It’s better to give than receive, but you can actually do both while cleaning out your office or closet now! Just donate those no longer needed teaching supplies and give them to the ALTA Garage Sale Committee. You will receive a tax deductible receipt, and ALTA will sell your “stuff” at our annual Spring Conference in April. The proceeds go to the ALTA Foundation, a non-profit 501 (c) (3) entity established to accept contributions in support of ALTA’s educational mission. We’ll be collecting and organizing items in March through April 9th. So gather up your discards and drop them off at the collection site below nearest you:

Collection Area Site Host Call or Contact:

**Allen**
Chris Bedenbaugh 972-390-1853 (H)
chris_bedenbaugh@allenisd.org

**Grand Prairie/Arlington**
Juancita Petro 972-264-0622 (H)
Juancita.petro@gpisd

**Lewisville**
Vicki Maxwell 972-221-6394 (W)
maxwellv@lisd.net

**North Dallas**
Kathy Gilman 214-373-6155
khgilman@mindspring.com

**Oak Cliff**
Kay Peterson 214-349-0089
kfpeterson@worldnet.att.net.

**Plano**
Linda Byther 972-618-1335
linda_byther@yahoo.com

**Scottish Rite**
Martha Sibley 214-559-7800
Martha.Sibley@tsrh.org

**SMU**
Connie Peters 214-768-1104
cpeters@smu.edu

**South Dallas**
Ruth Ann Jewel rajewell525@aol.com

For questions or further information, please call Linda Byther at 972-618-1335

**Items needed for the Garage Sale**
- Learning Activities
- Office Supplies
- Learning Games
- Binders
- Teaching Workbooks
- Folders/spiral/notebooks
- Readers
- Containers
- Spelling Activities
- Craft Supplies (for homemade games and comprehension materials activities)
- Handwriting Frames
- Markers
- Math Materials
- Pencil Grips
- Phonemic Awareness Activities
- Current Calendars
- Manipulatives of any kind
- Cheap Coloring/Activity Books
- Brain games or workbooks
- File Folders
- Informational books on Dyslexia/ADD
- Notebook Pocket Folders
- Poetry Books
- “Cool pencils, pens, markers, anthologies
- Motivational Stuff
- Text Books (esp. Grammar, Literature)
- Incentives, gifts, prizes
- Graphic Organizers
- Organizational Aids
- And anything else that you think some teacher could use somehow, someway...

**GARAGE SALE IN SIGHT**
Untangling the Brain: The search for the causes and cures of dyslexia

Yale Alumni Magazine
January/February 2004
by Jennifer Ackerman ’80
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Award-winning writer Jennifer Ackerman ’80 published her most recent book, Chance in the House of Fate: A Natural History of Heredity, in 2001.

It happens with stunning frequency. Wherever Sally Shaywitz goes, people will pull her aside and tell her something they’ve told no one before. The speakers are often extremely bright—sometimes brilliant—the prominent dean at an Ivy League college, the award-winning architect or playwright, the eminent surgeon. They reveal to Shaywitz what they feel is a terrible secret about themselves, a secret they have kept hidden only by heroic effort: They do not read well. That is, they do not read the way their peers do, the way their spouses and friends, even their own children do—rapidly, fluently, with pleasure and ease. For them reading is slow and hard, and any joy in it elusive. They read as little as possible, sometimes not at all, and the paucity of the written word in their lives is a source of grief and shame. For some, the disability has been devastating, shattering self-esteem and derailing work and family. Others have managed to excel in life in spite of it, but they often feel they have done so by the skin of their teeth, by side-stepping the normal course, advancing in their world only by outsmarting it.

A neuroscientist and professor of pediatrics at Yale, Shaywitz is a good listener. She is sympathetic to those confiding in her, with a scientist’s curiosity about the nature of their problem and a physician’s understanding of their deep distress. She is also an expert on the neurobiology of reading and reading disabilities and the author of an authoritative new book on the subject. One of the first things she tells them is that they are not alone. As many as one in five people experience this problem, a persistent difficulty reading despite good intelligence.

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President’s Letter

Dear ALTA members,

I would like to take this opportunity to thank the many ALTA members who presented sessions at the 54th Annual Conference of the International Dyslexia Association in San Diego, California. It was gratifying to see our members making such excellent contributions to our field.

Jana Jones, Vice-President of Programs and her committee have planned an outstanding spring conference for us. Our keynote speakers are Dr. Bennett Shaywitz and Dr. Sally Shaywitz. They are currently Co-Directors of the NICHD-Yale Center for the Study of Learning and Attention. They will speak on "The Science of Reading: Overcoming Dyslexia. Dr. Bennett Shaywitz has a long-standing interest in disorders of learning and attention in children and young adults. Dr. Sally Shaywitz is the author of the current bestseller, Overcoming Dyslexia. Representatives from many of ALTA’s accredited centers will present techniques for the remediation of dyslexia during the afternoon breakout sessions. The program committee has maintained a nominal fee for the spring conference in order to make these speakers available to everyone. Please take advantage of this opportunity.

ALTA representatives attended the Alliance meeting November 16th in San Diego. Valerie Tucker, Kay Peterson, Melanie Royal, and Nancy Coffman (ALTA members) joined Joyce Pickering, Emerson Dickman, Nancy Hennessey, and Harley Tomey to discuss policies and projects. The newly formed organization, whose goal is to promote standards for professional preparation, has produced a Directory on CD that contains a list of Accredited Training Courses and Certified Individuals. If you would like to purchase a CD, please contact Nancy Coffman. The next Alliance meeting is set for May in Washington, D.C.

I look forward to seeing you April 17th at The Shelton School for a morning with Dr. Bennett Shaywitz and Dr. Sally Shaywitz and an afternoon with our ALTA accredited centers.

Kay Peterson

Future ALTA Registration Exam Dates

June 5, 2004
The Neuhaus Education Center
4433 Bissonnet
Bellaire, TX 77401
P. 713-664-7676

June 5, 2004
The Scottish Rite Learning Center of Austin
508 W. 14th Street
Austin, TX 78701
P. 512-472-1231

June 26, 2004
SMU LearningTherapy Program
5236 Tennyson Parkway, Bldg. 4,
Ste. 108
Plano, TX 75024
P. 214-768-7523

June 30, 2004
The Scottish Rite Learning Center of West Texas
602 Avenue Q, PO Box 10135
Lubbock, TX 79408
P. 806-765-9150

January 15, 2005
Southwest Multisensory Training Center
600 S. Jupiter
Allen, TX 75002-4065
P. 972-359-8291

September 25, 2005
FUNdamental Learning Center
917 S. Glendale
Wichita, KS 67218
P. 316-684-7323
A Life to Celebrate

Family and friends celebrated exuberantly the graduation of Katie Morgan from Baylor School of Nursing in May 2003. In June, Katie married Paul Michael Vacca, passed her state board certification on the first try, interviewed and landed a job at Baylor Hospital.

In second grade, Katie had difficulty learning to read and began her progression through Alphabetic Phonics. Her parents pursued diagnostic testing and contacted Jean Fortune, new Academic Language Therapist, who had just completed her multisensory training back in 1989. Katie, who is a self-starter, had a high desire to achieve. She found an interest in science very early in her life. Junior high school brought periods of distress and anxiety. Her parents, Kay and Bill, frequently coached her and used “You can do it” pep talks to encourage. Katie found her own self-talk patterned after her parents’ encouraging communication and also used her faith to help her through the struggles in high school. She found note-taking on 3 x 5 cards to be invaluable and acquired a cassette recorder and a Franklin Spelling Ace as additional tools.

While at Texas A & M University, she had reoccurring thoughts of wanting to help people and maybe going into medical missions work. All of this led her to a school change and a nursing program. A carefully selected, small, study-group was helpful in nursing school. Along with this, she continued the skills she learned in high school.

When asked what she would tell other students, Katie said, “Work at good note-taking and find what you enjoy doing. For me it is art. I find it so relaxing.” As therapists we know this is great advice. Many of our students are very gifted in a creative area, and we all know that a hobby can be such an encouragement in life. We celebrate with you, Katie. Your success encourages us greatly as we begin the process with other students.

Access the ALTA bul•le•tin On-line

You may now access the Academic Language Therapy Association newsletter, ALTA bul•le•tin, on-line. Go to ALTA’s web site at www.ALTAread.org and click on the title “RESOURCES” in the heading. You will then come to the Newsletters page. There is a large banner-type heading announcing the availability of the ALTA bul•le•tin. Click on the icon that says “click here.” The newsletter in its entirety will be downloaded to your computer. The newsletter, which is in Adobe Acrobat PDF and has numerous pages, will take several minutes to download.

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motivation, and schooling. Known as dyslexia, it is the most common of learning disabilities. It is familial and heritable. Contrary to popular belief, it is not the transposing of letters. Nor is it a visual disturbance. Shaywitz believes, but rather, a neurological disorder rooted in the disruption of a specific component of the brain’s language system. It is “an island of weakness in a sea of strengths,” as she describes it, often bringing with it surprising abilities in problem-solving, reasoning, critical and creative thinking. It is also what she calls an equal opportunity disabler, affecting people without regard to race, class, ethnicity, or intellect. “In our society, reading is often taken as a proxy for intelligence,” she says; “dyslexia violates that assumption.”

Shaywitz’s observations are rooted in work at the cutting edge of neuroscience, a blend of epidemiology, neurobiological investigations, and revolutionary new imaging techniques that allow researchers to examine the living brain, home in on the neural networks involved in processing the written word, and determine what happens when they fail—work that has shed new light on the science of reading and the very nature of the human brain.

Do you remember the moment you first discovered you could read? Seeing that street sign or newspaper headline and suddenly finding those strange cryptic lines transmute into words, whole, resonant, and full of meaning? I can’t recall that first flash of understanding, but I see it now in some of the young children I tutor, the thrill of decoding the words on their lunch box or picking from the page a favorite set of Dr. Seuss rhymes, “dish, wish, splish!” And I do remember moments after that eureka when I ruminated for reading everywhere, on the cereal box on the kitchen table or the graffiti on the back of the bus, and relished the pure pleasure of conjuring words from arbitrary symbols.

Consider the feat: In a split second, the mind recognizes words in whatever form they take - no matter the size, position, or font, the script or the print - instantly teasing out subtle details that spell the critical difference between, say, “bright” and “blight,” and retrieving all the hints and shadows of their meanings. The beginning reader learns to recognize 3,000 new words a year; by the age of 25 or so, the average literate person can decipher at least 60,000 words and has read and absorbed about a hundred million.

Once expert, we read for the knowledge and ideas embedded in words, for the emotional heft of stories, for confirmation of feeling, for comfort, judgment, memory, experience, to dissipate loneliness, boredom, despair. When diplomatic envoy Terry Waite was taken captive in Lebanon in 1987 and held in solitary confinement for four years, he sustained himself only by “rereading” his best-loved books from an inner library of prose in his head. We read to find news of ourselves and to join a communal past and present. We read, said Gustave Flaubert, “in order to live.”

What is this act of reading? What takes place inside the brain when we encounter the written word - a meeting so tightly woven into our lives we rarely pause to marvel at it? And why is fluent reading a given for some of us, for others a nearly impossible task?

In the basement of the new Anlyan Center for Medical Research and Education at the Yale School of Medicine, Shaywitz and her husband, Bennett Shaywitz, are probing these questions - on one morning in particular, with the help of eleven-year-old Keith Bowman. Co-directors and founders of the Yale Center for the Study of Learning and Attention, the Shaywitzes have for nearly three decades collaborated with each other and with dozens of other scientists to probe the brain systems involved in reading. The pair met at the Albert Einstein College of Medicine in 1963 and came to New Haven nine years later, when Bennett Shaywitz was offered a position in pediatric neurology at Yale. Since then, their research has carried them into many fields - neurology, psychology, radiology, pediatrics, language development, education. Both have been honored with membership in the Institute of Medicine of the National Academy of Sciences. “The Shaywitzes’ combined deep expertise and ability to move across disciplines is unique,” says Dr. G. Reid Lyon, Chief of the Child Development and Behavior Branch of the National Institute of Child Health and Human Development (NICHD), which provides funding for the Shaywitzes’ center. “This is what has allowed them to map and understand a problem of such complexity, and to attract and recruit the best collaborators across the country.” Their current experiment is one of a series designed to tease apart how children progress from novice to expert readers, how the process differs in dyslexics, and what interventions might be most effective for those struggling to read.

When dyslexia was first described in 1896 as a kind of “word-blindness,” people believed the problem was primarily a visual one, an inability to see the letters in words. Some scientists still hold with a visual or auditory theory, arguing that dyslexia reflects a problem with neural networks in the brain that process rapidly changing visual stimuli or those that detect motion or sound. Others suspect that the fault lies with some combination of these sensory systems. But most researchers agree that the disorder is characterized most often by a disruption in the language centers of the brain.

Keith Bowman is a bright boy with a crop of curly hair and a beamish smile. As we walk the corridors of the Anlyan Center,
Shaywitz banters easily with him about sports and favorite games, and he responds with ebullience and a battery of questions about the high-tech equipment around us.

At school, Keith excels in math and science, but he has always struggled with reading. His mother, Jane Bowman, noticed a problem in preschool and kindergarten, when it appeared that Keith couldn’t grasp the concept of rhyming, the pleasing sound structure of simple word families such as “at, cat, bat,” or “jog, frog, bog.” Teachers and school administrators told Bowman that the lag was developmental, that her son would grow out of it. But in first grade, he could read only six out of twenty words on a literacy test. On reading comprehension tests, he often got a score of zero. In later grades, it became clear that Keith couldn’t spell, couldn’t pronounce words correctly - confusing “tough” and “thought” or “canyon” and “crayon” - and still couldn’t read fluently. Because he is bright, his teachers assumed that his failure to read stemmed from lack of effort. “Keith was trying,” Bowman told me, “but he said the words just wouldn’t come.” As he fell further and further behind his peers, school officials and administrators told Bowman, “Look, your son is just never going to be a rocket scientist; he may never even go to college.”

It’s a classic story, according to Shaywitz. “Here is a fifth-grader who’s intelligent and motivated but unable to read well. Although the symptoms of dyslexia presented as soon as he started school - an insensitivity to rhyme, the inability to spell, to articulate words, to decode print on the page - six years later he still has not yet been properly diagnosed nor given the instructional help he needs.

“You could hear this same story a hundred times a day. It’s unconscionable. My sons ask me why I work so hard.” She nods toward Keith. “This is the reason.”

Shaywitz’s interest in learning disabilities began when she was a resident in pediatrics at Albert Einstein College. She was struck by how parents of otherwise healthy children were distraught because of worries about learning. After taking seven years off to raise her three sons, she came to Yale and began seeing patients with learning disabilities. It became clear to her that there were many children who had never been diagnosed with a learning disability, but who were facing severe reading difficulties and not getting effective instruction.

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To assess the prevalence of the problem, Shaywitz and her husband launched the Connecticut Longitudinal Study at Yale in 1983, an epidemiological survey and long-term study of 445 boys and girls in 24 randomly selected Connecticut public schools. The study followed the children from the time they entered kindergarten through high school and into adulthood, and included extensive annual reading evaluations.

What the researchers learned was this: Reading problems represent 80 to 90 percent of all learning disabilities; they affect a full 20 percent of schoolchildren; and they exist on a continuum from mild to severe. “Dyslexia is not an all-or-nothing phenomenon,” Shaywitz explains. “It occurs in degrees and varies in severity, like hypertension or obesity.”

The study also debunked the myth that reading problems affect primarily boys. Four times as many boys as girls in their sample group had been identified in school evaluations as having a reading problem. But when the Shaywitzes gave the children comprehensive reading tests, they saw no gender differences in the scores. It turned out that teachers were using behavioral criteria in reporting reading problems. Boys, who tended to be more disruptive, were more often referred for evaluation, while girls, generally better behaved, were not.

The scientists also expanded on previous studies by British researchers Lynette Bradley and Peter Bryant indicating that one basic language task in particular signals the difference between good readers and poor readers. This is “phonemic awareness,” the ability to focus on the “phonemes” in words. Phonemes are the smallest sound units that make up spoken and written language. They are to words as words are to poems: the stones in a stone wall. The English language has 44. The word “oh,” for instance, has one (o), while “go” has two (g, o).

In their study, the Shaywitzes tested children’s ability to detect phonemes within a word and manipulate them — for instance, by removing a specific phoneme and saying the word without it: “Can you say ‘crane’ without the r? Or ‘cat’ without the c?” Most of us have no trouble doing this, breaking down “cat” to “k-aaaa-t” and then removing the “k” sound. But some children struggle with these phonological tasks; for them words are one phonemic blur. The Shaywitzes confirmed that these children are also the poorest readers, and — perhaps most important — they tend to remain so. The disorder does not correct itself over time. “When it comes to reading difficulties,” Shaywitz told me, “the only thing a child outgrows is his classroom.”

Why is learning to read — grasping how printed letters represent the basic sounds of language — so much harder than learning the spoken words themselves? In 1871, Charles Darwin offered a theory: “Man has an instinctive tendency to speak, as we see in the babble of our young children, while no child has an instinctive tendency to bake, brew, or write.” Today many scientists agree — speaking is innate; reading is not. Spoken language, Shaywitz emphasizes, has been with us for at least 50,000 years, possibly much longer. During this time we have evolved brain systems for speaking and understanding language — for automatically assembling and disassembling spoken phonemes — which are genetically programmed and hardwired into our minds. Speech starts in the crib and is mastered without much effort.

Reading is different. Shaywitz points out that the printed word has been around for only 5,000 years or so, insufficient time for the brain to evolve a natural, prewired reading system. In learning to read, she says, children learn to adapt the language circuitry and other brain systems to get meaning from print, but they must be taught to do so — and they do not always succeed.

A beginning step, says Shaywitz, is mastering phonemic awareness. Once children break this code — once they grasp that the letters on the page represent the sounds when the word is spoken — then they can proceed along the path to reading new words with virtually no effort. For some, the road to fluent, automatic reading is relatively easy; for others, extremely trying.

Sally and Bennett Shaywitz and I are standing behind a plate-glass window, looking into the chamber where Keith is having his brain imaged as he reads a series of paired words and pictures. The Shaywitzes are hovering over two computer screens, one displaying the set of constantly changing reading cues supplied to Keith; the other, a ghostly gray image of his brain. Keith is lying on his back with his head in the circular scope of a magnetic resonance imaging (MRI) scanner. He looks up through a periscope to see his cues — a word and picture simultaneously flashed on a screen, “fox” and the image of a box, “cow” and a bow — and then must quickly determine whether or not they rhyme, pressing the yes or no button on a button box.

The scanner is safe and noninvasive, using no radiation or injections. A massive circular magnet — with gravitational pull more than 50,000 times that of the earth — it looks, as Keith says, like a spaceship or a donut filled with milk. The scanning will result in structural images, revealing the finest details of brain anatomy, and functional images, showing the brain’s activity.

Functional MRI (fMRI) works by monitoring the changes in oxygen and blood flow that accompany neural activity in our gray matter. The harder the brain works, the more blood-borne oxygenated hemoglobin moves into the area. A “blush” of this oxygenated hemoglobin from amplified neural activity registers on the MRI scan as a slight rise in signal strength. In

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this way, the scan produces pictures of the neural pathways that grow active when Keith transcribes letters into sounds.

Functional neuroimaging has revolutionized the way we see the working brain. “It provides the opportunity to directly visualize reading and dyslexia,” says John Gabrieli ’78, a neuroscientist at Stanford University. “Reading is unique to humans so it can’t be studied in animal models. This technology allows you to look into what otherwise might be a black box, to visualize and measure the specific processes used by the brain during the act of reading - and to see what’s going astray.”

Quite apart from its role in revealing the neural nature of reading and dyslexia, the technology of MRI has transformed the way people with dyslexia perceive their own brains, Shaywitz told me. “When dyslexics see the structural image of their brains, they’re often reassured that there are no visible lesions or damage. At the same time, they’re profoundly relieved to find that the functional images offer a physical explanation for their reading struggles.”

After a 45-minute session, Keith pops up from the table. Shaywitz hands him a big Yale t-shirt and a structural image of his brain so that she can give him a Cook’s tour of his own gray matter.

“Here’s your spinal cord, and here’s your cerebellum - that’s the part that lets you balance and play baseball; there’s your corpus callosum, which connects the left and right sides of the brain; this part here, in the front and this part in the back - these help you with language and reading.” She pauses.

“Do you know what I see in this brain, Keith?”

“No....”

“I see a normal brain, no holes, nothing missing; it’s perfect.”

The Shaywitzes began using fMRI to probe the reading brain in the 1990s. At the time, only a few such studies had been conducted, and all had focused exclusively on men. The Shaywitzes’ study, published in the journal Nature in 1995, used fMRI to examine the brains of unimpaired, healthy readers, both male and female, as they read real and nonsense words. Among these were tasks that probed phonemic awareness - for instance, reading two nonsensical but pronounceable words such as “jeet” and “leete” and indicating whether they rhymed. Because the words were unfamiliar, the subjects had to sound them out, phoneme by phoneme, using the neural networks dedicated to phonologic analysis.

The results suggested little difference in how quickly and accurately men and women sounded out the words. However, when the Shaywitzes examined their subjects’ brain activation patterns, they found a distinction. Men activated an area only on the left side of their brain, while the majority of women activated this same area on the left, but also a mirror region on the right.

Many people found it remarkable that men and women process reading in different ways. But what most excited the Shaywitzes was the way the imaging revealed the specific neural pathways used to analyze the sounds of words - whatever the sex of the reader.

In the last several years, progress toward charting the neural circuitry of reading has been meteoric. Imaging studies by the Shaywitzes and teams of scientists around the world suggest that there may be at least three neural pathways critical to the development of skilled reading. All reside primarily in the left hemisphere and consist of brain pathways and circuits already devoted to language. All are tightly linked with the rest of the vast, intricate language network in the cortex - the millions of neurons involved in vocabulary, grammar, discourse, and comprehension - and with circuitry for other perceptual and cognitive skills.

One pathway, located in the rear-brain parietal-temporal region just above and behind the ear, is used by novice readers to sound out words step by step. This is a kind of phonological “module” where words are broken down into their constituent phonemes before they can be processed by the rest of the language system. A secondary slow pathway for sounding out words lies in a region at the front of the brain, known as Brocas area, which also plays a major role in speaking. The third pathway, used by skilled readers, is a faster one that operates on the whole word. It lies in the back of the brain where the occipital and temporal lobes converge.

This is the so-called “word-form” area, which allows the expert reader to recognize whole words extremely rapidly - in less than 150 milliseconds.

The word-form area is the reason we read fluently, Shaywitz explains. “When you read and analyze a word correctly enough times - say four or five - you form a neural model of that word in this region.” Each time you encounter the word and read it correctly, the theory goes, the neural connections for it are reinforced and more deeply imprinted in your mental lexicon. Eventually, when you see that word in print, you no longer have to sound it out, part by part; you can read it instantly and retrieve all of its relevant information - spelling, pronunciation, meaning - from the brain’s language networks. This is skilled reading.

Studies by French neuroscientist Stanislas Dehaene suggest that the word-form area is activated even when we don’t consciously perceive a written word, when it’s presented subliminally, implying that this expert equipment responds automatically.

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without prompting, to all of the words in its huge dictionary. But for words to enter this “automatic” lexicon, Shaywitz points out, they must be read correctly, and they must be practiced, read, and reread accurately.

To glimpse what might be going on in the brains of dyslexics, researchers have conducted fMRI studies comparing the reading circuitry of dyslexic and unimpaired readers. In 1998, the Shaywitzes conducted one such study on 61 adults, about half of them dyslexic, half of them unimpaired readers. They found that the two groups displayed strikingly different brain activation patterns. When sounding out nonsense words, unimpaired readers showed intense activity in the rear of the brain, as expected, primarily in the slow parietal-temporal pathway. But in dyslexics, the back of the brain was dim. At the same time, Broca’s area in the front of the brain was bright with activity in these readers. Evidently, the dyslexic readers were not using the normal route to reading unknown words - the phonologic and word-form circuitry in the back of the brain - but instead were compensating by overactivating Broca’s area, the vocalizing network in the front of the brain.

Because all of the subjects of this study and others like it were adults, researchers questioned whether this distinctive pattern of activity might be not the cause of the difficulty but simply the result of a lifelong history of poor reading. In 2002, the Shaywitzes repeated their experiment with 144 children, half of whom were dyslexic. The results were clear: even the very youngest children showed the telling pattern of underactivation in the rear brain.

Here was the neural signature of dyslexia, present in the brain from the start - a disruption in the circuitry for phonological analysis and automatic word identification. Judging from brain-scan studies by a multinational group of researchers, the disruption appears to be universal, found in dyslexics of all ages and different nationalities. This neural disruption of the brain system for decoding words ultimately prevents rapid, automatic word recognition. Depending on the nature and severity of the disruption, there are varying degrees of reading difficulty. But for many dyslexic readers, recognizing words never becomes automatic; each time they encounter a word, it’s as if they’re reading it for the first time.

Scientists are just beginning to probe the cause of the neural disruption. Genes are thought to play a major role. Dyslexia runs in families and is passed along as a genetic trait. Of the children born to a dyslexic parent, a quarter to a half are dyslexic. But there is a big leap between knowing that a disorder is genetic and pinpointing the responsible genes. Jeffrey Gruen, a pediatrisk at Yale and a member of the Shaywitzes’ team, studies the genetics of dyslexia with researchers from the University of Colorado. He has mapped the location of genes involved to a region of chromosome 6, but he admits, “we’re still looking for a needle in a haystack.”

The Shaywitzes are also looking for clues to the nature of the problem in the chemistry and metabolism of the neural cells in the disrupted reading circuitry.

But whatever its origin, the rear-brain neural disruption that characterizes dyslexia is an “encapsulated” weakness, Shaywitz emphasizes; other cognitive abilities in the dyslexic remain intact - general knowledge and intelligence, reasoning, conceptual, and critical thinking, which dyslexics may draw on to infer the meanings of unknown words from context. And many dyslexics learn to compensate for the disruption by using alternative front-brain areas to decode words. These alternate neural routes allow them to read a large number of words accurately - but very slowly.

Dyslexia steals time, Shaywitz says. “Dyslexic readers can be as smart as anything, but they can’t read fast. Schools, universities, employers need to accommodate their need for extra time; it’s as psychological as a diabetic’s need for insulin.”

The key to rapid, fluent reading, then, is the occipital-temporal word-form area, a region of expertise for the skilled reader, of weakness for the dyslexic. But if this area isn’t active in reading in the dyslexic brain, could it play a role in the “sea of strengths” that Shaywitz describes?

In the epilogue of her book, Overcoming Dyslexia, Shaywitz mentions several creative and visionary thinkers with dyslexia. Among them are writers John Irving, Wendy Wasserstein, John Grisham; entrepreneurs Charles Schwab, Ted Turner, William Hewlett of Hewlett-Packard, Ingvar Kamprad of IKEA, Paul Orfalea of Kinko’s; as well as physicians, biologists, physicists, and, yes, rocket scientists.

“There is clearly an overrepresentation of people who are dyslexic in the upper echelons of creativity and at the top of their fields,” observes Shaywitz. “In many cases, dyslexia seems to be associated with an ability to solve problems in original ways, to think not rotely but intuitively and holistically.”

Bennett Shaywitz believes that this creative pattern of thought among some dyslexics may be rooted in the nature of the posterior or regions of the brain. Functional MRI studies have shown that this area in both hemispheres is important for gaining expertise, especially visual expertise. This region grows active, the Shaywitzes have found, in the brains of London cabdrivers as they determine possible routes through the city; presumably, it grows active also in, say, the brains of ornithologists distinguishing between different species of warblers, and the brains of typographers analyzing the spacing and shapes of letters.

See Understanding the Brain on Page 9
“These posterior regions of the brain seem to be good for acquiring expertise, for getting better and better at something,” he explains. “I think it’s too valuable from an evolutionary perspective to be sitting idle. In dyslexics, it may be used for creative or expert thinking in whatever may be their chosen field.”

By homing in on the specific neural networks involved in reading, the Shaywitzes and others have uncovered a holy grail of neuroscience, illuminating what is perhaps the most intricate work of the human mind. But for Sally Shaywitz, the satisfaction of intellectual breakthrough is insufficient. “We know so much about the nature of reading and reading disabilities; now I feel that we have a responsibility, if not a moral obligation, to disseminate our findings, to bridge the chasm between the laboratory and the real world.”

One finding with real-world implications: good reading requires good reading instruction. In an fMRI study published last summer, the Shaywitzes identified a group of poor readers with normal, functioning reading circuitry; however, the neurons in their reading areas were connected not with other language areas, as they are in expert readers, but with areas associated with memory. “These readers have not learned to sound out words, and so they can’t rely on the word-form system to recognize words. Instead, they rely on rote memory,” Shaywitz explains. “But when you start encountering a lot of new words - then rote memory is completely inadequate.” The normal reading system is there but not well developed. She suspects the problem results from lack of early stimulation and proper instruction.

As a member of the National Reading Panel, created by Congress in 1997, Shaywitz helped to analyze classroom studies nationwide to identify the most effective reading programs. The panel’s report, released in 2000, found that explicit, systematic instruction in phonemic awareness and phonics is more successful in teaching children to read than any other method. Since then, Shaywitz has advised government and education officials on putting in place programs that include this kind of instruction, as well as practice in applying these skills to reading and writing, fluency training, and vocabulary and comprehension strategies. Such “evidence-based” programs benefit all children - and adults, as well (though progress is often slower for the older dyslexic); they are critical for anyone with a reading disability.

The NICHHD’s Lyon says these programs have been found to reduce percentages of struggling readers from 40 percent to less than 6 percent.

New research suggests a neurological basis for their success. In a study just completed, the Shaywitzes asked: Can intensive tutoring in phonics and phonemic awareness affect the neural pathways for reading in young struggling readers? That is, can proper instruction change the brain? Their findings are promising. Not only did the reading skills of young dyslexic children improve after intensive, systematic tutoring but their brain activation patterns changed, appearing comparable to those of unimpaired readers - suggesting that they had developed normal brain systems for reading, including word-form circuitry.

“We found that the neural circuits for reading are very sensitive to instruction,” says Shaywitz, especially if training is started early, while children’s brains are still highly plastic. Studies by Stanford’s Gabrieli and other researchers across the country similarly suggest that certain reading interventions can dramatically affect the development of brain systems for reading in dyslexics, essentially “normalizing” activity in certain areas. Says Shaywitz, “Teaching matters.”

Though this research is still at an early stage, it has been hailed as ground-breaking by many neuroscientists and reading professionals - the turning of a soft science into a hard science.

“The Shaywitzes have led the charge in insisting on a scientific approach to assessing remediation efforts,” observes Gabrieli, “evaluating them with the same rigor a potential drug would be evaluated...
with, to see if it's safe and effective." The next step, researchers agree, is to refine understanding of the specific deficits of individual children - "there's a lot of variability," says Gabrieli - and fine-tune interventions to optimize their efficacy for a particular deficit.

In the meantime, evidence of a successful science-based instruction program - a "treatment" for dyslexia based on phonemic awareness and phonics - would seem welcome news to those charged with helping children learn to read. Shaywitz has worked strenuously to get the word to the educational community about such programs. But there are brambles along this path. Many educators prefer to teach reading with the system known as "whole language," an approach designed to teach children to read by exposing them to stories and rich, literature-based activities rather than through systematic and explicit instruction.

"Whole language is very appealing," Shaywitz says, "and schools have bought into it. But it misses the obvious point: a small number of kids can learn to break the reading code without much explicit teaching, but the vast majority need systematic, science-based instruction. It's only when you can decode words well that you can become a fluent reader, and reading becomes enjoyable. That's when you're going to be motivated to read - when a book can pull you in."

"Reading failure in the U.S. is close to epidemic proportions," says G. Reid Lyon. Recent studies suggest that 38 percent of the nation's children at the fourth-, eighth-, and twelfth-grade levels and 70 percent of disadvantaged children don't read well enough to make sense of what they're reading. Reading is cumulative. Once a child falls behind his peers and a pattern of reading failure sets in, observes Shaywitz, children tend to lose confidence, lose interest in reading, lose their sense of self-worth.

Think of it this way: If the new science of reading fails to influence the way the skill is taught, millions of young children may struggle with reading, flounder, and never regain lost ground or recover damaged self-esteem. But if schools, teachers, administrators, and politicians see that science-based reading programs are brought to all children, then this same group of millions may well follow a fast path to accurate, fluent, pleasurable reading. Among them may be "budding Wendy Wassersteins or John Irvings," as Shaywitz says - perhaps even a rocket scientist or two.

Help ALTA with Website Costs

When you purchase your books, music, and videos using the www.amazon.com link found on the ALTA website, you help ALTA with its website operating expenses. ALTA receives 5% of the purchase price when you buy an item by visiting www.altaread.org first, then clicking on the link for amazon.com. In addition, ALTA receives 15% of the purchase price when you visit the book review section of the ALTA website and make a purchase. Once you review a book and decide to purchase it, click on the link for www.amazon.com. Consider www.amazon.com through www.altaread.org when shopping for professional reading material, children's books, music, and videos and help ALTA with operating expenses.
2003 ALTA MEMBERSHIP DUES MUST BE RECEIVED BY MARCH 1

Student Members $30.  
Active Members $60.  
Qualified Instructor $80.

Personal Benefits:
1. Recognition as a Certified Academic Language Therapist. Only those who are active ALTA members are Certified Academic Language Therapists.
2. Positioned to receive a license when ALTA has made the last step toward that goal.
3. Maintenance of professional collaboration and collegiality.
4. Encouragement to attend the annual conference which features outstanding educators.
5. Opportunity to remain abreast of current research and curriculum developments.
6. Assistance in broadening and refining skills and techniques.
7. Opportunity to share discoveries and curriculum ideas.
8. Updated by receiving the ALTA quarterly newsletter.
9. Receive referral of potential students from ALTA’s Hot Line.

ALTA Common Good Benefits:
1. Helping maintain the high professional standards set by ALTA for training, teaching, and testing of therapists.
2. Supporting ALTA as an advocate for all CALT’s.
3. Promoting public confidence regarding the integrity, competence and professionalism of all CALT’s.
4. Providing a mentoring environment for new members.
5. Giving ALTA one more member to boost membership numbers so that licensure can happen.

Did Not Renew in 2003 (before March 1, 2004)
Be reinstated by:
1. Paying 2003 dues and late fee,
2. Complying with CEU requirements.

Be reinstated by:
1. Paying lapsed dues and late fees for all years,
2. Sending in all required CEU records for audit (20 hours due in 2001; 20 hours due 2003).
3. If CEU requirements have not been fulfilled for membership period, must take the ALTA exam.

Have Not Been a Member since 2000?
Be reinstated by:
1. Taking the ALTA exam.

WELCOME, NEW STUDENT MEMBERS:
Diane Abernathy, Connie Blaut, Patty Brown, Amy Fulmer, Belinda Haas, Diana Hale, Deborah Kremer, Stephanie McBride, Wilmet McLin, Traci Newman, Laura Newsom, Lynn Pohlmeier, Sylvia Portnoy, Nancy Samano, Donna Talbert; Barrett Van Zandt, Kathryn Worthy.

WELCOME, NEW ACTIVE MEMBERS:

WELCOME, NEW QUALIFIED INSTRUCTOR
Marilyn Wilcoxon.

Please keep the ALTA Foundation in mind whenever you consider giving a memorial, scholarship money, or simply a charitable donation. The ALTA Foundation is a 501(C)(3) non-profit entity established to accept donations and contributions which support ALTA’s educational mission. Through the financial support provided by the Foundation, Academic Language Therapists benefit from continued education in the most current research based information emphasizing strategies and techniques most effective in clinical and school settings. The Foundation also supports programs to help students with dyslexia, their peers, and public at large to better understand dyslexia and to demystify the disorder. Other Foundation activities include opportunities to provide and support best practices among our members and maintain high levels of professionalism in the field. For more information, or to make a tax-deductible donation, please contact the ALTA national office.
The ACC maintains a system of accreditation for post baccalaureate educational programs designed to prepare Academic Language Therapists to provide therapeutic instruction to students with dyslexia and/or related written-language disorders and prepares Qualified Instructors for teaching and supervision of academic language therapists. The ACC Council is composed of representatives from each of the accredited training centers. The ultimate goal is quality services to the learning different population and dependable information for the public.

In order to support current CALT’s and train future CALT’s, the accredited centers offer CEU opportunities and offer ongoing training. In the year 2003 these centers:

- Started 291 new trainees in Alphabetic Phonics
- Continued training 142 advanced trainees
- Offered 29 CEU opportunities to current CALT’s.

If you are interested in training or in CEU’s contact any of the following centers and they can guide you!

**Centers For Youth & Families**
Stacey Mahurin
PO Box 251970
Little Rock, Arkansas  72225-1970
(501) 660-6886 x 1129
smahurin@aristotle.net

**LEAD**
Valerie Tucker
406 Country Club Rd.
Argyle, TX 76226
(940) 464-3752 phone
(940) 464-7293 fax
lead1234@gte.net

**Multisensory Language Training Institute of New Mexico**
Sandra Dillon
6344 Buenos Aires N.W.
Albuquerque, New Mexico 87120
(505) 898-7500 phone
(505) 890-4119 Fax
sandradillon@msn.com

**Neuhaus Education Center**
Kay Allen
4433 Bissonnet
Bellaire, TX 77401
(713) 664-7676 phone
(713) 664-4744 fax
kallen@neuhaus.org

**Payne Education Center/OK City**
Janet Riggan
3240 W. Britton Rd.
Ste. 104
Oklahoma City, OK 73120
(405) 755-4205 phone
(405) 755-4281 fax
info@payneducationcenter.org

**The Scottish Rite Learning Center of Austin**
Pat Sekel
508 W. 14th Street
Austin, Texas 78701
(512) 472-1231
(512) 472-3861 fax
psekel@austin.rr.com

**The Scottish Rite Learning Center of West Texas**
Doris Haney
602 Avenue Q
PO Box 10135
Lubbock, TX 79408
(806) 794-2210
(806) 765-9150
haney@nts-online.net

**Southern Methodist University LTP**
Karen Vickery
Learning Therapy Program
Southern Methodist University
5236 Tennyson Pkwy., Bldg. 4-108
Plano, TX 75024
(972) 768-7323 phone
(972) 743-3442 fax
kvickery@smu.edu
The Spotlight Page@ www.altaread.org

Dyslexic students are a very gifted group. Their talents are seen in many areas. They excel at imaginative stories, colorful artwork, creative problem solving, exceptional science projects, designing and building, sports and music, to name a few.

ALTA provides an opportunity for its members to spotlight the work of students receiving language therapy. A new student is featured each month. Colorful art displays the best whether in crayon drawings, pastels, collage, watercolors, markers and pencil drawings. Subjects may range from life-like scenes and favorite pets to creative, contemporary design. Occasionally, an artist writes a story to accompany the artwork. The student’s school photo or current snapshot and a brief description of interests, hobbies and future plans are included.

Our creative writers have submitted descriptive writing, how-to’s, persuasive articles, poetry and prose. A neat hand-written copy or preferably typed articles in an age-appropriate style are what we feature. We do not desire a perfectly edited article.

The excitement for a student at seeing his or her work on the internet is a self-esteem booster. One student’s class at school viewed the web site together as he read his featured work to them. Applications at www.altaread.org are ready to download or contact Jean Fortune at fortsearch@aol.com. A parent approval is required along with the therapist’s signature.

SPRING CONFERENCE HOTEL ACCOMMODATIONS

Raddisson Hotel North at Richardson
1981 North Central Expressway (Hwy. 75), Richardson, TX 75080
(972) 644-4000
5.3 miles from Shelton
High Speed Internet Access to each room
Free full breakfast buffet
Fridge and microwave to each room

Bradford Homesites
16060 North Dallas Parkway, Dallas, TX 75248
(972) 726-9990
2.93 miles from Shelton School
Corner of Dallas Tollway and Arapaho
High Speed Internet Access to each room
Free Continental Breakfast
Fridge and microwave in each room
Bradford market for microwave, grocery, and snack items and meals
Yale neuroscientist Sally Shaywitz provides a comprehensive and up-to-date book on the reading difficulty, dyslexia, which she estimates affects nearly one in five individuals. Dr. Shaywitz aims to provide understanding and help to those who struggle to read. She combines history, brain-based research and education in a very effective manner and offers hope and practical advice for overcoming dyslexia. In the first part, Dr. Shaywitz demystifies what goes awry in the reading process by explaining how the brain of the individual with dyslexia is activated in a different way than for those without reading problems. Brain imaging studies are used to show support for the hypothesis that dyslexia involves a weakness with phonological processing (awareness of the sound units of language). This then interferes with the mechanics of decoding words (getting sounds into words) leading to problems with word identification and consequently word meaning while intellectual abilities necessary for comprehension and reasoning are not affected.

The second part elaborates on identifying at-risk children and diagnosing dyslexia in both children and bright young adults. Detailed description of expected accomplishments follows the development of pre-reading and reading skills from early preschool through the fourth grade and above. Attention is also given to later clues occurring in adolescents. In part three Dr. Shaywitz describes strategies that a parent can use to help a child become a better reader year-by-year and grade-by-grade. The final part provides information on the essential components of a successful intervention program, educational accommodations, parental guides for selecting the best school and in working with teachers, literacy programs for adults with reading problems and nourishing a child's sense of self worth.

A key point that Dr. Shaywitz stresses throughout her book is the importance of early identification and intervention of the child with dyslexia. The immensity of this message is particularly relevant for those who care for and work with children including parents and professionals. Those who study child development agree that a primary task of a school age child is to experience success with learning. Academic accomplishment helps the child develop a strong sense of competence. A child who struggles with reading is vulnerable to considerable frustration, anxiety and weakened self image. Dr. Shaywitz is particularly attentive to this and puts forth a model of understanding based upon a sea of strengths in which dyslexia is considered an isolated weakness surrounded by strengths in many areas including thinking and reasoning. She includes in her book understanding she has gained from individuals with dyslexia including very successful and talented people from many walks of life. This book is an invaluable guide for those who struggle with reading and their families, teachers and other professionals involved in the care and healthy development of children.

Overcoming Dyslexia is published by Alfred A. Knopf, New York. It is also available on audio cassette and audio CD. 

Barnes and Noble is sponsoring a book signing of Sally Shaywitz's new book Overcoming Dyslexia at the ALTA spring conference.
CEU Calendar

February 26, 2004
Southwest Multisensory Training Center
Allen, TX

Verbal into Written Expression
Contact: Dr. Beverly Dooley, (972)359-6646

April 1, 2004
Texas Scottish Rite Hospital for Children, Dallas
Dallas, TX

School-Based Identification of Dyslexia
Seminar Faculty: Staff of the Luke Waites Child Development Center
Approved for ALTA CEU credit
Contact: Susan Dyess, 214-559-7800 or Kristal Sims, 214-559-7885

April 2, 2004, 9:00am - 4:00pm
Scottish Rite Learning Center of Austin, Scottish Rite Theater,
207 W. 18th St.,
Austin, TX

Metacognitive Strategies for Increasing Reading Comprehension
Seminar Faculty: Suzanne Carreker, Director of Teacher Education at the Neuhaus Education Center
6 ALTA CEU Credits
Contact: 512.472.1231 or khubert@austin.rr.com or www.ScottishRiteLearningCenter.org

ALTA members are responsible for maintaining their own personal CEU records for possible audit.

April 7, 2004, 9:00 a.m. - 4:00 p.m.
Education Service Center Region 17
1111 West Loop 289, Lubbock, TX

Dyslexia Identification Seminar
Presented by Gladys Kolchensky, M.A., CCC-SLP,
Administrative Director, Luke Waites Child Development Center,
Texas Scottish Rite Hospital, Dallas and Lois Pohl, M.A.,
Dyslexia Coordinator, Luke Waites Child Development Center
Texas Scottish Rite Hospital, Dallas
Contact: Debra Gafford, (806) 792-5468
ALTA CEU Approval Pending

May 3 and 5, 2004
Southwest Multisensory Training Center
Allen, TX

Alpha Smarts and Quicktionaries
Contact: Dr. Beverly Dooley, (972)359-6646