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“Secret of the Super Successful . . . They’re Dyslexic”

Editor’s note: In a departure from our usual format, the following commentary by a new member of IARLD briefly and informally summarizes recent efforts to refocus research on the talents of individuals with dyslexia. This piece is intended to be provocative and the editor encourages readers to send brief responses for publication in subsequent issues of Thalamus.

Commentary by Thomas G. West, author of *In the Mind’s Eye*, Krasnow Institute for Advanced Study, George Mason University, Fairfax, Virginia

The title used for this brief article was also used on the front page of a recent issue of *The Sunday Times* (London), peaking just above the fold (Dowell, October 5, 2003). In breezy journalistic style, the *Times* article describes the findings of studies linked to a new BBC2 television series:

“You don’t have to be dyslexic, but it helps. A study has revealed that millionaires are significantly more likely to suffer from the condition than the rest of the population. Psychologists who analyzed the mental make-up of business winners found learning difficulties are one of the most important precursors of financial success. About 40 percent of the 300 studied had been diagnosed with the condition – four times the rate in the general population. Experts believe one reason may be that dyslexics, who tend not to be good at details, learn to excel by grasping the bigger picture and producing original ideas. They might also be more motivated because of the social exclusion many feel.”

It is striking that such views are considered (nearly) front page news in the popular press in Britain at a time when most dyslexia research around the world is devoted almost exclusively to a deficit model – with research effort almost wholly devoted to reading problems and ways they might be remediated. With few exceptions, most researchers seem to be uninterested in special talents or ways to promote the development of these talents. Although some researchers such as Dr. Norman Geschwind (1982, 1987) argued that dyslexia is likely to be associated with certain talents, other researchers have argued that talents are likely to be independent of dyslexia – and, at least, such considerations are an unwelcome distraction from the main business of reading remediation.

School Failure, Work Success

However, the view from the world of work can sometimes be quite different from the view from within the world of education. For some time it has not been surprising to see references to successful dyslexics in the conventional business media -- as well as technology, politics and other fields (Agence France Press, 1996, Bass, 1995, Channel Four TV, 1999, *Financial News*, 2000, Frey, 1990, Hussin, 1996, Kupfer, 1996, McDonald, 1994, Negroponte, 1995, Robins, 1992, Petzinger, 1998, West, 1997, 1998, 1999, 2001, Yeo, 1996). Indeed, not long ago, *Fortune*, a major American business magazine targeted to corporate heads, did a long cover article on dyslexic chief executive officers (CEOs) which included Charles Schwab (discount brokerage), John Chambers (Cisco), Paul Orfalea (Kinko's), Richard Branson (Virgin Atlantic Airways), David Boies (trial lawyer), Gaston Caperton (former governor of West Virginia, head of the College Board), William Dreyer (scientist), Craig McCaw (cell phones), Don Winkler (Ford Financial), John Reed (Citibank, NYSE) and others. (Morris, May 20, 2002).

In fact, a very recent issue of *Fortune* (October 6, 2003) deals with dyslexia (and Richard Branson) yet again – focusing on the high success of the innovative businessman, mentioning his dyslexia only briefly in passing. On the cover of this special issue of *Fortune* we see a photo of a broadly grinning Richard Branson (seated on a wall at home on his personal island, Necker, in the British Virgin Islands) with the text: “The Man Who Has Everything. The Money. The Family. The Island. (Damn Him.)” And on the inside: “The outlines of the story are familiar: He was a middleclass British kid with dyslexia who nearly flunked out of one school, was expelled from another and finally dropped out altogether at age 16 to start a youth-culture magazine called *Student* that he hoped one day would be Britain's *Rolling Stone*” (Morris, 2003).

So, we might ask, why does the popular press, especially the business press in the US and UK, seem to be so fascinated by highly successful dyslexics? Indeed, why do they seem to be so far ahead of professional researchers in this field – as well as research institutions and funding agencies? Are they just going for a sensational story – or are they tapping into something that merits close attention? Do the writers and editors and readers simply not understand the deeper nature of dyslexia – or are they seeing something more clearly because of their work-oriented focus? Are they dealing with highly successful individuals who are wholly unlike most other dyslexics – or are they looking at a group that could teach us much about the potential of all dyslexics (when they build their lives around talents)? Is their perspective naïve or wrong headed – or, rather, are they helping us to refocus on the larger realities of life and work.

Years ago, Dr. Norman Geschwind had proposed that dyslexics should be expected to show evidence of certain forms of talent, especially with respect to visual, spatial, mechanical and mental model building (1982, 1984). Geschwind argued that the dyslexic trait would not be so common unless it conferred advantages over long periods of time. Also, he suggested that the same mechanism that produced the varied difficulties could produce the advantages as well. Clearly, from the earliest days, there were strong arguments for considering talents along with disabilities. However, something was lost along the way.

April Talent Meeting

For several years a small group of researchers has been interested in trying to establish an empirical basis for the hypothesis that dyslexics are more talented in certain areas than non-dyslexics. Recently, some of these researchers have worked with Will Baker and The Dyslexia Foundation (formerly the National Dyslexia Research Foundation) to move this research agenda forward.

Accordingly, on April 26-27, 2003, a small meeting was convened at the MIT Endicott House Conference Center, Dedham, Mass. The conference was built around Geschwind's hypothesis "that the same brain organization that led to language disabilities for dyslexics might also lead to certain high level abilities." The goal of the conference acknowledged "that Geschwind's theory – dyslexics may have special talents or unusual abilities as compared to their non-dyslexic peers – while compelling, needs to be examined with increased scientific rigor" (Dyslexia Foundation, 2003). The meeting participants and planners totaled 22 individuals – including dyslexia researchers, a facilitator and a number of successful dyslexics (a scientist, a photographer, an actor, an accountant, an economist, a TV producer, an educator, a computer graphics artist and inventor). The basic idea was that researchers should listen to the dyslexics as they discuss their successes and strengths – in order to begin to develop new ways of investigating these talents within a scientific context.

According to the draft meeting report, all the participating dyslexics "agreed that dyslexia is not just reading but a different way of thinking, of processing information; they 'see' things differently from non-dyslexic individuals. This could be an ability to make inferences more quickly than non-dyslexics, a visuo-spatial approach to problem solving that may be unique to dyslexics, or some sort of unique perception or processing ability" (Dyslexia Foundation, 2003). The general agreement that dyslexia is more than reading is noteworthy. It is even more noteworthy that the capacity to 'see' differently comes up in such discussions with truly remarkable frequency -- whether the field is radiology, MR imaging, ultrasound, dermatology or art fraud detection and authentication.

Seeing What Others Cannot See

A similar description came from Dr. Baruj Benacerraf -- who is dyslexic, a former head of New York's Dana Farber Cancer Institute and a Nobel Prize winner in immunology. He was invited to the Endicott House meeting but was unable to attend. However, he expressed great interest in the dyslexia and talent project -- and said he would be happy to work with the group sometime in the future. Indeed, he made several statements during a telephone conversation that he said he would be happy to have included in the meeting report.

He said (in paraphrase): Yes, there is definitely a positive side to dyslexia and this should be studied. One can deal with the problems with special techniques and lots of hard work. However, he asserted that there are definite advantages -- seemingly often having to do with distinctive ways of perceiving space and visual material. But these advantages have not been studied. They seem to be little understood and are rarely developed explicitly. As an example, he spoke of his daughter who is a specialist in ultrasound imaging. He

said “she can see things that others cannot or do not see” (Personal conversation, West, 2003).

Dr. Benacerraf originally learned of his own dyslexia through the traits diagnosed in his daughter and grandson -- not an uncommon pattern. Of course, he was aware all along of his own reading, spelling, handwriting and other difficulties. In part, he attributes his success in science to his dyslexia – since he believes the dyslexia allows him to have a better sense of time and three-dimensional space than others in his field (West, 1997).

Impossible Figures, Possible Measures

Many valuable insights came out of the Endicott House meeting. However, perhaps the most important development was the general agreement that the thin edge of the wedge in talent research had already been recognized and replicated. Several researchers at the April meeting indicated that they had hoped, years ago, to uncover hidden talents among dyslexics. They were then greatly disappointed not to be able to document these expectations. Now, through the results of two recent studies discussed at the meeting, it seems evident that finding talents among dyslexics may require different forms of tests and measurement.

Several years ago, one group of researchers tried to compare visual abilities among dyslexic and non-dyslexic school children. To their surprise and consternation, the first set of tests indicated the dyslexics were mostly slower and less accurate than the non-dyslexic students. There was one exception, however. In one part, the test of what is called “impossible figures” (line drawings of objects not possible to construct in 3D space) the dyslexic children were faster but no less accurate (von Károlyi, 2001, von Károlyi, *et al*, 2003a, von Károlyi, *et al*, 2003b, Winner, *et al*, 2000, Winner, *et al*, 2001).

Some thought that this was an unimpressive finding. Others felt that this finding might be very important indeed – that it may be all that is needed to make a break into a deeper understanding of the dyslexic kind of brain and its distinctive (and hard to measure) special capacities. This task, unlike others, seemed to tap into apparently distinctive dyslexic abilities -- seeing things as wholes rather than parts and an ability to perform better on novel tasks.

Briefly, it appeared that the other more conventional visual-spatial tests included a number of merely mechanical “traps” which tended to slow the dyslexics and make their answers less accurate. On the other hand, the “impossible figure” tasks seemed well suited to the distinctive abilities of the dyslexics – as well as being relatively free of mechanical “traps.”

With this in mind, a second study was carried out – with substantially similar results, largely replicating the previous study. The results of the two studies were reported in *Brain and Language* in the spring of this year in an article titled: “Dyslexia Linked to Talent: Global Visual-spatial Ability” (von Károlyi, Winner, Gray and Sherman, 2003). In the discussion, these authors observe:

“Given that individuals with dyslexia typically read slowly, . . . the finding that individuals with dyslexia are faster than controls on any task is surprising. The compelling implication of this finding is that dyslexia should not be characterized only by deficit, but also by talent. Global visual-spatial processing (what we refer to as ‘holistic inspection’) may underlie important real-world activities such as mechanical skill, carpentry, invention, visual artistry, surgery, and interpreting x-rays or magnetic resonance images (MRI). Linking dyslexia to talent casts this condition in far more optimistic light than linking it to a deficit only. . . . The discovery of talent associated with dyslexia may eventually lead to more effective educational strategies and help guide individuals with dyslexia to professions in which they can excel” (von Károlyi, *et al*, 2003).

When these findings were briefly referred to during University of Wales and IARLD conferences in Bangor, Wales, this past July, several researchers expressed their interest in possibly including similar tasks in their own studies.

Thus, perhaps we might conclude, in spite of initial appearances to the contrary, that in fact von Károlyi, Winner and their associates are indeed way out in front by looking at the talents of dyslexics: not only out in front of most other researchers -- but even out in front of the popular business press as well.

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Profile

Thomas G. West is the author of the award-winning book *In the Mind's Eye*, now in its 14th printing. The book was recognized by the American Library Association with a gold seal as "an outstanding academic title" (1997) and, later, as one of the "best of the best" for the year (1998), one of only 12 books in the broad psychology category. The book was published in Japanese translation as *Geniuses Who Hated School*. A Chinese translation is to be published in 2004. According to one reviewer: "Every once in a while a book comes along that turns one's thinking upside down. *In the Mind's Eye* is just such a book. . . ." The book argues that major advances in computer visualization technologies promise to transform education and the workplace -- greatly increasing the perceived value of visual talents for understanding patterns in complex systems in business, the sciences and other fields. Many dyslexics are already leaders in areas of technological innovation as well as science and business -- as technological change makes their distinctive visual strengths more and more valuable just as their areas of weakness become less and less important.

In connection with *In the Mind's Eye*, the author has been invited to provide presentations for scientific, medical, art and business groups in the U.S. and overseas, including groups in Australia, Canada, Great Britain, New Zealand, Germany, Spain, Italy, Ireland, Sweden, The Netherlands, Hong Kong and Taiwan. West has organized conferences and consulted on computer visualization of information for the National Library of Medicine as well as for business leaders and media innovators. For years he has written a column on visualization issues for a quarterly publication of the international professional society for computer graphics artists and technologists. These columns are now being turned into a new book (publication November 2004) with the title: *Thinking Like Einstein -- Returning to Our Visual Roots with the Emerging Revolution in Computer Information Visualization*.

Prior to writing *In the Mind's Eye*, Mr. West worked with engineering and consulting organizations where he managed a large international research and training program, helped to redesign a national computer information system and integrated strategic planning for several federal government agencies, with periodic travel to the Middle East and the Far East. Based in Washington, D.C., West plans to begin work on another new book in 2005, this one dealing with visual thinking, high levels of creativity and dyslexia in scientific families -- focusing, in part, on one such family that includes winners of four Nobel Prizes. Mr. West has appeared on TV programs broadcast by PBS, the BBC and UK Channel 4. Articles reviewing or citing *In the Mind's Eye* have appeared in *Vanity Fair*, *Computers in Physics*, *The American Bar Association Journal*, *The Boston Globe*, *The Roeper Review*, *The Financial Times*, *The Times Educational Supplement*, *The Independent*, *The Times*, *The Evening Standard*, *The Oxford Mail*, *The Australian*, *Kagaku Asahi Science Magazine* and *Nikkei Daily* among others.

Revised and corrected.

