Ehud Yairi: Reflections on a Career

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ABSTRACT

This is the second in a series of papers that provides an historical record in this journal of contributions made by the most influential researchers in the field of fluency disorders. The present paper reflects on the long and productive career of Ehud Yairi, outlining his many contributions to the field of stuttering, and his outstanding achievements and accomplishments. The paper is based on interviews with him during 2020, after the conclusion of his research career. His visionary, lifetime work has advanced our understanding of the nature, origins, and epidemiology of this disorder.

Introduction

This is the second in a series of papers that provides an historical record in this journal of contributions made by the most influential researchers in the field of fluency disorders. These papers are based on interviews conducted at some time after the conclusion of a demonstrably influential research career in our field. The first of those papers was a reflection on the career of Oliver Bloodstein (Onslow, 2007).

The present paper reflects on the career of Ehud Yairi, who is now, at 81 years of age, Emeritus Professor at the University of Illinois and Tel Aviv University. Although retired in 2005, his scientific publication activities have continued to the present. His last peer reviewed journal contributions to stuttering research appeared in 2018. A search of the ISI Web of Science data base (Clarivate Analytics, 2020) places him in the top 10 of the most published researchers in the history of stuttering research. In qualitative terms, the record that follows outlines how his contributions have advanced our understanding of the nature, origins, and epidemiology of
stuttering. I corresponded with him early in 2020 and the unattributed quotes that follow are from that correspondence.

**Toward a career in speech-language pathology**

At the outset, I was interested to determine whether that impressive career was one he had chosen from the outset. As it turns out, speech-language-pathology was his eighth career choice! Ultimately, though, as has been the case for so many figures in this field, his own experiences with stuttering were responsible for that final career decision.

Ehud was born in Palestine (now Israel) in 1939, four months before the start of World War II. He has a memory of being 4 years old when an adult asked him about the multiple repetitions in his speech:

> Stuttering has run wide and deep in our family: grandfather, father, one uncle, two aunts, and a cousin. In addition, one of my sons, two grandchildren from another son, as well as my brother and his grandson all stuttered briefly in childhood.

An all-too-familiar picture then emerged of the early educational experiences and occupational choices of someone who stutters: School and high school years were marred by my severe stuttering, avoiding talking in classes. . . Once, we had a visitor in the classroom. It was my turn to read a few sentences, but I just cried. Advancing to high school was traumatic, attempting to hide stuttering, and anxiously awaiting that they, especially the girls, would soon become aware of it. Beginning to think about the future, agriculture was attractive, and I moved to a high school in a Kibbutz, a collective agriculture farm, a move that triggered another cycle of “they will find out” anxiety. After school, I helped milking 80 cows, recognizing each one’s name either by her face or udder. Farm life became very attractive and I seriously contemplated it as my future (1\textsuperscript{st} career). My concerned father, however, pushed hard the idea for me to seek a lab technician training program because such jobs involve minimal talking.

Although, it was a duly considered 2\textsuperscript{nd} career option, it was a less than exciting proposition. Within a few years, things changed, and a military career became an option:

> When World War II had ended, the Jewish community began gearing up for independence from Britain. An underground organization prepared young people for an armed conflict.
This was done under the noses of the British police and military. Surrounded by the sand hills, our community was the training grounds. My father oversaw hiding, maintaining, and delivering light weapons and ammunition for trainings. Once, when I was 5 or 6 years old, he took my brother and me to watch a special training in throwing live hand grenades! . . . We also marveled that we had plenty of opportunities to clean and oil rifles and machine guns, as well as playing “army camps.”

Those activities had a strong impact on me. . . As we grew up, my brother, naturally, chose a military career. I, too, dreamed of becoming an officer. This (3rd) career idea was blunted by the stuttering reality. Pouring salt on the wounds, as a private soldier in the IDF [Israel Defense Forces], stuttering excluded me from any combat unit. So, I cheated my way into a voluntary course in explosives and mines. . . This, however, enabled my transfer to a combat paratroopers unit, stuttering or not. This job is devoid of a learning curve. The first error is likely to be the last! For a while, my expertise with explosives tempted me to consider it as a future civilian profession which does not require talking (4th career option).

An academic career. . .

Then, it appears, the first glimmerings of an academic career began:

Next, having completed military service, university studies appeared on the agenda. . . Living in a kibbutz during the high school period, and milking cows daily, the prospect of veterinary medicine (5th career) became very attractive. Even better, people do not stutter to animals.

Alas, this option was not available in Israel; it required study abroad, an impossibility for me at the time. Instead, I applied to the College of Agriculture (6th career option). Here, a personal interview with a three-professor committee was a killer. Questioning my ability to work in the field with such severe stuttering, the verdict came down: Denied! Next, there was a marked change in direction: I was accepted in two very different departments at Tel Aviv University: Psychology and African Studies (7th career). An admission committee of Psychology professors strongly warned me about the risk of unemployment, having such severe stuttering. “Better take philosophy,” they kindly, but sternly, advised. Opting for academic freedom, I took the risk and graduated from both programs in the spring of 1965.

Then, speech-language pathology. . .

But Ehud was ultimately brought our way by one of those sliding-doors moments:

During the last year of studies, a seminar in clinical psychology called for a term paper. Selecting stuttering as my topic, an intensive literature search in many locations yielded but a few items. Fortunately, one university had Murphy and Fitzsimmons (1960) book Stuttering and Personality Dynamics, and the American Library had Wendell Johnson et al. (1948) Speech Handicapped School Children. Johnson’s chapter on stuttering, his
Diagnosogenic Theory, and learning that such a leader was a stutterer, left an overwhelming impression. Thus, the idea of becoming a speech clinician was born, reinforced by a history of receiving many different, and some rather strange, treatments. I immediately wrote to Johnson at the University of Iowa and was happy to receive his lengthy, very kind, reply.

During the course of our correspondence, Ehud provided me with a copy of that letter. Elsewhere, I have documented the extensive influence of Wendell Johnson on this field (Onslow, 2020). Johnson’s letter to Ehud revealed yet another profound influence; he was instrumental in giving us nearly 50 years of research productivity from Ehud. Johnson wrote in his letter:

Choosing a career is a very serious business. The decision should be made on the soundest possible basis. The fact that you are a stutterer is not, in my judgment, a sound basis for deciding that you want to be a speech pathologist. In and of itself it is not a sufficient recommendation. What you should do, in my opinion, is to base your decision on your other abilities, interests, and personal qualities. If on such a basis you decide to attempt to prepare yourself to become a speech pathologist, you should give top priority to improving your own speech as much as you possibly can and you should aim at completely eliminating the behavior which you call your stuttering... You engage in this interfering behavior on the mistaken assumption, which you have learned, that if you do, you will contend successfully with something that you call stuttering that will happen if you don’t do these things. It is a false assumption. The stuttering is nothing but what you do trying to contend with the stuttering you expect to happen if you don’t contend with it... In my view, the fact that you have a possibility of changing your speaking behavior only adds to the importance of the basic principle of basing your decision of whether or not to be a speech pathologist on factors other than the behavior which you now exhibit when you speak.

I hope this letter proves to be of some value to you in helping you to arrive at a decision about your life work. (W. Johnson, personal communication [to Ehud Yairi], 1964)

Ehud and Wendell Johnson

When I read that letter, I was struck by how the engagingly circular tenets of its reasoning, based on Johnson’s theoretical perspectives, were applied in coercing Ehud to join this profession. In any event, it did the trick, and Ehud notes that:

By September of 1965, I began my graduate studies in Speech Pathology and Audiology at the University of Iowa, my 8th, and last, career choice.

Johnson was a charismatic and well-liked figure, as seen in accounts of him by the other famous figure from Iowa during that period, Oliver Bloodstein (Bloodstein, 1986; Onslow, 2007). Ehud endorsed that view during our correspondence:

Going through the literature on stuttering, his numerous publications and those of others, it becomes so clear that his theory, research, clinical work, thoughtful writing, and sincere
human interest in people and their families altered the course of the profession and, for several decades, greatly influenced numerous scholars and clinicians around the globe. Based upon my letter exchange(s) with Johnson, memories I have gathered from his colleagues, students, family, and others who knew him, he was very kind, much liked, loved, and admired by many.

I found it intriguing, then, to discover that, the way things turned out, Ehud was not a direct recipient of that charisma, and this altered his career directions:

Wendell Johnson’s diagnosogenic notions that stuttering is caused by listeners’ negative reactions to young children’s normal disfluencies, labelling them “stuttering,” captivated me. They were revolutionary, easy to understand, very attractive, kindled hope for recovery, and sharply negated a deep conviction that my own stuttering was organically based. . . . But, very sadly, I never met Johnson; a heart attack killed him just 2 or 3 weeks prior to my arrival in Iowa City, the fall of 1965. The absence of his personal aura facilitated resurgence of my earlier ideas that were expressed in a term paper on physiological aspects of stuttering, presented during the first semester of my M.A. studies. Additionally, exposure to, as well as increased interest in, organically-based speech disorders, especially cleft palate, voice, and those associated with head and neck cancers, also weakened my initial enthusiasm for Johnson’s learning-based theory.

At Iowa, then, without Johnson, and spurred by doubt about the Diagnosogenic theory, Ehud outlined his publications during subsequent years that contributed to the scientific demise of the theory. This began with the publication of his PhD dissertation (Yairi & Williams, 1971) which provided data that were directly inconsistent with the theory, showing no signs of the purported parental driving attitudes.

Subsequently, in a series of four studies during the 1980s (Yairi, 1981, 1982, 1983; Yairi & Lewis, 1984), Ehud investigated the speech of 2-year old normally developing children, with improvements to Johnson’s methods. Data showed that normal disfluencies were not a frequently occurring behavior and that they were mostly brief. In short, there were no reasonable grounds to believe that parents would often mistake them for stuttering. Additionally, comparing the speech of stuttering pre-schoolers with that of their normally fluent peers, the groups emerged as two distinctive population samples. Finally, objective acoustic measures showed substantial differences between disfluencies of control and stuttering children at 2 months post-onset (Throneburg & Yairi, 1994). Subsequent contributions to the genetic literature (Ambrose et al., 1993; Yairi et al., 1996) continued this inconsistency with the Diagnosogenic Theory:

It was just impossible to accept Johnson’s simplistic proposal that the familial stuttering phenomenon was nothing more than generational transmissions of fears about, and anticipation of, the curse to strike, again, young children beginning to talk. . . . We then ventured into more complicated genetic studies with the excellent contributions of
Professor Nancy Cox, then on the faculty of the University of Chicago, School of Medicine. By then, we had extensive, rather accurate, 69 family pedigrees for as far as third-degrees relatives. Periodic meetings with the families over several years allowed for data confirmation and updating. Applying segregation analysis, we were the first to report “statistically significant evidence for a major locus component to the transmission of susceptibility to stuttering” (Ambrose et al. 1993, p. 704).

In light of all that, I was intrigued to ask Ehud about his involvement (Ambrose & Yairi, 2002) in revisiting the infamous Tudor (1939) study, which was directed by Johnson and is widely thought to be a direct test of the Diagnosogenic Theory:

Well, it was not! People in our field, including experts on stuttering, know very little about this work because they never read it. In fact, that voluminous M.A. thesis was never published. When I checked it out at the University of Iowa Library about 20 years ago, only 15 people or so had looked at it during all those years (60 or so by then) according to the library’s records. Nicki Ambrose and I conducted an extensive review and many analyses of all the procedures, data, and conclusions; and we published a thorough critical report of the entire study and also provided additional data analyses (Ambrose & Yairi, 2002). I also wrote a book chapter on the topic (Yairi, 2006). I can tell you that, contrary to common belief, (a) there was no diagnosogenic theory in 1939, (b) the study did not aim to create stuttering nor did it produce it, (c) its methodology was poor, and (d) the data failed to support the idea that negative reactions produce more disfluencies, and they certainly did not produce stuttering. I have been, and will be forever, deeply upset and sorry about the very unjustified attempts by people in the field and the media to use the Tudor study to sully Wendell Johnson’s reputation. Actually, I met Mrs. Johnson and their son, Nick, a few times. When the University of Iowa was sued about the study, the State of Iowa Attorney asked me to serve as the State’s expert witness for Johnson and the University’s defence. Unfortunately, and to my great dismay, later the University opted to curtail the issue through an out of court arrangement.

It seems, then, that much of the start of Ehud’s career was spurred by healthy skepticism of the state of the art with speech-language pathology. In this sense, he was visionary, and his vision contributed much in addition to that. The field did not have any longitudinal epidemiological data about the early stages of the disorder. Ehud’s leadership of the Illinois Early Childhood Stuttering Project filled that gap by establishing a longitudinal cohort study of 89 children for 4 years after the onset of their stuttering as preschoolers, and for several years subsequently (see Yairi & Ambrose, 1999, 2005). It will be a long time before the contribution of that work will be equaled.

For what it’s worth, I feel the need to single out two other visionary contributions to our field. As far as I can tell, Ehud’s work with a rhythmic stimulation treatment for early stuttering (Coppola & Yairi, 1982) was the first empirical attempt to develop a structured therapy for preschool children using metronomic-paced speech; earlier studies with the method were
conducted with adults or high-school children (Andrews & Harris, 1964; Brady, 1971; Fransella, 1967; Greenberg, 1970; Helps & Dalton, 1979; Ingham et al., 1972; Whole, 1968).

Another often overlooked visionary contribution of Ehud’s team was a wonderfully creative use of stuttering and non-stuttering puppets to establish peer reactions to early stuttering (Ambrose & Yairi, 1994; Ezrati-Vinacour et al., 2001). I find that paper seminal to understanding the likely origins of the mental health problems associated with the disorder.

**Beyond stuttering. . .**

Before our correspondence, I was certainly one of those unaware of the following:

Few are aware of my “beyond stuttering” professional involvement. For example, serving a full year on the University of Iowa Hospitals Cleft Palate team and later, for seven years, on a similar team in Texas. For many years, I also enjoyed very much teaching the graduate course on Voice Disorders and Laryngectomy, at both Texas Tech University and the University of Illinois. I also supervised the clinical practicum in this domain and had several publications.

My public service contribution in Texas was the establishment of the Lost Cord Club. In Illinois, I directed a national bi-annual program of tutorial workshops for clinicians working with head and neck cancer patients. These were followed with a week-long intensive residential clinic for patients and their spouses. In 1986, it fell to me to chair the team representing ASHA [The American Speech-Language-Hearing Association] at the annual convention of the American Association for the Advancement of Science, where we talked about advancements in speech for laryngectomies.

Rather oddly, my widest circulated publication was a brief notation in the U.S. News and World Report magazine about that session. It resulted in a good number of letters inquiring about the new surgery technique developed by Drs. Singer and Blom.

Regardless, receiving the Outstanding Service Award from the American Cancer Society (1989) was very rewarding to me.

**What would you like to be remembered for?**

I asked Ehud, “If you had to choose from your many contributions to the field, which one would you most like to be remembered for?” I received this reply:

This is, indeed, a challenging question. I have never thought about it before. It took contemplation over several days to realize that not a single study, nor a favorite publication, can be singled out. So, against the background of the grand historical landscape of our field, taking a most general perspective, whether remembered or not, I believe that the distinguished achievement of our team at the University of Illinois has been its major impact on shifting the scientific priorities concerning stuttering from adult ages to the early
childhood period. It is then when the disorder originates, often ends, and best treated. It has been very satisfying for me to witness continuation of this emphasis by other scientists, who, among other aspects, continue to explore an important clinical objective: early prediction of persistence and natural recovery from stuttering. This is not to minimize great contributions by other investigators who have focused on other aspects of the disorder. Regardless of what investigators of stuttering pursue, they must always keep in mind that the justification, and funding, for their work, even basic research, is ultimately to improve treatment and prevention.

Changes in the field during a lifetime

I followed up by asking, “Would you say then, that during your career the major change you have observed is the shift from emphasis on treatment during adulthood to early childhood?” Ehud replied:

My observation refers to a much broader shift, including several areas of research focus (such as epidemiology, brain, emotionality, language), also in which aggressive clinical research and increased availability of clinical programs, services, and resources (such as the Stuttering Foundation) for early childhood have been an important part. It has been fueled by a generation of speech-language clinicians who recognized the limitations of parent counseling only. We finally have one systematic and extensive data-based therapy program (Lidcombe Program). Let’s see more; the RESTART-DCM treatment (de Sonneville-Koedoot et al., 2015) is a good start. Systematic intervention programs for preschool-age children who stutter were relatively late to appear and typically lacked the breadth of adult treatments. This situation reflected several factors. First, was a long-held belief in the United States. . . that direct manipulation of the speech of preschoolers who stutter should be avoided because it increases stuttering. This “hands off the child” approach was heavily influenced by Johnson’s Diagnosogenic Theory that placed the cause of stuttering on parents’ behavior. Second, there were the notions that stuttering in children and adults was all the same. Third, university laboratories and clinics were mainly accessible to college students.

Ehud then outlined specific aspects of research and scholarship that contributed to an eventual shift in clinical approach to factors that led to (what I believe was) the first public, consensual proclamation of the clinical need for direct early intervention (Prins & Ingham, 1983). He mentioned the operant laboratory studies of early stuttering with preschoolers, which showed the benefits of the procedure (Martin et al., 1972; Reed & Godden, 1977) along with the genetic contributions of Kidd and colleagues (Cox et al., 1984; Kidd, 1977; Kidd et al., 1981).

Ehud also mentioned the often-overlooked fact that Van Riper (1973) foreshadowed much of what was to come in the modern era of research about direct clinical methods, reflecting, among others, Colombat De l’ Isere’s use of metronomic paced speech in the 1830s. In Ehud’s words,
Van Riper “suggested rhythmic speech games and operant techniques in treatment of young children who stutter but failed to provide experimental data.” Ehud also pointed out that Bar (1971) also heralded the modern era, again without data, with “a program in which parents of 59 stuttering preschoolers were trained in reinforcing fluent utterances in their child’s speech using verbal contingencies.”

**Looking back over your career, what is the biggest regret you have?**

For some reason, I thought this to be a standard (if not somewhat droll) question to ask of such a senior figure to us all, so I put it to Ehud. I was rewarded with this reply:

Not too many or huge regrets. I, like many young people upon receiving the PhD degree, began my research endeavors with high aspirations for making great discoveries. As I grew older, now being retired, a wider view of our general field and the disorder of stuttering has developed. Specifically, the realization of my own limits: that all our extensive research, good as it may be, and as wide the recognition it has received, will quickly be condensed to but one stepping-stone in the path toward our eventual goal. The reality is that the great majority of researchers in all scientific fields are average. Very few are exceptional. Typically, then, it takes the contributions of the many to move us forward. So, yes, I am pleased with what I, and my research team, have accomplished.

Regrets? Perhaps it is too bad that I did not apply for an NIH grant 15 years earlier (I was 50 years old when I received the first one). We could have done more and better. Also, perhaps we spread our resources and effort over too many aspects related to stuttering: epidemiology, disfluency counts, acoustic analyses of disfluencies, language, phonology, emotionality, motor, awareness, parents, brain, statistical genetics, genotyping, subtypes, and more.

I do have some regrets about the animosity that existed among scientists in our narrow area of stuttering research and treatment. It disturbed me greatly. But time and age tend to also reduce such conflicts. What I am really sorry for is my late arrival in the USA that prevented my meeting Wendell Johnson before he died and that I did not take the time to visit and meet Van Riper. On the other hand, I did see and listen to Lee Travis, the first person to earn a PhD degree in our field. Travis was in his 90s, yet tall and very impressive. He began his presentation with “A few of my students are still alive. . .”

**Which of the historical figures in our field who are now deceased do you remember most?**

Ehud’s mention of Travis led me to ask that of him. His reply was as follows:

Now to Dean Williams (who stuttered, as did Wendell Johnson). I knew him well as my main mentor for nearly 5 years. Dean’s broad perspective, dynamic teaching, research, clinical work, and insight into the minds of people who stutter inspired me, as well as other doctoral
students, to develop our own “point of view about stuttering.” The last phrase is taken from a Williams article titled “A Point of View About Stuttering” (1957). In my view, it is his best writing. Above all, Dean’s boundless optimism and enthusiasm was contagious—he was an instiller of enthusiasm! Taking over after Johnson died, Dean shifted the research focused at Iowa to school-age children who stutter. My master’s thesis on speech clinicians’ stereotypes of school-age children who stutter (Yairi & Williams, 1970), which prompted others to pursue this line of research, as well as my doctoral dissertation on stuttering children’s perception of their parents’ attitudes (Yairi & Williams, 1971), were his suggestions.

Over the years, I was fortunate to meet, talk, and correspond with a good number of leading figures in the domain of stuttering. These include Gavin Andrews, Oliver Bloodstein, Gene Brutten, Eugene Cooper, Richard Curlee, Fredrick Darley, Hugo Gregory, Harold Luper, William Perkins, Lena Rustin, Glyndon Riley, George Shames, Joseph Sheehan, Frank Silverman, and Mike [Marcell] Wingate. Stuck in my mind is an occasion when, late at night, Joe Sheehan and I were sitting on the stairs of a convention hotel hallway talking about stuttering. Of all, I really liked Glyn [Glyndon] Riley who made important contributions. He was a true gentleman, always friendly, happy to see you, and without animosity to others in the field.

From a broader scientific spectrum, Georg von Bekesy stands out in my memory. He is the only scientist who pursued research directly related to the field of speech-language-hearing who won the Nobel Prize (1961). This was for his work on the physiology of the inner ear in conducting sounds. He visited our Department of Speech Pathology and Audiology at the University of Iowa in 1969 (or 1970) and delivered, by far, the most impressive scientific presentation I have ever attended.

Final thoughts

It is difficult to think of anyone who has advanced our understanding of the nature, origins, and epidemiology of this disorder more than Ehud Yairi has done. He was instrumental in beginning a long process of paradigm shift from the Diagnosogenic Theory. That change has been a long while taking effect since his pioneering stimulus for it during the 1970s, for even today its tenets are known to cause clinician reluctance to use the term “stuttering” (Byrd et al., 2020; Lee, 2014). But if not for Ehud’s early scientific intervention, it is unnerving to imagine where early stuttering intervention might now be clinically. It is chilling to contemplate how things may have turned out but not for the sheerest coincidence that he narrowly missed out on the charismatic personal influence of Wendell Johnson at Iowa and went, instead, where his intuitions led him about the organic nature of his own stuttering. He challenged the status quo of the profession when he found it, and, as such, he has left it better than he found it. For that, the term visionary has come up in the previous pages.
That said, I feel the need to end this reflection of Ehud Yairi’s career, more than any other way, by noting that our correspondence shows him to wear his visionary status with humility and wisdom. I was struck by his statement that

...all our extensive research, good as it may be, and as wide the recognition it has received, will quickly be condensed to but one stepping-stone in the path toward our eventual goal.

It is not yet a century since Lee Edward Travis, before Ehud’s arrival there, formally began the speech-language pathology profession at the University of Iowa. Everyone reading this today will know of our theoretical and clinical progress since then, but none will have much idea of where we will be in another century. Only the students of our students, in their advanced years, will know that. But I am certain that they will know of the stepping-stone that Ehud Yairi provided for them on their way there.

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References


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