown of the Lee County Library in Sanford, North Carolina.

Marilyn Walden, Director of the Arcanum Public Library in Arcanum, Ohio states, “I want to thank you for offering to our library the five video tapes, Stuttering and the Preschool Child, Stuttering and Your Child, Do You Stutter, Therapy in Action, and If You Stutter as well as the 9th edition of Self Therapy for the Stutterer. These will be a valuable resource for our patrons whose lives are affected by stuttering and for others to better understand it. Thank you for helping us better serve our patrons through your generosity.”

From Carolyn Bowse at the San Bernardino County Library in San Bernardino, California comes, “I would like to thank you for your recent donation of 15 educational videos to our libraries. I am sure they will be very helpful to the public, and are greatly appreciated. It is always nice to see companies, such as yours, helping libraries to expand on their self-help/educational collections.”

Robert Nottke at the Schuyler Library in Schuyler, New York adds, “We are most happy to receive the videos and the book from the Foundation. I know our patrons will find them very helpful. Thank you for these gifts to our collection.”

Dawn Gillette from the Mather Memorial Library in Ulster, Pennsylvania states, “We thank you for the donation of the book Self Therapy for the Stutterer and the five videos on stuttering. We are a very small library with a limited budget and your contribution is greatly appreciated.”

Sally Perry, Librarian for Reeves County Library in Pecos, Texas writes, “Thank you very much for the five videos and one book that you have sent to the Reeves County Library. I will bring them to the attention of the public school staff who deal with special education and others in our community. Thank you for your time, your resources, and your service.”

For the past six years, the Stuttering Foundation has sent its videotapes free to thousands of public libraries.

If your local public library has any of these tapes and they are not listed at our Website, please notify the Stuttering Foundation so these libraries can be added.

Once the library has shelved the tapes, SFA sends a press release to all of the local newspapers to

Employment settings get help from the Stuttering Foundation

Adults who stutter need the understanding of their coworkers and employers. To help educate people in the workplace, the Stuttering Foundation sent press releases about the exciting new brochure, Stuttering: Answers for Employers, to magazines and newsletters across the country this year with a combined circulation of 15,000,000 readers.

It was featured prominently in Bottom Line Business, the Employee Assistance Program Digest, Dr. Wallace’s excellent syndicated column, and many others. Calls are coming in daily from many companies, employers, and human resource divisions requesting the brochure as well as additional information about stuttering.

This represents a growing understanding in the workplace of the value of the worker who stutters and a willingness to eliminate stereotypes about the disorder.

apprise readers of their availability.

The SFA will continue to offer free tapes to public libraries, and the newest videotapes for adults, teenagers, school-age children, and parents of preschoolers are no exception. If your library would like copies, have the librarian call the Foundation at 800-992-9392, or write to the address on the back of the Newsletter.

The Stuttering Foundation of America is a tax-exempt organization under section 501(c)(3) of the Internal Revenue Code and is classified as a private operating foundation as defined in section 4942(j)(3). Charitable contributions and bequests to the Foundation are tax-deductible, subject to limitations under the Code.
Books on Stuttering or Related Topics Available from Bookstores:


- *Tongue Wars, by William H. Perkins, Ph.D.,* [address not provided].

- The *Bob Love Story: If It's Gonna Be, It's Gonna Be*, by Bob Love with Mel Watkins, available through bookstores or call NTC Contemporary Publishing Group, 1-800-323-4000.

- *Paroles de parents by Anne-Marie Simon, L’Orthophoniste, 76, me Jean-Jacques, 62230 Isbergues, France.*


- *The Classroom Teacher’s Inclusion Handbook* by Jerome G. Yonkers, Chicago, IL.

- *Special Children: Challenged Parents* by Robert A. Naseef, Ph.D., published by Carol Publishing Group, Secaucus, New Jersey, 1-800-447-2665.


- *Elements of Stuttering* by Donald J. Sternbach, Ph.D., available from Atmore Publishing Company, P.O. Box 28, Atmore, Al. 36502. Please send $15.00 plus $3.00 handling charge.

- *Stuttering: A Search for a Cause and a Cure* by Oliver Bloodstein, Ph.D. It is published by Allyn & Bacon, Needham, MA.


- *The Telephone Communication Skills Handbook* by Franklin H. Silverman, Ph.D. Aegis Publishing Group, Ltd., Newport, RI.

- *Unforgettable Characters I Have Known by Bill Lynch*, published by Book Partners in Wilsonville, OR, 503-482-9821 or 800-895-7225.

- *Speak Mandarin Not Dialect* by SLP Elizabeth Haynes. Available through Thismelwood Press Ltd., Saskatoon, Saskatoon, Canada, 306-244-1722 or www.thismelwood.su.ca.


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**NSAW Week**

Continued from page 1

him make his mark in Hollywood. *Buffy the Vampire Slayer* is now in its fifth season, and Nick’s increasing popularity has allowed him to branch out into feature films and stage work. He has also made guest appearances at science fiction conventions all over the country.

"Congress authorized the annual stuttering awareness week because our representatives know that stuttering has a tremendous impact on a wide cross-section of Americans," said Jane Fraser, president of the Stuttering Foundation. "Most people don’t realize that stuttering affects three million people nationwide, without any regard for race, ethnicity or economic status."

"We want to make them aware of the fact that speech therapy can help them make progress at any age, as it did for Nick," Fraser added.

"As I worked on my speech, I realized that no one was going to die because I was stuttering," Nick said. "I want people who stutter to know that if they work hard, as I still do, they too can improve their speech." He now speaks in public without debilitating fear or embarrassment.

For a copy of the National Stuttering Awareness Week brochure that features 15 famous people who stutter, including Nick Brendon, call the Stuttering Foundation toll-free at 1-800-992-9392, or visit us at www.stutteringhelp.org.

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