

OFFICIAL PUBLICATION OF THE CANADIAN ACADEMY OF AUDIOLOGY
PUBLICATION OFFICIELLE DE L'ACADÉMIE CANADIENNE D'AUDIOLOGIE

Canadian Hearing Report

Revue canadienne d'audition

CAA Canadian Academy of Audiology
Heard, Understood.
Académie canadienne d'audiologie
Entendus, Compris. ACA
www.canadianaudiology.ca

Vol. 7 No. 4
2012

**Celebrating
Dr. Jack Katz,
and 50 Years of
the SSW Test**

Publications Agreement Number 40025049 | ISSN 1718 1860



Published by
**ANDREW JOHN
PUBLISHING INC.**

www.andrewjohnpublishing.com



MENU – THE **CHOICE** IS **YOURS**

MENU, the new hearing aid solution from Widex, gives you unparalleled flexibility when finding the right hearing aid for your clients.

Available as a basic 3 channel option, MENU can be quickly and easily customised to your clients' listening needs – offer them a 5 or 10 channel alternative or provide them with a range of chargeable add-on features.

The choice is yours.

- **Popular models:** from BTE and ITE to the new IIC (Invisible-in-canal) model
- **Flex platform:** a new and improved sound platform for better performance and sound
- **Fast and easy fitting:** instant fitting gets MENU up and running quickly
- **Flexibility:** your clients only pay for what they need

Visit widex.pro for more information.



WIDEX[®]
HIGH DEFINITION HEARING

By choosing Widex hearing aids, you are choosing products from a company that has been WindMade certified. WindMade is the first global consumer label identifying companies that use wind power.



WIDEX MENU[™]
THE CHOICE IS YOURS

I love to have tribute issues dedicated to special people in our field – a contributor is asked once with no arm twisting, and the article arrives on time as if by magic. And it is especially easy when someone else is the guest editor who does all of the real work. This is where Dr. Kim L. Tillery comes in. Kim was Dr. Jack Katz's last PhD student at SUNY Buffalo in the 1990s and it was Kim who pulled this all together. All I really did was to notice that 2012 is 50 years after 1962, when Dr. Katz first published his SSW test. For the reprinted articles and the foreword to the *Handbook of Clinical Audiology*, the publishers have all graciously agreed to allow us to reprint these in this special issue of the *Canadian Hearing Report*.

I first met Jack when I was asked to introduce him as the keynote luncheon speaker at a CAA conference about 5 years ago. I believe it was in Niagara Falls, Ontario, just a quick hop over the border from Buffalo. I had never met him before but like most people, I knew all about him through his Handbook, known colloquially as the Katz Handbook (my first copy was the second edition and he is now up to the 6th edition).

I had five minutes to prepare my introduction – I can't recall who was supposed to do the introduction but for whatever reason I was called in as a last minute pinch hitter. For a long time I had this sneaking suspicion that Jack Katz wasn't really just one person, but a team of very prolific writers and researchers all publishing under the name of "Jack Katz." I began by asking how many people had ever heard of Jack Katz and all of the hands went up. I then asked how many people had actually met him and only about a third of the hands went up – my suspicion was confirmed.



Jack Katz is indeed a team of very talented and prolific writers and researchers all publishing under the name of Dr. Jack Katz. How can just one person do everything that Jack has done. And he seemed to be everywhere at once and at virtually every conference. I suspected that the man who was about to take the podium was a highly paid actor who poses as Jack Katz for events such as the CAA.

Well, paranoia aside, Dr. Jack Katz is indeed just one person, and what a person he is. I had the chance to take him out to dinner that evening (along with my colleague and ex-boss Tani Nixon, who also had her doubts) and we chatted for hours. I believe that his family came from the same Slavic village on the steppes of Russia as did my ancestors. His great-great-ancestor may have known my great-great ancestor as they toiled along-side the other peasants of the era.

I never had Jack as a teacher but many of the contributors to this issue in honour of the 50th anniversary of the SSW test did. This issue brings together his contributions in the field, the development and importance of the many editions of the *Handbook for Clinical Audiology*, his role as a wonderful teacher, and amazing clinician, and the love that is bestowed upon him by his many colleagues and ex-students.

Marshall Chasin, AuD, M.Sc., Aud(C), Reg. CASLPO

Editor-in-Chief

marshall.chasin@rogers.com

Canadian Hearing Report 2012;7(4):3.

CANADIAN ACADEMY OF AUDIOLOGY

PO Box 62117 777 Guelph Line, Burlington ON, L7R 4K2 T: 905-633-7114/1-800-264-5106 F: 905-633-9113 E: caa@canadianaudiology.ca

BOARD OF DIRECTORS / CONSEIL DE DIRECTION

Victoria Lee

President/Présidente
Auditory Outreach Provincial
Program Burnaby, BC

Steve Aiken

President-Elect /Présidente-Désignée
Dalhousie University
Halifax, NS

Rex Banks

Past President/Présidente-Sortant
Canadian Hearing Society
Toronto, ON

Susan Nelson-Oxford

Secretary/Secrétaire
Vancouver Island Health Authority
Victoria, BC

Petra Smith

Treasurer/Trésorière
Hastings Hearing Centres
Steinbach, MB

Susan English-Thompson

Director/Directeur
Sackville Hearing Centre
Sackville, NS

Joy Gauvreau

Director/Directeur
Costco
Saskatoon, SK

Harpreet Grewal

Director/Directeur
Canadian Hearing Society
Toronto, ON

Bill Hodgetts

Director/Directeur
University of Alberta
Edmonton, AB

Isabelle Anne Pleau

Director/Directeur
Canadian Hearing Society
Toronto, ON

Glynnis Tidball

Director/Directeur
St. Paul's Hospital
Vancouver, BC

Erica Wong

Director/Directeur
Mount Sinai Hospital
Toronto, ON

Introducing
the

Energizer AUDIOLOGY BATTERY PROGRAM

Service your patients hearing aid battery needs more conveniently while enjoying the benefits of:

- Members only pricing*
- An online ordering system
- Quick office delivery
- Special offers for members only

YOUR FREE MEMBERSHIP INCLUDES:

- Free product spin rack**
- Marketing materials for your patients
- Customer service
- Reorder alerts

JOIN TODAY AT **energizeraudiology.ca**

MORE POWER⁺

Our longest lasting Zero Mercury^{††} hearing aid batteries we've ever made: easy-to-read size call out, longer tabs for easy placement, 100% recyclable package, package security



that's positivenergy™



Canadian Hearing Report

Revue canadienne d'audition

Vol. 7 No 4 • 2012

Official publication of the
Canadian Academy of AudiologyPublication officielle de l'académie
canadienne d'audiologie
www.canadianaudiology.ca

EDITOR-IN-CHIEF / ÉDITEUR EN CHEF

Marshall Chasin, AuD., MSc, Reg. CASLPO,
Director of Research, Musicians' Clinics of Canada

ASSOCIATE EDITORS / ÉDITEURS ADJOINTS

Alberto Behar, PEng, University of Toronto

Leonard Cornelisse, MSc, Unitron Hearing

Joanne DeLuzio, PhD, Audiologist, University of Toronto

Lendra Friesen, PhD, Sunnybrook Health Sciences Centre

Gael Hannan, Hearing Loss Advocate

Bill Hodgetts, PhD, University of Alberta

Lorienne Jenstad, PhD, University of British Columbia

André Marcoux, PhD, University of Ottawa

Sheila Moodie, PhD, University of Western Ontario

Calvin Staples, MSc, Conestoga College

Kim L. Tillery, PhD, State University of New York, at Fredonia

Rich Tyler, PhD, University of Iowa

Michael Valente, PhD, Washington University

MANAGING EDITOR / DIRECTEUR DE LA RÉDACTION

Scott Bryant, scottbryant@andrewjohnpublishing.com

CONTRIBUTORS

Moe Bergman, Marshall Chasin, Judith Duchan,

Donna Geffner, Linda Hood, Irene Hoshko,

Jay Lucker, Larry Medwetsky, Kim Tillery, Maxine Young

ART DIRECTOR/DESIGN / DIRECTEUR ARTISTIQUE/DESIGN

Andrea Brierley, abrierley@allegrahamilton.comSALES AND CIRCULATION COORDINATOR /
COORDONATRICE DES VENTES ET DE LA DIFFUSIONBrenda Robinson, brobinson@andrewjohnpublishing.com

ACCOUNTING / COMPTABILITÉ

Susan McClung

GROUP PUBLISHER / CHEF DE LA DIRECTION

John D. Birkby, jbirkby@andrewjohnpublishing.com

Canadian Hearing Report is published six times annually by Andrew John Publishing Inc. with offices at 115 King Street West, Dundas, On, Canada L9H 1V1.

We welcome editorial submissions but cannot assume responsibility or commitment for unsolicited material. Any editorial material, including photographs that are accepted from an unsolicited contributor, will become the property of Andrew John Publishing Inc.

FEEDBACK

We welcome your views and comments. Please send them to Andrew John Publishing Inc., 115 King Street West, Dundas, ON, Canada L9H 1V1. Copyright 2012 by Andrew John Publishing Inc. All rights reserved. Reprinting in part or in whole is forbidden without express written consent from the publisher:

INDIVIDUAL COPIES

Individual copies may be purchased for a price of \$19.95 Canadian. Bulk orders may be purchased at a discounted price with a minimum order of 25 copies. Please contact Ms. Brenda Robinson at (905) 628-4309 or brobinson@andrewjohnpublishing.com for more information and specific pricing.

contents

DEPARTMENTS

3
7 Message from the Editor-in-Chief
Message du L'editeur en chef

8
9 Message from the Guest Editor
Message du rédactrice en chef invité

10 **FOREWORD TO HANDBOOK
OF CLINICAL AUDIOLOGY**
Moe Bergman's Foreword to the
Handbook of Clinical Audiology
6th Edition

12 **INTERVIEW WITH
DR. JACK KATZ**
BY KIM L. TILLERY, PhD, CCC-A

17 **The Use of Staggered Spondaic
Words for Assessing the Integrity
of the Central Auditory
Nervous System**
BY DR. JACK KATZ, PhD

COLUMN

30 **ALL THINGS CENTRAL**
**The Staggered Spondaic Word
(SSW) Test – 50 Years Young**
BY KIM L. TILLERY, PhD, CCC-A

FEATURES

32 In Celebration of Jack Katz and the
50th Anniversary of the SSW Test
BY IRENE HOSHKO, MSc.(A) AUD(C) OOAQ,
AUDIOLOGIST

34 A Story of Sixth Editions: The Katz
Handbook of Clinical Audiology
BY LINDA J. HOOD, PhD

37 Celebrating Jack Katz and the Handbook
of Clinical Audiology
BY LARRY MEDWETSKY, PhD

39 Changes in the Staggered Spondaic
Word (SSW) Test over Its 50 Year History
BY JUDITH FELSON DUCHAN, PhD

44 A Personal Journey with
Auditory Training and Jack Katz
By Jack King, PhD

46 My Tribute to Dr. Jack Katz
BY DONNA GEFFNER, PhD, CCC-SP/A

48 The Gentle Giant: A Tribute to Jack
BY MAXINE YOUNG, AuD

50 "Were We Ready?" A Tribute to
My Mentor: Dr. Jack Katz
BY JAY LUCKER, Ed.D., CCC-A/SLP, FAAA

54 15th Anniversary of CAA –
Musings of a Past President
BY ANN FOLLOWS

Follow us on Twitter @chr_infor



Publications Agreement Number 40025049 • ISSN 1718 1860

Return undeliverable Canadian Addresses to:

Andrew John Publishing Inc. 115 King Street West, Dundas, ON, Canada L9H 1V1

THE
smallest
THINGS
MAKE LIFE

Big



Oticon Intigaⁱ is designed to deliver immediate acceptance and immediate benefits.

Hearing care professionals the world over are experiencing the advantages of The Now Effect with Intiga at its core - a holistic approach designed to help give new clients a smooth and comfortable introduction to life with a hearing solution.



For many first-time users, the possibility of an invisible solution is the catalyst for doing something about their hearing loss. Out of sight and out of mind, new Intigaⁱ fits completely inside the ear canal making it extremely discreet. Intigaⁱ is the custom-made hearing solution designed for people who are attracted by the promise of invisibility.

Introducing
NEW Invisible
Oticon Intigaⁱ



With the new Intigaⁱ (*left*) joining the Intiga RITE, you will meet even more first-time user demands with the Intiga family.

Learn more about The Now Effect at www.the-now-effect.ca

For more information on Oticon Intiga and Intigaⁱ please call 1-800-263-8700 or visit www.oticon.ca

oticon
PEOPLE FIRST

J'adore ces numéros hommage dédiés à des personnes très spéciales de notre domaine – on ne sollicite les contributeurs qu'une seule fois et sans leur torde la main, et l'article arrive à temps comme par magie. Encore mieux, quand c'est quelqu'un qui est l'éditeur invité et qui fait somme toute le vrai travail. C'est là que Dr. Kim L. Tillery entre sur scène. Kim était la dernière étudiante doctorale de Dr. Jack Katz au SUNY Buffalo dans les années 90 et c'est Kim qui a tiré les ficelles de tout ceci. Vraiment, tout ce que j'ai fait c'est remarquer que 2012 est 50 ans après 1962, quand Dr. Katz a publié pour la première fois son test SSW. Pour les articles réimprimés et l'avant-propos au *Handbook of Clinical Audiology*, les éditeurs ont généreusement tous consentis à ce que nous réimprimons ceux-ci dans ce numéro spécial de la *Revue Canadienne d'Audiologie*.

J'ai rencontré pour la première fois Jack quand on m'a demandé de le présenter comme conférencier invité à la conférence de l'ACA il y a 5 ans. Je crois que c'était à Niagara Falls, dans l'Ontario, juste un pas au-delà de la frontière de Buffalo. Je ne l'avais jamais rencontré auparavant mais comme la plupart, je savais tout à son sujet par son manuel, connu en langage courant comme le manuel de Katz (ma première copie était la deuxième édition et il en est déjà à sa 6ème édition).

J'avais cinq minutes pour préparer ma présentation – je ne me rappelle plus qui devait le faire mais pour une raison ou une autre, on m'a demandé de le faire à la dernière minute, disons comme bouche trou. Pendant très longtemps, j'avais ce doute insidieux que Jack Katz n'est en réalité pas juste une personne, mais plutôt une équipe de rédacteurs et chercheurs très prolifiques qui publient tous sous le nom de "Jack Katz." J'ai commencé par demander combien de personnes avaient entendu parler de Jack Katz et toutes les mains se sont levées. J'ai alors demandé combien de personnes l'avaient rencontré en



personne et seulement le tiers des mains se sont levées – mon doute s'est confirmé.

En réalité, Jack Katz est une équipe de rédacteurs et chercheurs très talentueux et prolifiques tous publiant sous le nom de Dr. Jack Katz. Comment est-ce possible qu'une seule personne puisse faire tout ce que Jack a fait. Plus, on a l'impression qu'il est partout au même temps et virtuellement à chaque conférence. J'avais la suspicion que l'homme qui allait faire son apparition sur le podium était un acteur aux honoraires très élevés qui prétend être Jack Katz aux événements comme l'ACA.

Au-delà de la paranoïa, Dr. Jack Katz est en fait juste une seule personne, et quelle personne. J'ai eu la chance de souper avec lui ce soir là (avec ma collègue et mon ex patronne Tani Nixon, qui avait aussi ses doutes) et nous avons bavardé pendant des heures. Je crois que sa famille vient du même village slave dans les steppes de la Russie comme mes ancêtres. Son arrière arrière ancêtre aurait peut-être connu mon arrière arrière ancêtre quand ils chevauchaient avec d'autres paysans de l'ère.

Je n'ai jamais eu Jack comme professeur mais plusieurs des contributeurs de ce numéro hommage au 50ième anniversaire du test SSW l'ont eu. Ce numéro met ensemble ses contributions au secteur, le développement et l'importance des éditions de *Handbook for Clinical Audiology*, son rôle d'enseignant extraordinaire, de clinicien étonnant, et l'amour que lui porte beaucoup de ses collègues et ses ex étudiants.

Marshall Chasin, AuD, M.Sc., Aud(C), Reg. CASLPO

Éditeur en chef

marshall.chasin@rogers.com

Canadian Hearing Report 2012;7(4):7

OCTOBER 2012

October 5 – 6

Twentieth Annual Conference On Management of the Tinnitus Patient
The University of Iowa

Registration Website:

<http://www.continuetolearn.uiowa.edu/conferences/conferences.htm>

October 10 –12

Acoustics Week in Canada Banff Conference
http://www.caa-aca.ca/conferences/Banff2012/index_portal.html

October 24 –27

Annual Canadian Academy of Audiology (2012 CAA) Conference and Exhibition
Ottawa, ON, Canada
www.canadianaudiology.ca/2012-conference/home.html

FEBRUARY 2013

February 21–23

NCAC 38th Annual Hearing Conference: "The Art of Hearing Conservation"
Call for Papers deadline: July 23, 2012
<http://www.hearingconservation.org/displayemailforms.cfm?emailformnbr=177863>



Once upon a time there was a man named Jack who built a dichotic auditory processing test. Fifty years later it continues to be used as a diagnostic tool for central

auditory dysfunction either specific to a site of lesion or to evaluate different types of auditory processing disorders. However, the Staggered Spondaic Word (SSW) test was just the beginning of the house that Dr. Jack Katz built for the professions of audiology and speech-language pathology.

Jack teaches his students that we are not a "clinician" by administering hearing tests to the massive population, but rather by being able to assist the individuals who have challenges that only the skilled clinician can assist with. Like some of you, I was most fortunate to be one of those students, too. As a new PhD student, I remember walking into Jack's office one day with a list of 14 items that I wanted to learn from him during my doctoral training. He responded with his genuine, broad Jack Katz smile, and said, "Pick one on this list for this semester." I immediately knew that my choice had to be in the neighborhood of auditory training to assist the clients who were being diagnosed with auditory processing problems. One case in particular stands out among many.

Imagine working with a young man in his 30s who has a verbal intelligence quotient of 40 to 60. He utters the same two sounds for his every response in his daily life. Then Jack Katz arrives with his tools to broaden the auditory skills of this young man. Eventually, this individual

learns to speak with more clarity and awareness of true words due to Jack's knowledge, patience, and expertise in the use of repetitious auditory training. Many of us have seen these illustrated cases when attending one of Jack's workshops or as his student learning the specific types of auditory training that improves auditory processing disorders, auditory discrimination, and the basic awareness of sounds.

If we did not attend a workshop then perhaps we learned some of the tools from reading one, two or maybe even all six editions of the *Handbook of Clinical Audiology*. What would we do without having this book to turn to for a quick review of a test before seeing a unique client or when we are being interviewed for our first job? Thanks to Jack's foresight and curiosity, which you will read more about in my interview with him, this book was first written in 1972, supporting our skills, whether students or veteran audiologists.

This special issue assists in recognizing the 50 year young test, the SSW test, and the works of Jack Katz. There are several short articles by colleagues with whom Jack worked in a variety of ways over the past several decades. All testimonies include a history of a particular innovation and in many cases describe the honour of knowing Jack and the appreciation of what he does to inspire us in becoming a skilled clinician in auditory training, and the evaluation and treatment of auditory processing disorders.

Thank you, Jack.

Kim L. Tillery, PhD

Canadian Hearing Report 2012;7(4):8.

Il était une fois un homme du nom de Jack qui a conçu un test pour les traitements des informations auditives dichotiques. Cinquante ans plus tard, ce test continue d'être utilisé comme un outil de diagnostic des dysfonctionnements du processus auditif central spécifique au site de la lésion ou pour évaluer les différents types de troubles des traitements des informations auditives. Toutefois, le test SSW était juste le début de la fondation que Dr. Jack Katz a bâti pour les professions de l'audiologie et de l'orthophonie.



Jack enseigne aux étudiants qu'on n'est pas "clinicien" parce qu'on administre des tests auditifs à une population massive, mais plutôt par notre capacité à assister les gens qui font face à des défis auxquels seul un clinicien compétent peut faire face. Comme certains d'entre vous, j'ai la chance inouïe d'avoir été une de ces étudiants, aussi. Nouvelle étudiante inscrite au programme de doctorat, je me rappelle entrant dans le bureau de Jack un jour avec une liste de 14 sujets que je voulais qu'il m'enseigne durant ma formation doctorale. Il m'a répondu avec son large, authentique sourire, et a dit "Choisit un sujet de la liste pour ce semestre." J'ai immédiatement compris que mon choix devait être autour de la formation auditive pour assister les clients qui sont diagnostiqués avec des problèmes des traitements des informations auditives. Un cas surtout se distingue parmi beaucoup d'autres.

Imaginez que vous travaillez avec un jeune homme dans la trentaine qui a un quotient intellectuel verbal de 40 à 60. Il utilise les mêmes deux sons pour chacune de ses réponses dans son quotidien. Alors arrive Jack Katz avec ses outils pour étoffer les compétences auditives de ce jeune homme. Éventuellement, cette personne apprend à parler avec plus de clarté reconnaissant les vrais mots grâce au savoir, patience et expertise de Jack dans l'utilisation de la formation auditive répétitive. Plusieurs d'entre nous avons vu ces exemples

illustrés quand on a participé aux ateliers de Jack ou quand on a été son étudiant apprenant les types spécifiques des formations auditives qui améliorent les troubles des traitements des informations auditives, de discrimination auditive et les bases de la mémorisation et reconnaissance des sons.

Si nous n'avons pas participé à un atelier, alors peut-être avons-nous appris quelques outils en lisant un, deux, ou peut-être même toutes les six éditions du *Handbook of Clinical Audiology*. Que ferions-nous si nous n'avions pas ce livre pour une vérification rapide d'un test avant de voir un client particulier ou quand on a à passer un entretien pour un premier emploi ? C'est grâce à la clairvoyance et curiosité de Jack, dont vous aurez un aperçu dans mon entrevue avec lui, que ce livre a été écrit pour la première fois en 1972, soutenant nos compétences, que vous soyez étudiant ou audiologiste chevronné.

Ce numéro spécial se veut une reconnaissance de ce test jeune de 50 ans, le test SSW, et les travaux de Jack Katz. Vous trouverez plusieurs articles courts par des collègues avec lesquels Jack a travaillé d'une manière ou d'une autre sur plusieurs décennies. Tous les témoignages incluent l'histoire d'une innovation particulière et dans plusieurs cas, les articles montrent le privilège qu'est de connaître Jack et l'appréciation de ce qu'il fait pour nous inspirer à devenir des cliniciens compétents dans la formation auditive, l'évaluation et le traitement des troubles des traitements des informations auditives.

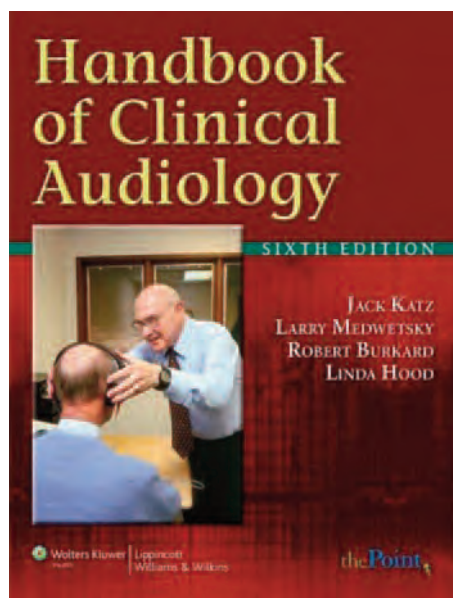
Merci, Jack.

Kim L. Tillery, PhD

Canadian Hearing Report 2012;7(4):9.

Moe Bergman's Foreword to the Handbook of Clinical Audiology 6th Edition

Reprinted with permission.



From our pre-technology beginnings to today's complex and sophisticated field of audiology; a brief historical account.

In preparation for this assignment, I first scanned my decades in this field, beginning with the experiences I participated in and the technology I used in the early and mid-20th century. Prior to World War II, we did not yet have a name for the field which was often referred to simply as "aural rehabilitation." As that name implied; it centered mainly on the learning of lip (speech) reading, with additional attention on improving the interpretation of auditory signals (auditory training). In short, in the

absence of effective amplification the burden of rehabilitation for auditory problems was shifted onto the hearing impaired individual, who was expected to work hard to develop new communication skills. We teachers of lip reading were always discouraged by our apparent lack of success at this task in teaching deaf children, even when the teacher was the brilliant therapist, Louis Di Carlo. Lou's classes were electric, but it would be hard to document the improved communication abilities of his "students" in their everyday lives.

The *raison d'être* of the field and its non-medical practitioners of that time, was clearly to augment the defective auditory channel for verbal communication by enhancing the visual information available on the face of the talker.

In diagnostics we had not yet emerged from the tuning fork period. They had been used routinely for medical diagnosis since the late 19th century to differentiate middle ear from inner ear pathology. In time, we pre-audiologists proudly employed the new "pure tone audiometer," either for screening or for follow-up threshold audiometry. (I lugged a 68-pound "portable" version, the WE 2A audiometer, from school to school to test children's hearing, air conduction only.) Some time later we

began to use the bone conduction unit of the audiometer, as the controlled version of tuning forks. The time of quantification and calibration for hearing tests had arrived, but the main purpose remained for diagnostic site-of-lesion, rather than assessment of auditory function.

These modest beginnings, in what I think of as the pre-technology period of our field, carried over into the military "aural rehabilitation" clinics (referred to in one soldier patient's letters home as "rural rehabilitation" [sic]), but the remarkable infusion in those clinics of personnel who had been university-trained and active in speech communication research brought about an almost instant metamorphosis. The revised view of diagnosis and the "selection" of hearing aids spurred the appearance of new equipment, with an emphasis on calibration, measurability and repeatability. The die was cast. Importantly we included intensive auditory training with speech recordings and also generated sound stimuli for identification and tolerance training. We integrated much advice and explanation in these training sessions. I recall that Grant Fairbanks attempted to quantify the program efficacy for the Oklahoma clinic and I believe that Bill Hardy did the same for the navy program. Regardless, it was readily apparent that in contrast to our

pre-war experiences a high percentage of our soldier patients left our hospitals using their new hearing aids and, by all accounts, for years afterwards.

After the war the new instrumentation-based concepts were quickly introduced in college-level courses at leading universities, under the recently-coined term “Audiology,” and our field took off! Increasingly complex technology began to reveal detailed information about physiological dysfunction, while rehabilitative efforts centered on the rapidly improving and, at the same time, shrinking hearing aid.

The “new” audiology expanded – nay exploded – quickly, and very soon it was the inspiration for numerous publications, the most comprehensive

of which was the *Handbook of Clinical Audiology*. Suddenly there was enough material for authoritative presentations in dozens of chapters, as the written expression of a lively and exciting newcomer among the university disciplines and professions. The training for such a flourishing science-based profession was on the post-baccalaureate level, and soon warranted a doctoral level degree for many audiologists. Today, the Doctor of Audiology (Au.D.) degree is accepted as the education and training level for entry into clinical practice in this field.

As with all vibrant professions their focus and responsibilities are dynamic. New areas of interest emerge, requiring new knowledge to replace or augment previous areas. This revised edition of

the “bible” for audiologists indicates that our specialty continues to evolve, including, logically the rest of the hearing and balance organs in the vestibular system, and updating our information about the rehabilitation of adults.

The breadth and sophistication of “Clinical Audiology” in this 21st century, which is only one working lifetime away from our humble beginnings that I found so stimulating early in our history, is encapsulated more than ever in this new edition of the *Handbook of Clinical Audiology*.

Moe Bergman, EdD

Canadian Hearing Report 2012;7(4):10-11.

Interview with Dr. Jack Y.Y. Katz

By Kim L. Tillery

What a special moment it was to ask some pointed questions to Jack Katz. As always, he shared some professional and personal views that are inspiring and insightful.

- Kim Tillery



HOW DID YOU GET INTO THE FIELD OF AUDIOLOGY?

Miss Carlin was a wonderful English teacher at Erasmus Hall High School in Brooklyn. One day she told us that she had many years of experience counselling students and that we should write an essay about ourselves and from that she would give us some suggestions for what we might study for the future. I wrote that I was lazy, but liked people and didn't like to do the same thing over and over again. I am not sure what else I wrote, but on my paper at the top was written, "Speech Correction." I had no clue what that meant so I asked my older brother and he didn't either, but he said that his friend's girlfriend was going into that field. So I called her and liked what I heard but was still not very clear what it was. When I got to Brooklyn College and said that I was thinking of majoring in speech therapy they told me that I couldn't because my speech was not good enough. I had to take three classes to improve my speech so I went to the Speech and Hearing Clinic and there I learned more and more about the field. In those days we trained in both speech and hearing so in grad school (when politics threatened my continuation in speech) I simply switched to audiology

in which I was doing quite well.

THE SSW TEST IS 50 YEARS OLD – HOW DID IT BEGIN?

I already had an MS in audiology and speech but I still had to take practicum in the PhD program. The audiologist at Mercy Hospital of Pittsburgh told me that she was going on vacation and would I like to replace her for a month. I jumped at the chance because Irma and I just had our first child. One day one of the young ENTs asked me if I was aware of the work they were doing in Germany to identify brain tumours using hearing tests. I could not believe what I was hearing because we were taught that you cannot assess the auditory system above the level of the VIII N because there is too much decussation. I said I did not know about it and he said that he would bring in the article. The next day he showed me a two-paragraph description of the work of Joseph Matzker, an ENT doctor, who divided a word into a high-frequency band to the one ear and low-frequency band to the other ear. If the person could combine the bands centrally they could get the word, but those with temporal lobe tumours could not. I was fascinated because audiology had only gotten to the level

of the VIII N at that time. But the last line was a downer. It said unfortunately the test did not work if the person had a hearing loss. Out of my mouth I heard myself say "Why don't they use spondees?" When I realized what I had said, I exclaimed, "You know that's a good idea. Would you like to work on that with me?" He said, "No, no you go ahead." That night I had the midnight and 2 AM feedings for my infant son who was recovering from surgery and had to be fed every two hours through the day and night. As I was feeding him I started to get excited about the ideas popping into my head. I could not do what Matzker had done because I had no equipment so I thought of having one spondee to one ear and another one to the other ear. Then I thought, "Wow, what if they were staggered so the second and third monosyllables would be competing in time in opposite ears? That would give us all sorts of comparisons. When my son was fed I started writing feverishly. I thought it would look more scientific than Matzker's approach if we counter-balanced items starting in the right and then the left ear. Then I thought to have the first word and the last word to form the third spondee. In that way if a person missed one competing word

they could fill it in with another word incorrectly. After the 2 AM feeding I made a list of 36 of the 40 items. Interestingly, all the little things that were used to make it look more scientific turned out to be valuable auditory processing disorder (APD) measures or helpful in other ways.

THE HANDBOOK OF CLINICAL AUDIOLOGY IS IN ITS 6TH EDITION – WHAT WAS THE INITIAL IMPETUS?

It was about 1968 when we went on a family vacation. As usual I brought a yellow pad to write down any ideas that came to me, as I surely would not remember them when I got home. One day when things were quiet I took out the pad and started to write out an idea for a study. But then I got stymied because I did not have some basic information. So I turned the page and started working on another idea. But, then I needed other information and could not progress with that project either. I thought, “What we need is a handbook where all the basic information is contained in one place.” Then I wondered, if there were a handbook, whose chapters would I like to read. My first two choices were Neil Goetzinger for a chapter on word recognition and Bill Hodgson on evaluation of young children. Pretty soon I had a list of chapters and quite a few authors whose chapters I would love to read. The title came next. When my brother was in college he came home one day with the *Handbook of Chemistry*. He was so excited and held onto it like a brick of gold. So I thought the book should be a “Handbook.” The title is “Clinical Audiology” instead of “Audiology” because I have always loved the practice of audiology and wanted that to be the focus.

WHAT IS YOUR OPINION AS TO WHOSE ROLE IT IS TO ADMINISTER AUDITORY TRAINING?

Up until now this was a moot point. Audiologists have been slow to get into this work so probably 90% or more of the training was by SLPs. But in a very brief period there has been such a spike of interest from all quarters in APD and even therapy that there is reason to think about who should really be doing this therapy. I think that both audiologists and SLPs have important strengths when it comes to auditory training. SLPs have a stronger background in phonetics, articulation, language, and in therapy. But for a number of years as language has become so dominant in SLP training I understand that articulation and phonetics have been de-emphasized both in training and in services. While audiologists have not generally had much therapy training in recent years; their knowledge of the auditory system and function, as well as otitis media, and central testing, has given them an important understanding of the processes. Other advantages for audiologists are in areas such as dichotic listening and speech-in-noise training as well as audiologic equipment. On the third hand SLPs can do speech-in-noise work without benefit of an audiometer and may be more comfortable in providing memory training.

Both groups and teachers of the hard-of-hearing could do a proper job of auditory training for APD. Right now with the huge demand I am truly grateful for any trained person who will help to serve the many people who are not receiving services. We see what a disaster the lack of services has been for so many children and adults with APD

and hope we can do better in the future.

WHAT IS YOUR ADVICE TO UPCOMING OR NEW PROFESSORS WHO TEACH CLINICAL AUDIOLOGY OR SPEECH PATHOLOGY?

Thank you for this question. In medical school if you take a course on a particular topic you can be quite sure that the person who teaches it does that kind of work. They are master practitioners or master surgeons. So when the student gets information, illustrative cases and what to do when there are complications are discussed; they benefit from the professor's professional experience. At one university a hearing scientist who had a meagre background and no experience as an audiologist was teaching clinical audiology courses to AuD students. How could that be justified? Would it be okay for a clinical audiologist with a meager background in hearing science to teach hearing science courses? My advice to new professors is to keep your hand in clinical services. It means so much to the students when you say, “You know, last week I tested a child who ...”. Students need role models, and not lectures from someone who is a few pages ahead of them in the text.

WHAT IS THE FUTURE OF ELECTROPHYSIOLOGY IN AUDIOLOGY?

There is no limit to the “potential” for the use of electrophysiological procedures in audiology. But not in the foreseeable future will they replace the behavioural audiology procedures. Audiologists can quickly and inexpensively measure real-life behaviours and measure real-life responses. However, the electrophysiological methods have a huge

contribution to make about where and how the system is working. It can tell us about pre-conscious functions. In addition, when individuals cannot reply then physiological measures become so much more important. I should also mention that we have given up some excellent behavioural tests because we assumed that physiological procedures would make them obsolete. For example, tone decay and SISI tests of old were not fully replaced by immittance. I hope that we will be more careful before we delete any more procedures.

WHAT DOES THE SSW DETECT THAT OTHER TESTS DO NOT?

Wow, first let me plead ignorance about the other tests, but I will do my best. In the second question, I noted that all the little things we did to make the SSW look well-thought-out, actually provided valuable diagnostic insights. Who would have thought that counterbalancing the SSW items would give us powerful indicators (e.g., Ear and Order Effects)? Who could have imagined that a significant difference for errors on the first two words of the item versus the second two could tell us, in a brain damaged population, who likely has an anterior brain problem and who has a posterior temporal problem with the opposite pattern? In APD cases those signs help to differentiate individuals who have Tolerance Fading Memory (TFM) and Decoding (DEC) APD problems. Who could have imagined that staggering the spondees would give us insight into corpus callosum lesions (or Integration cases)? Most importantly, the SSW gives us 23 signs of APD and their categories so we do not have to depend on any one score. Rather we see how the significant signs reinforce one another. In such a complex problem as APD some people can beat one or two

aspects of our tests but we are likely to have a number of others that demonstrate the problem. The other two important tests of the battery and the Buffalo Model Questionnaire – Revised help us to avoid making a mistake in evaluation by providing additional criteria and an independent assessment by parents and teachers.

IS THERE ANYTHING THAT YOU HAVE DONE THAT HAS NOT RECEIVED INTERNATIONAL ACCLAIM?

Yes. Many, many things. When I was in the Boy Scouts I won a burping contest. It received almost no recognition anywhere. Oh, you mean of a professional nature? One thing was the Continuous Tone Masking test, that divided cochlear and retrocochlear hearing performance, not that VIII N responses were more severe than cochlear, but rather that their responses go in opposite directions with the normal range situated between them. Another thing is *SSW Reports* that does have Canadian subscribers, but is not widely known. *SSW Reports*, deals with central functions and is in its 34th year of publication.

IS THERE ANOTHER TOPIC YOU WOULD LIKE TO ADD TO THIS INTERVIEW?

Thank you. When I was a child there was no early intervention and in schools there were no speech language pathologists (in fact there was no consideration of language in “Speech Correction”; as it was known). There was no specialized reading help and there was no such thing as a learning disability or phonics. I have had APD all my life and had a great deal of trouble with speech, language, reading, spelling etc. When I was 15 years old I told my parents that I was going to quit school when I was 16. They were

heartbroken. I told them that I had enough and was not able to read or spell well etc. I naively said that I would buy a store and have a secretary who could read for me. One day Mr. Cohen, a house painter, with whom my father worked, came to see me. “ME! Mr. Cohen came here to see *me*?” I asked. Yes, as it turned out, he came to tell me that I couldn’t quit school! He said it was so important that I had to continue and try again. Every time I repeated my reasons he came back with one more answer with the same theme, “You can’t quit school!” After an hour I realized that Mr. Cohen would never leave until I told him that I would not quit school. And fortunately I didn’t quit. I can only imagine what my life would have been like if I had quit at 16 with all those problems and such weak academic and communicative skills.

I am mentioning this now because this is a different world, but the same thing is happening to some children and they don’t have a Mr. Cohen (by the way a few months later he died of a lymphoma). I have worked with two teens that were so frustrated and disheartened that they also were “finished,” but they were finished with life itself! Both are still alive, one with a good outcome and one not so good.

Tragically, 40 years ago some people said that there was no such thing as APD. I wonder, because of that, how many people suffered so badly with this problem who could have improved with a little help? When it was clear that auditory information could not just jump to the brain and be understood the story changed to, “Well if there is such a thing, it’s not important.” How many more children and adults suffered and did not reach their potential because of such loose talk. And now we hear that there is no such thing again

and this time is because APD is really a language disorder. Well if it is a language disorder why do so many children we see come to us with years of language training and still struggle? And why when we do APD therapies do their problems improve so quickly? What reason will they come up with next? After 40 wasted years we need professionals to say, “*Enough*, let’s start helping these people.”

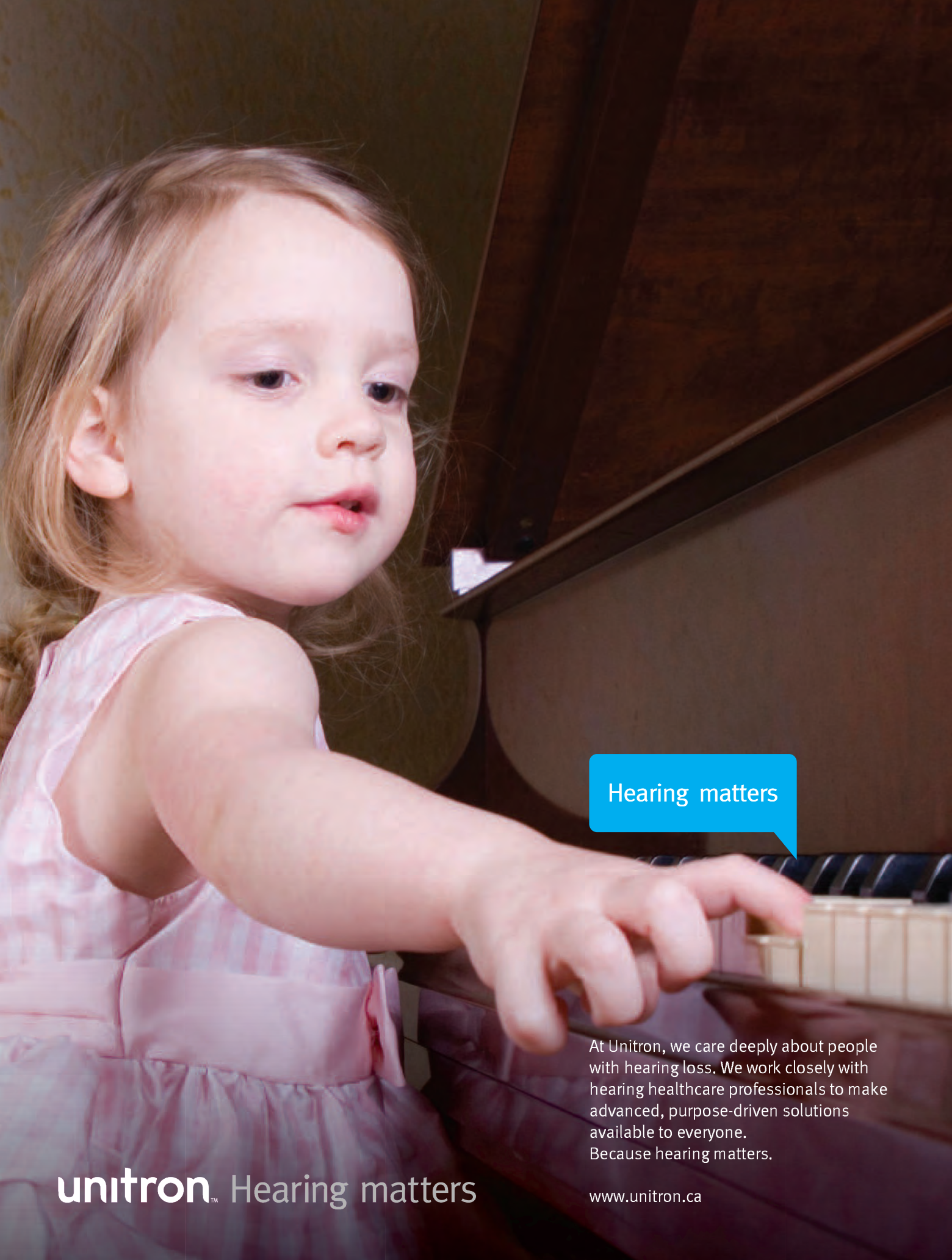
WHAT IS YOUR MIDDLE NAME?

If you did not know the answer you would not have asked this question. I

never had a middle name, but when we lived in Turkey I came home one day and announced that I used to be, “Jack *cabuk cabuk* Katz (*cabuk* – pronounced “chahbuk” which means “fast” in Turkish). But, now I have become Jack *yavas yavas* Katz (pronounced “yah-vash” that means “slow”). That is, I was now going to start doing things s-l-o-w-l-y. Those words are often said twice, at the appropriate speed, in Turkish to emphasize them. Sometimes when I sign my name I include my new middle initials “YY” (to make up for not having even one of them all those years). It was

a lot of fun for those who knew the story. Then one day I realized that my name is *indeed* YY. I was named after my grandfather who was Yakov Yisroel. So now when I sign my name “Jack YY Katz” I am also honouring my grandfather.

Canadian Hearing Report 2012;7(4):12-15.



Hearing matters

At Unitron, we care deeply about people with hearing loss. We work closely with hearing healthcare professionals to make advanced, purpose-driven solutions available to everyone. Because hearing matters.

unitron[™] Hearing matters

www.unitron.ca

This is the first publication of the *Staggered Spondaic Word (SSW)* test by Dr. Jack Katz as it appeared in the *Journal of Auditor Research* in 1962. In 50 years, this single central test has been reported on in numerous peer-reviewed articles, manuals, hundreds of workshops, the *SSW Reports* quarterly publication (in its 34th year), and a text book (Arnst and Katz, 1982). It is one of the most widely used central tests in the United States and Canada, and has been adapted in many other countries.

The Use of Staggered Spondaic Words for Assessing the Integrity of the Central Auditory Nervous System

Jack Katz, Ph.D.

Introduction

Audiological measures for localizing lesions in the peripheral hearing mechanism are presently more precise and reliable than those which have been designed to assess impairments in the central auditory pathways. Bocca, Calero and Cassinari (1954) presented a preliminary report on a method of identifying temporal lobe tumors. Since that time there has been considerable interest in the higher auditory functions from both theoretical and diagnostic points of view. The attention focused on this complex area of the central nervous system has led to several new theoretical concepts and clinical methodologies which offer potential value (see Refs. 1, 3, 7, 10, 11, 13, 16, 17). Further contributions of audiology to the localization of central nervous system pathology will probably result from the addition and refinements of test procedures which reliably indicate the site of lesion.

The literature consistently reveals that conventional pure-tone and speech audiometry do not identify "cortical hearing" impairments. Audiologically, hearing disorders of this type may be uncovered by demanding the evaluation of unusually difficult material by the patient. In so doing, a heavier burden is placed upon the higher auditory mechanism. Weakness in integrative behavior is manifested in the in-

J. Auditory Res., 2, 1962, 327-337

ability to utilize the stimuli appropriately. Bocca and his associates have presented logical arguments for employing distorted speech stimuli in an effort to compel the use of integrative or synthetic processes of the central auditory system. These investigators employed several techniques for distorting speech material. They have utilized methods of (a) low frequency spectrum attenuation, (b) speech acceleration, and (c) speech switched periodically from ear to ear at a rapid rate.

Matzker (1959, 1960) employed two speech procedures: a rapid switching technique, and a frequency filtering method; he also investigated a pure-tone localization test. His results support the conclusions of Bocca. Matzker indicates that audiological procedures may be of considerable importance in diagnosing and locating disorders of the central nervous system. Walsh and Goodman (1955) and Miller (1960) studied the PB word lists and found that under certain conditions cortical damage could be inferred. Jerger (1960), and Jerger, et al (1961) utilized versions of several of the test procedures of Bocca, Matzker, and Walsh and Goodman. The resultant assessment battery included difficult speech measures and two types of sound localization methods.

Analysis of the literature suggests that there are three or four general approaches to identifying central auditory lesions with speech stimuli. (a) One method is to challenge the higher pathways of hearing by presenting less than a complete message to a subject and thus require the use of synthetic processes. This category includes methods which delete segments of a verbal message or limit its frequency spectrum. (b) Another means of affecting a breakdown of a "hidden" hearing disorder is to administer more than the required amount of information. In this case it is necessary for the subject to separate and integrate the stimuli into meaningful and non-meaningful portions. This may be illustrated by competing message techniques, in which irrelevant information is presented to the contralateral ear, or by the use of a background noise. (c) A third general technique of assessing central functioning is a complex presentation of speech. This method provides all of the information which is necessary and sufficient to supply the correct answer; however it is transmitted in a complicated manner. Tests which rely upon rapid ear-to-ear switching, and accelerated or decelerated speech are illustrative of the complex presentation method. (d) A fourth approach combines two or more individual procedures in order to obtain a more demanding test.

Limitations of Current Difficult Speech Techniques

Several promising audiological procedures and variations have been proposed for signifying lesions of the central nervous system. However,

most often it is not clear from these measures at what level in the pathways the breakdown occurs. In addition, etiological groups are not necessarily consistent in their test behavior. Thus, improved specificity and reliability are of major importance to present-day investigators.

It is logical to assume that speech material which is ambiguous or has few distinguishable elements will suffer considerable loss of intelligibility when "sensitized" by any of the current difficult-speech methods. These subtle stimuli which are then further processed by any of the current techniques become particularly incomprehensible to individuals lacking central integrity. This inability is primarily demonstrable in the ear contralateral to the affected hemisphere. But even though at first glance such an approach seems ideal, nevertheless, methods which employ ambiguous speech stimuli incorporate an element of undesirability. The more precarious or unstable the speech material, from the standpoint of intelligibility, the greater the probability of artifacts due to individual differences which may be totally unrelated to central disturbance.

Since most of the techniques investigated to date have employed relatively unstable speech stimuli, namely, English monosyllabic words or their equivalents, it is not surprising that consistent normative data are lacking. As a result of the heterogeneity of the test items, and of the great amount of variability among individual listeners, little emphasis in difficult-speech tests has been placed on the absolute test score. Rather, in cases of suspected unilateral central pathology the performances for the two ears are compared wherever the test's structure permits. In some cases the analysis of some assessment procedures is necessarily based on a comparison of separate unilateral test conditions with a binaural condition.

Because of the expenditure of testing time necessary to cope with factors of unreliability, investigators have been unable to shorten their diagnostic measures. Several researchers have utilized rather extensive test batteries to provide the added reliability and accuracy in diagnosis. Since all of these approaches tend to be time-consuming, they may increase the possibility of psychological and physiological fatigue in the patient.

In addition to variables inherent in particular subjects such as age, intelligence, attention span, etc., most of the current methods are difficult to interpret in the presence of peripheral aural pathology. Since peripheral hearing loss has an unpredictable influence upon the test procedures, the possibility of confounding important information concerning the status of "cortical hearing" is enhanced. Particular uncertainty and equivocal findings would arise when distortions, such as reduced word discrimination ability, could be demonstrated by conventional techniques.

One would hesitate on the basis of current techniques to make a diagnosis with individuals exhibiting less than normal hearing for the frequencies within the speech range and also very good word discrimination ability. With few exceptions the distorted-speech techniques employ ambiguous, unstable speech stimuli. It can be seen that without material which is impervious to individual differences and unscathed by peripheral auditory distortions, serious limitations are placed on the procedure. Stable speech stimuli might provide greater certainty in diagnosis because of the likelihood of clearcut normative data and relative resistance to associated or coincidental auditory deviations of a peripheral nature.

Recent work by Calero and Lazzaroni (1957) and by Bocca (1961) tends to show that improved test reliability occurs with more stable speech material. A group of normally-hearing individuals with considerable scatter on tests of intelligence, vocabulary, and memory were administered a switched-speech test using Italian trisyllabic words and short sentences. The findings of this investigation revealed that the three variables studied did not affect test results. There was evidence of excellent integrative ability for each of the three subgroups in the study. Any switching rate from one ear to the other was found to be acceptable. Bocca suggests that Calero's test for the detection of malingering, which utilizes short sentence material, is an excellent tool for identifying higher auditory lesions. The switched-speech test may also provide greater specificity in diagnosis.

Stability of Speech Materials

The difficulty in identifying a word is related to considerations of familiarity, phonetic structure, length, stress, part of speech, etc. (see Giolas (1960) and Owens (1961) for discussion). If the word has rare usage, ordinary sound elements, and a common pattern it will be more difficult to identify. Thus a commonly used word with unique structure and stress will be intelligible at a weaker level than an unfamiliar word with less specific features. For these reasons English monosyllabic words require greater sound intensity for reception than short sentences or spondaic words. For the purpose of this study, spondaic words are those composed of two monosyllabic words with equal stress on each. Spondaic words and sentences contain greater redundancy and therefore much information can be omitted without noticeable reduction in intelligibility.

The stability of spondaic words is revealed by the fact that there is a reliable relationship between their reception thresholds and pure-tone thresholds in the speech frequencies. Even at intensity levels only slightly above the average threshold for the speech frequencies, nearly

perfect intelligibility of spondaic words may be expected. This relationship is essentially unaltered when auditory sensitivity is reduced. This estimate is also appropriate even in cases in which moderate difficulty in discriminating monosyllabic words is present. This stability, common to spondaic words, provides a high degree of test-retest reliability (see Ref. 5). Differences as small as four or five db in spondaic word reception thresholds may be considered significant. It appears likely that the advantages in Calero's switched-speech test are due to the use of more stable speech stimuli.

The Staggered Spondaic Word (SSW) Test

General Description

A staggered spondaic word (SSW) test has been devised which approaches the problem of assessment of the central pathways in a manner similar to that of Calero and Bocca. Some new features are present in the SSW test which accentuate its potential value. The SSW test incorporates the stability of English spondaic words and the demanding features of a competing message technique in order to study insufficiency of the higher auditory nervous system. In addition, further "sensitization" is obtained by the introduction of two complex presentation methods. The proposed test requires that the patient attend first to one side, then to both sides *simultaneously* and then only to the second side, with different information presented concurrently to each ear. The procedure requires no more than 20 minutes and offers both quantitative and possibly important qualitative information.

Test Pattern

Specifically, the author proposes partial overlapping of words presented separately to each ear. That is, two spondaic words such as *upstairs* and *downtown* are combined to form one item. *Upstairs* is transmitted to the right ear and *downtown* to the left. The test provides competition, or concurrent stimuli in the two ears, for the monosyllabic words *stairs* and *down*, while *up* and *town* are presented normally, in a non-competing fashion. The program of transmission of the item may be clarified by the following diagram:

<u>Ear</u>	<u>Time</u>		
	1	2	3
Right	up	stairs	
Left		down	town

The two spondaic words which comprise each item in the SSW test were chosen on the basis of the following criteria:

1. Fairly familiar words.
2. Competing trials of approximately equal duration.
3. Noncompeting trials form a third spondaic word.

Two practice items precede the actual test items. The practice items are similar to the test items except that they do not overlap in time. The carrier phrase "Are you ready" introduces each item and is presented to the ear which will receive the initial word. The ear receiving the first word is alternated.

Administering the Test

The test material is delivered separately to each ear by use of the two channels of a stereophonic tape recorder which are led independently to a pair of earphones. The tape recorder also provides independent volume control for each ear and permits the precise time relationship between the words to be preserved. Each ear is stimulated at a constant level above its individual threshold. It is not yet clear which particular threshold is most appropriate. It may be that the average threshold for pure tones in the speech range (500, 1000 and 2000 cps) or perhaps just the threshold for 1000 cps may be preferred to the speech reception threshold for spondaic words (see Jerger (1960) Ref. 8 and Miller (1960) for discussion). However, in order to avoid possible inaccuracies it might be safest to employ the speech reception threshold.

The subject might be instructed:

You will hear a series of words. Listen carefully and repeat all of the words that you hear. You will have plenty of time to respond, so just say the words as accurately and as clearly as possible. Do not respond until all of the words are presented. If you are not quite sure of a word, take a guess. Now tell me what you are going to do.

Analyzing Test Data

The structure and composition of the SSW test is such that it can provide various quantitative and qualitative bases for analyses. The 40 items, which represent 160 monosyllabic words or 160 bits of information, may be scored and scrutinized in several different ways. Diversified data concerning a symptom would thus be provided by the complex response pattern. For example, by tabulating the percentage of

correct responses for the right ear with and without competition, and the left ear in noncompeting and competing conditions, nine meaningful percentages may be obtained. The total percentage correct indicates an individual's overall success on the test. A comparison between the 80 words presented to the right ear and the 80 presented to the left ear is most revealing with cases having unilateral lesions. Differences between competing and noncompeting trials may be considered separately for each ear, or together in cases of bilateral disorders. Analyses of these scores may indicate error patterns on the SSW test which may be due to peripheral distortions and those to central disturbance. The analysis of error pattern on the four possible monosyllabic responses to each item, regardless of the ear affected, could be expected to offer further versatility and diagnostic power to the SSW test.

There are 16 ways in which a patient can respond to each test item, ranging from all four monosyllabic words correct, to all incorrect. At the present time one might with due caution suggest that the individual who consistently responds incorrectly to, for example, the third monosyllabic word is functioning differently from one who consistently fails both the second and third words, or indeed from a patient who demonstrates no consistent error response. Further reliability might result from a pattern analysis based on operationally related response categories. Thus, by combining similar error patterns the score obtained would be based on a sample size from two to seven times the original number for any one error-type.

From the foregoing it may be inferred that the test procedures which supply only one or at the most a few sensitive scores representing an individual's entire response to difficult speech material may ignore important variations among etiological groups. On the one hand, test procedures which supply several scores can offer a wealth of opportunities for exploration by the diagnostician. We can but assume that lesions at various points in the higher auditory pathways will produce different effects on auditory perception, even if they are only subtle changes. One is encouraged in this assumption by the specificity of audiological procedures for the analysis of peripheral disorders. On the basis of such previous experience it would be logical to assume that variations in central functioning will manifest themselves, just as have peripheral lesions, with the advent of more sophisticated diagnostic techniques.

Case Studies

Six case studies are presented here to indicate the performance trends of normal subjects and of selected central- and peripheral-disturbance groups. These individuals are thought to be rather representative of

their subgroups. Information concerning the speech average for pure tones, speech reception threshold, discrimination score and Staggered Spondaic Word Test results are shown in Table 1.

Discussion

The case studies presented provide some insight into the sensitivity and versatility of the SSW test. The patients who represent groups of central lesions demonstrate considerable difficulty on the test. It is indeed remarkable that these individuals who behave so normally on conventional audiometric measures should show such marked deviations from normal subjects on the SSW test. Case 2, of unilateral central trauma, demonstrates the vivid effect upon the contralateral ear, while the homolateral ear yields almost normal data. This contralateral affectionation is consistently revealed in tests of higher auditory behavior.

It is of interest to note that the competing condition tended to be more difficult for all subjects. Nevertheless, the contrast between the competing and noncompeting conditions were most striking with central dysfunction. Although, Case 5, with peripheral damage, had a poor SSW score for the right ear, he differed from the other subjects by exhibiting a discrimination loss for conventional words and difficulty on the non-competing trials as well. We might infer that moderate discrimination losses will reflect themselves on both competing and non-competing words on the SSW test. The incorrect responses of patients with central dysfunction on the proposed test might be expected to be far out of proportion to the discrimination loss particularly for the non-competing trials.

Information concerning the reliability, the effects of age, and the effects of intelligence on the SSW test is not available at the present time. However, there is reason to be optimistic concerning these factors. Children as young as eight years of age have been administered the test and have shown normal adult responsiveness. This technique has not been given to children younger than eight years of age.

It is of value to describe the ease with which normal subjects perform on the SSW test. Individuals without significant neurological or otological histories make very few mistakes. In fact, sophisticated listeners often challenge the statement that the two competing trials completely overlap one another; but the timing accuracy of the tape recording is easily verified. The reason for this auditory illusion remains unexplained; it is perhaps related to the facility with which the intact brain is in fact able to handle competing or even conflicting information presented simultaneously at the two ears.

TABLE 1.
Case Studies of Six Patients Given the Staggered Spondaic Word Test

	Ear	PT AVE	SRT	DS	SSW Test % Correct		
					Non-Com.	Com.	Total
Case 1.							
Normal (control). male, 12 yrs. No significant medical history	R	-10		100	100	98	99
	L	-10		100	100	98	99
	Mn	-10		100	100	98	99
Case 2.							
Trauma (central) male, 24 yrs. Fell from a fast moving vehicle on right side of head at age 5. Unconscious 8 days. Residual scars on right side of head only (temporal, parietal and occipital regions).	R	-10	-4	100	98	92	95
	L	-10	-6	100	90	62	76
	Mn	-10	-5	100	94	77	86
Case 3.							
Cerebral Palsy (central) female, 11 yrs. Predominantly, right spastic involvement	R	0	6	100	98	30	54
	L	-3	4	100	100	70	85
	Mn	-2	5	100	99	50	74
Case 4.							
Older Age (central) male, 60 yrs. No significant medical history.	R	-5	0	100	98	52	75
	L	-3	0	100	100	70	85
	Mn	-4	0	100	99	61	80
Case 5.							
Sensory-Neural Hearing Loss (Peripheral) male, 39 yrs. Noise exposure in service in WW II.	R	13*	10	72	72	58	65
	L	10*	8	84	100	92	96
	Mn	12	9	78	86	75	80
Case 6.							
Conductive Hearing Loss (Peripheral) male, 42 yrs. Progressive hearing loss found to be otosclerosis.	R	26**	28	100	100	100	100
	L	40**	36	100	100	98	99
	Mn	33	32	100	100	99	100

* For 2 best frequencies

** Approximately 30 db air-bone gap

PT AVE : Mean Threshold at 500, 1000, and 200 cps

SRT : Speech Reception Threshold for spondees

DS : Discrimination Score for live voice PB W22 lists at 40 db above SRT

Staggered Spondee Word Test Results at a Level 30 db above SRT

Noncompeting condition : Monosyllables (Times 1 and 3)

Competing condition : Monosyllables (Time 2)

Total : Percentage correct of all monosyllables

Summary

An audiological technique termed the Staggered Spondaic Word (SSW) Test is proposed for the assessment of lesions in the higher auditory pathways. This "competing-message" technique employs bilateral, partially overlapped spondaic words.

Spondaic words are employed in order to utilize their ability to pass through the peripheral auditory mechanism comparatively unscathed by concomitant or coincidental hearing loss and/or distortion. The stable speech material should also provide greater intra- and inter-subject consistency within various auditory disorder groups.

The SSW test offers the diagnostician many sources of information concerning the individual's ability to cope with a speech stimulus presented in a complex manner. The brevity of the complete SSW test (20 min.) renders it feasible as a potential clinical tool. On the basis of the analysis of early test results with various populations, no serious alterations in the theory underlying the proposed test have been necessary.

References

1. Bocca, E. Factors influencing binaural integration of periodically switched messages. *Acta Oto-laryngol.*, 1961, 53, 142-144.
2. Bocca, E., Calearo, C. and Cassinari, V. A new method for testing hearing in temporal lobe tumours; preliminary report. *Acta Oto-laryngol.*, 1954, 44, 219-221.
3. Bocca, E., Calearo, C., Cassinari, V. and Migliavacca, F. Testing "cortical" hearing in temporal lobe tumours. *Acta Oto-laryngol.*, 1955, 45, 289-304.
4. Calearo, C. and Lazzaroni, A. Speech intelligibility in relation to the speed of the message. *Laryngoscope*, 1957, 67, 410-419.
5. Epstein, A. and Hopkinson, N. T. Personal communication.
6. Giolas, T. "An Investigation of the Effects of Frequency Distortion upon the Intelligibility of Monosyllabic Word Lists and a Sample of Continuous Discourse." Ph.D. Dissertation, University of Pittsburgh, 1960.
7. Jerger, J. Audiological manifestations of lesions in the auditory nervous system. *Laryngoscope*, 1960, 70, 417-425.
8. Jerger, J. Observations on auditory behavior in lesions of the central auditory pathways. *Arch. Oto-laryngol.*, 1960, 71, 797-806.
9. Jerger, J., Mier, M., Boshes, B. and Canter, G. Auditory behavior in parkinsonism. *Acta Oto-laryngol.*, 1960, 52, 541-550.
10. Lucas, A. Transitory phenomena in audiometric diagnosis. *Ann. Otol., Rhinol., Laryngol.*, 1961, 70, 669-676.
11. Matzker, J. Two new methods for the assessment of central auditory functions in cases of brain disease. *Ann. Otol., Rhinol., Laryngol.*, 1959, 68, 1185-1197.
12. Matzker, J. Der heutige Stand der Diagnostik cerebraler Hörstörungen. *H.N.O.*, Berlin, 1960, 8, 97-109.

13. Matzker, J. and Welker, H. Die Prüfung des Richtungshörens zum Nachweis und zu topischen Diagnostik von Hirnerkrankungen. *Z. Laryngol. Rhinol.*, 1959, 38, 277-294.

14. Miller, M. H. Audiologic evaluation of aphasic patients. *J. speech hearing Dis.*, 1960, 25, 333-339.

15. Owens, E. Intelligibility of words varying in familiarity. *J. speech hearing Res.*, 1961, 4, 113-129.

16. Sanchez-Longo, L. P., Forester, F. M. and Auth, T. L. A clinical test for sound localization and its applications. *Neurology*, 1957, 7, 655-661.

17. Walsh, T. and Goodman, A. Speech discrimination in central auditory lesions. *Laryngoscope*, 1955, 65, 1-8.



Need to Simplify?

call
DiaTec

The demands of running a practice can pull your attention in a thousand directions with the never-ending list of to do's that clutter your office and your mind. Wouldn't it be nice to streamline your clinic operations? Having reliable diagnostic equipment is essential to running your practice smoothly so you can focus on what's important — giving your patients the attention they need. DiaTec Canada is your one stop solution. With a wide array of brands and products, accessory essentials and field service expertise, we've got you covered.

Contact DiaTec Canada for:

- A complete line of audiological equipment
- Field service & instrument calibration
- Extensive accessory & disposable product line

DiaTec Canada gives you the luxury of variety, the convenience of one stop access, and the reliability of expert technical service. **It's time to simplify with DiaTec.**



Want to learn more?
call 1-866-326-8830 or visit
www.diateccanada.com

DiaTec
Diagnostic Solutions & Accessories

DiaTec Canada is
a distributor of:





15th Annual CAA Conference and Exhibition

October 24-27, 2012 The Westin Ottawa, Ottawa, ON



World-Class Speakers

+



Cutting-Edge Exhibits

+



Great Location
& Social Events

=



The pre-eminent audiology
conference in Canada

REGISTER TODAY!

Don't lose out! Be sure to book your room before
September 15 to receive the special CAA rate.

For registration, speaker list, and travel & hotel information go to:
www.canadianaudiology.ca



The Staggered Spondaic Word (SSW) Test – 50 Years Young

By Kim L. Tillery, PhD, CCC-A
kltillery@gmail.com



About the Author

Dr. Kim L. Tillery, professor and chairperson of the Department of Communication Disorders and Sciences at the State University of New York at Fredonia also has a private practice in diagnosing and treating adults and children with (C)APD. She has been honoured to present over 120 workshops or presentations at national, international, and regional conferences, and authored and co-authored several chapters and journal articles on (C)APD and its relationship with attention and learning disorders.

The SSW test is one of the most commonly used dichotic central auditory processing test according to a recent survey.¹ The test was first developed to assist in locating the site-of-dysfunction² and in the early 1990s it was adapted as a measure to evaluate auditory processing disorders (APD).

Some of us SSW groupies have used all three interpretation methods that Jack Katz thoroughly explains in the SSW Test Manual, 5th edition, (Precision Acoustics). There is the Original Analysis used to assess the site-of-dysfunction, the Traditional Analysis which is a statistical approach for APD evaluations that later was developed into the current method for APD evaluations, the Number of Errors (NOE) Analysis. Each method was developed to “correct” for possible influences of test results, such as a mild hearing loss, poor word recognition / discrimination score, or normal hearing

with poor word recognition.

The NOE method uses raw scores making it quite easy to score. There are norm values for both the quantitative and qualitative responses, for ages 5 years to 60 years. The quantitative norm values give a severity level and type(s) of APD. The qualitative norm values show the normal amount of reversals allowed for one’s age, and if there are more errors from the first set of stimuli verses the final set of stimuli, known as the order effect. There are other qualifiers that are seen in specific types of APD: quick or slow responses, “smushes” (‘blue jay black bird’ is produced as “blue jack bird”), and delays, to name a few.

The SSW test usually takes 10 minutes to administer. Granted there are times that a client requires a break during any type of evaluation, which may make the test taking time a bit longer. The

brilliance of this test is that there are 40 sets of spondaic words – equal stressed words – delivered in an alternating (right ear first or left ear first) manner to both ears at the same time. Only two of the four words are presented to both ears at the same time, while the other two words are presented in isolation, revealing four scores.

These four SSW test scores (NOE), observed qualifiers, and the knowledge of the parts of the brain associated with these test scores and behaviours are the basis of the Buffalo Model^{2,3} resulting in four types of APD: difficulty in decoding speech, exhibiting short-term memory problems, weak sequencing organization skills, and difficulty in the integration of auditory and visual information. The more information we know about the auditory problem assists in providing effective and proper treatment and management.

This wealth of information comes from this one test that has been manufactured in several languages: Turkish, Spanish, French, Portuguese, Japanese, Cockney English, Australian, Maltese, and Danish, just to name a few. The test is brief and applicable to many populations including children, adults, bilingual, intellectually challenged, hard-of-hearing, and even those with attention disorders.

Oh, I forgot! There is that infamous carrier phrase, “Are you ready?” that all of us SSW groupies have heard our clients respond with, “Would it matter

if I am not ready?”, or the response of “Yes” to all 40 times Jack presents the carrier phrase. What do we do in response to this? We give that “Jack Katz” smile and continue administering his SSW test.

1. Emanuel DC, Ficca K, and Korczak P. Survey of the Diagnosis and Management of Auditory Processing Disorders. *American Journal of Audiology* 2011;20:48–60.
2. Katz J and Smith P. The SSW test: a ten-minute look at the CNS

through the ears. *Ann NY Academy of Science* 1991;620:233–252.

3. Katz J. Classification of auditory processing disorders. In: Katz, J. , Stecker N and Henderson D (Eds). *Central Auditory Processing: A Transdisciplinary View*. Boston: CV Mosby; 1992.

For more information and where to purchase the SSW test:
jackkatz@buffalo.edu or
 Precision Acoustics
www.precisionacoustics.org/PA_Order_Form_4-2010.pdf
Canadian Hearing Report 2012;7(4):28-29.

15th Anniversary Gala Dinner

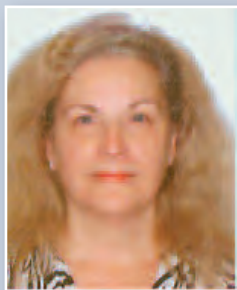
Come celebrate with us! Join the Canadian Academy of Audiology at its 15th Anniversary Gala, Friday, October 26, 2012 at the Westin Ottawa. This uniquely Canadian event will honour audiology and the history of the CAA in the beautiful setting of our nation's capital at our 15th Annual CAA Conference. Join us for a not-to-be-missed evening of fine dining (Canadian cuisine from coast to coast), dancing, camaraderie and reminiscing as we celebrate the past fifteen years and look forward to a bright future!



www.canadianaudiology.ca

In Celebration of Jack Katz and the 50th Anniversary of the SSW Test

By Irene Hoshko, MSc.(A) Aud(C) OOAQ, Audiologist



About the Author

Irene Hoshko has been a clinical audiologist at the Montréal Oral School for the Deaf for over 30 years. She taught at McGill's School of Communication Sciences and Disorders for 16 years and has several publications in the research literature. Irene's specialty areas include pediatric and educational audiology and cochlear implants. She has a career-long interest in central auditory processing disorders and their remediation.

As I write this piece I am traveling back in time to my first live encounters with Jack Katz in the early 1990s. Prior to 1991 I knew Jack only as one of those audiology pantheon gods whose physical presence materialized with regularity on the pages of textbooks and the podiums of large conference rooms. Our first personal contact was in March 1991 when I attended a conference sponsored by the University of Buffalo's Department of Communication Disorders and Sciences on *Central Auditory Processing: A Transdisciplinary View*. The Montréal contingent was very impressed with Jack and invited him to give a workshop in Montréal. In May of 1992 I found myself an eager attendee at his three-day intensive SSW Workshop in Montréal, Québec. What was my primary motivation for attending the workshop? As an educational audiologist I constantly encountered children with academic difficulty who presented with normal peripheral hearing status but had been referred by seasoned educational professionals or speech-language pathologists for "hearing" problems. From

long experience I knew that whenever there was a discrepancy between my audiologic findings and those of teaching or support professionals, it was likely that my testing protocol was not capturing the essence of the deficit those children were exhibiting. What an awkward stance for an educational audiologist. But it was also a not so subtle reminder to the audiologist that it was not the two ears but rather the brain between them that was at issue.

In 1992 the very existence of an auditory processing disability as a clinical entity was in dispute. Audiologists did not even agree on what the central auditory system was. Audiology clinics ranged from using no tests at all to comprehensive central testing batteries designed for a site-of-lesion neurological approach. A minute percentage of pediatric clinics tested for auditory processing with no consensus on methods of assessment, procedures, analysis or interpretation of results. Amongst audiologists who did diagnostic testing in this domain, virtually none considered it to be within the scope of audiology practice to devise a therapeutic plan to guide subsequent intervention.

While audiologists continued to ruminate on all of the above, the children and their referral sources waited for a differential diagnosis and some direction towards a remedial effort.

But there was hope on the horizon. By the 1990s our audiologic knowledge base was expanding dynamically. In 1972 the first edition of Jack's *Handbook of Clinical Audiology* could be lifted with one hand and there was no hernia risk involved in that action. By the time the third edition came out in 1985 the tome was becoming significantly heavier. Subsequent editions have required a definite two-handed grasp for transport and involve significant physical effort to be expended in the process by the average-sized audiologist.

There was also movement at the government level in the 1990s. The National Institutes of Health in the U.S. had designated the 1990s as the "Decade of the Brain" to mark the advances in technology and science resulting from studies of the brain. The time was ripe for invoking auditory processing assessment in routine clinical utility.

Back to the SSW workshop in 1992. The material Jack presented was intriguing. In the 10 minutes required for test administration, the SSW could accurately pinpoint a neurologic site-of-lesion. Everything the patient said and did in response to the test stimuli was information bearing, carefully noted and subject to analysis. Jack was scientifically precise, succinct, systematic and patient in his delivery style to conference attendees. Jack was also entertaining, charming, modest, and engaging. Jack was elegance in simplicity. Jack gave us a powerful tool to use in our practice and taught us how to use it well. With the Buffalo Model we had a total approach to auditory processing disorders that included an actual management tool. This was one-stop shopping for the individual with central auditory processing disorder with diagnosis and a remedial strategy in one complete package. After the three days were up I no longer felt that one foot was grounded in hard science and the other was mired in quicksand. My professional stance vis-à-vis central auditory processing was much less awkward.

Then came those SSW Reports in the mail. They were scientific clarity in a technicolour package. Jack knew how to engage the sensory systems of his readers as well as to stimulate intellectual curiosity. His SSW Reports came in a profusion of colours and with a grainy texture of paper. We know that reading is already a combination modality activity, engaging both auditory and visual systems. But I think that the multimodal stimulation provided by the SSW Reports' format was a deliberate attempt by Jack to activate as many brain regions as possible and to recruit the maximum number of neurons in his readership. Am I right Jack? And the provocative titles: "Lucky Thirteen"; "Alice in Wonderland;

Lonely?" "Whisper!"; "LD in DC"; "All Ackie: Dear Ackie on CAP"; "Attractive and Available". The SSW topics were varied: Chronic Fatigue Syndrome; Bilinguals (English/Spanish); Chiari Malformation; Attention Deficit Disorder; Unilateral Conductive Loss; AIDs, Brainstem CVA; Hippocampus and Memory and the College-Age Learning Disabled to name but a few. The SSW Reports continue today. My February 2012 issue is lime green and informs me about Assessing Auditory Processing Disorders in People with Cognitive Disorders. It also promises to tell me about What SLPs Need from Our APD Reports and What Are They (SLPs) Thinking? I read the SSW Reports as much for the content as in appreciation of Jack's philosophical bent and trademark, slightly obtuse, sense of humour.

Jack tells us that his idea for the SSW occurred to him in the early 1960s one night between midnight and 2:00 AM, when he was feeding his infant son. By the dawn 30 SSW items had been completed. We didn't know it then, but a different day was also dawning for thousands of audiologists around the globe and for the millions of patients they served. The first SSW recording was in 1961 with publication in the professional research literature in 1962. By 2004 there were 16 different SSW tests around the world, including in Argentina, Australia, and Iran. The SSW is much like Jack: deceptively simple on the surface, but with multiple levels of complexity that we are still unravelling 50 years later. It is both current and a classic.

Our elusive search for a comprehensive management tool for central auditory processing disorder continues to the present day. Jack's Phonemic Training and Phonemic Synthesis therapy programs

have been in use for 50 years to remediate the decoding disorder subtype in the Buffalo Model. They have withstood the test of time and require relatively little therapeutic time investment. These therapy programs represent both the beginning and the continuity of an earnest remedial effort to address central auditory processing disorders. Jack feels that the future of audiology lies in redirecting ourselves back towards the rehabilitative orientation we had at the inception of our field in the 1940s. In fact, in the past 15 years, we are seeing that what was old is new again. Therapy programs to help remediate central auditory processing disorders are now available online using mobile assistive technology. We are developing tools to evaluate performance outcomes with a variety of computerized auditory training programs. There is a new Buffalo Model Questionnaire out.

Jack has given hundreds of demonstrations, talks, formal lectures and workshops over the years. Since 1972, with his *Handbook of Clinical Audiology*, he has convened the leading experts in the field of audiology to bring their cumulative expertise to bear on major issues in the field. In stimulating dialogue, informal exchange and formal discussion, he has always invited everyone to participate, from the novice audiology practitioner to the world renowned expert.

Happy 50th Golden Anniversary SSW. Fifty years later, the SSW remains a gold-based currency in no danger of devaluation. Jack, from clinical audiologists everywhere, congratulations on the SSW's 50th and our heartfelt thanks "Ackie."

Canadian Hearing Report 2012;7(4):30-31.

A Story of Sixth Editions: The Katz Handbook of Clinical Audiology

By Linda J. Hood, PhD



About the Author

Linda J. Hood, is a professor in the Department of Hearing and Speech Sciences, Vanderbilt Bill Wilkerson Center, at Vanderbilt University and an honorary professor at the University of Queensland, Australia. Her research, publications, and clinical interests include auditory physiologic responses, efferent auditory function, hereditary hearing loss, auditory neuropathy/dyssynchrony, auditory function across the lifespan, and comparative hearing studies. In addition to research and teaching, Dr. Hood participates in NIH and other review panels as well as activities of several professional organizations.

My future boss recognized me, not because I was the person with a rose in my lapel, but by the copy of the *Katz Handbook of Clinical Audiology* that I carried as I got off the plane. He (John Seamens, then director of the Central Florida Speech and Hearing Center) often commented that I was easy to spot as few non-audiologists carry that book with them on a plane. A definite audiology giveaway! What else would one take on an interview for their very first audiology job? I was a newly minted audiologist, graduating from Kent State University in Ohio, where Dr. Joe Millin had introduced me to audiology and the first edition of the *Katz Handbook*. The plane trip to Florida was a good chance to brush up on answers to some of the many difficult questions that I imagined my interviewers would ask. And where else would I find information about the many aspects of audiology in one textbook?

That has been the philosophy behind

the *Handbook of Clinical Audiology*, aka “the Handbook”, aka “the Katz Book” – having one volume that collects so much of the essential knowledge related to clinical audiology. In fact, in the preface to the first edition, Jack states, “The purpose of this book is to provide between one set of covers a summary of the current state of the science-art of clinical audiology.” Naturally, subsequent editions have added new topics and information as the field of audiology has evolved.

Can you imagine juggling multiple authors, a wide range of topics, 40–50 chapters, and as many as 1,124 pages? Not to mention associate editors. This is what Jack Katz has done, not once, or twice, but SIX times! With the publication of the sixth edition in 2009, this audiology textbook marked publication dates spanning 37 years!

A few facts about the “Handbook.” The six editions of the *Handbook* contain contributions from 211 authors,

growing from 32 contributors in the first edition to 70 in the sixth. Two individuals, along with Editor Jack Katz, are noteworthy in that they have contributed chapters (sometimes two chapters) to every edition of the *Handbook*. They are Laura Wilber and Fred Martin and their topics – primarily related to calibration and nonorganic hearing loss, respectively – have stood the test of time. Jack Katz has been editor of all volumes, moving from editor to editor-in-chief for the sixth edition. Wilma Gabbay was the associate editor for the third *Handbook* and continued on for the fourth edition, joined by Saralyn Gold, Larry Medwetsky, and Roger Ruth. Larry Medwetsky and Bob Burkard were associate editors for the fifth and sixth editions, and I joined them for the sixth edition.

As authors and associate editors have changed over the years, so have the topics and content, as Jack’s goal was to keep the text contemporary, changing

as audiology changed. Such developments are reflected, for example, in chapters related to physiology that have grown from 6 chapters in the second edition to 15 in the latest Handbook. Similarly, topics related to special populations have increased over the years as the practice of audiology expanded into serving new groups of patients. Along with these changes, the core concepts contained in the Handbook have received regular updates and new perspectives.

And, the covers have changed with the times and even with urging from the associate editors. The first two editions reflected the prominence of Bekesy audiometry in that era, followed by an audiogram and auditory brainstem response on the third edition as physiologic assessment gained in prominence. The next two editions gave a nod to sound in general with sound waves. For the sixth edition, as Larry Medwetsky recounts in another article in this volume, Jack agreed, after urging from the other editors, to place his photo on the cover. As one might expect, Jack's humble nature caused him concern over this but he finally went along with his co-editors.

My second Katz Handbook story comes along years later as Dr. Chuck Berlin and I were evaluating a young man at the Kresge Hearing Research Laboratory in New Orleans. He had problems listening in noise and unusual auditory brainstem responses. His hearing difficulty would later be classified as auditory neuropathy (AN), but this was several years before AN was described. As we sat trying to figure out what would cause such a disorganized ABR, Chuck said, "Let's do an MLD (masking level difference) test!" Well, the VERY FIRST thing that

went through my mind was, "Where is my Katz book?" With Handbook in hand, we did the test. Years later I had the opportunity to recount that story in a lecture I gave at a meeting where Jack was sitting in the front row. I hesitated to tell the story, but was happy I did when he smiled and nodded in agreement.

But enough about me. I'm fortunate that Co-editor Bob Burkard has agreed to share some thoughts about the Handbook (note that Co-editor Larry Medwetsky also shares discussion of his perspectives on the Handbook in another article in this issue). Let's hear from Bob:

"I grew up in Buffalo NY, a place where Jack Katz spent many of his academic years. I went to Buffalo State College for two years, earning a degree in communication disorders, as well as a life-long fascination with hearing, hearing loss and electrophysiology. My very first book, in my undergraduate audiology education, was the third edition (published in 1970) of *Hearing and Deafness* edited by Hallowell Davis and S. Richard Silverman. I applied to graduate school in Madison, Wisconsin, and began my graduate studies in the fall of 1976. It was in Madison where I first, by proxy, was "introduced" to Jack Katz, through the reading of the first edition of the *Handbook of Clinical Audiology*. This book still sits on my shelf. It is torn (I again had to tape the covers back onto the book). I am paging through this book as I sit at my computer writing about these recollections. On the inside cover, I have various handwritten notes: "p. 666 psych of deafness... Mountcastle... p. 594... info about ferreting out background noise." I am not sure if these notes were the primordia of my interests in

neuroscience, and/or my long-term research interests of the effects of masking noise on auditory evoked potentials. However, from the turned over pages and the numerous underlined sections, clearly Jack, from very early on in my audiology education, had a profound and lasting impact on my professional life. In 1995, I moved to the Department of Communication Disorders and Sciences at the University at Buffalo, and met Jack Katz. While Jack loved to see patients, he also loved to work with students who share his passion for audiology. Jack approaches teaching and clinical work in the only way he knows how: he gets involved personally. To Jack, each patient/student is someone of unimaginable value. Jack defines his success by the success of his academic and clinical progeny. It is no wonder that he is held in such esteem by his patients and his students. A few years after I arrived at the University at Buffalo, Jack asked to talk to me in his office. I thought I had probably done something to offend him (a talent that appears to come rather naturally to me). In this meeting, he asked me to serve as an associate editor of the fifth edition of his Handbook. I was (almost) speechless, and greatly honored to be asked to work with him. He involved both me and Larry Medwetsky (the other associate editor) in all stages of book planning and the editorial process. This was Jack Katz serving the role of mentor to more junior professionals. I should note that Irma Katz (Jack's wife) was the power behind the throne, keeping the authors, associate editors (and Jack) constantly moving the project toward completion.

Jack retired from the University at Buffalo several years ago. I miss seeing Jack's smiling face, and I really miss the warm and caring person behind that

smile. I recently saw Jack (and Irma) at the 2012 ASHA convention in San Diego. His smile lit up the room, as he stood on stage and was given the ASHA Honors. Jack has made (and continues to make) many contributions to our profession (scholarship, teaching, service, clinical practice). However, his six editions of The Handbook have had a direct impact on the education, training and practice of thousands of clinical audiologists.”

As Bob has just related, I also was honoured when Jack and Bob asked me to join them, along with Larry, as an editor for the sixth edition. What could be nicer than, having grown up in audiology and practiced audiology with the Katz Handbook at my side, having

an opportunity to work directly with Jack and contribute to a project that has had such impact on the students of audiology and practicing audiologists. Working with Jack on this project showed me what a kind friend and nurturing mentor he is. His approach to this Handbook, and I think life in general, underscores how dedicated he is to the profession of audiology and to the continuing production of a high-quality resource for clinicians, students, scientists, and anyone who wants to find “between one set of covers a summary of the current state of the science-art of clinical audiology.”

By the way, that Katz Handbook, First Edition, served me well. I got that first audiology job! And “The Handbook”

sat proudly on the shelf in my new office as subsequent editions have occupied my offices, research labs, and clinics since that time. I know that I speak for many, many others when, along with co-contributor to this article Bob Burkard, I say, “Thank you, Jack”.

ACKNOWLEDGMENT

I wish to thank Bob Burkard for his contribution to this article and more importantly for years of conversation and collaboration.

Canadian Hearing Report 2012;7(4):32-34.

FEATURE CAA MEMBER BENEFIT

Volunteer Opportunities

- ~ Board of Directors
- ~ Committee Members
- ~ Student Volunteers
- ~ Peer Review Panel

*Join us if you are passionate about audiology in Canada
and interested in networking and gaining new skills.*



www.canadianaudiology.ca/benefits

Celebrating Jack Katz and the Handbook of Clinical Audiology

By Larry Medwetsky, PhD



About the Author

Dr. Larry Medwetsky graduated with a MSc in audiology from McGill University and a PhD in speech and hearing sciences in 1994 from the Graduate Center, City University of New York. He is presently Associate Professor at the Department of Hearing, Speech, and Language Sciences at Gallaudet University, Washington, DC. Dr. Medwetsky has published and presented on many different topics with a special focus on the underlying speech processes and deficits in individuals with normal hearing or hearing loss.

In crafting this invited article, I cannot help but start by reminiscing of my first thoughts about Jack Katz. I was a first year's master's degree student in the audiology program at McGill University and the main audiology text at that time was the first edition of the *Clinical Handbook of Audiology*, which, of course everyone knows is edited by Jack. By the time I was an audiology student in 1977, the text was already considered the "Audiology Bible." And, as I often tended to do, I developed an internal image of what I thought Jack looked like and I pictured one of Moses. In my mind, Jack had this long white beard and flowing white hair. Of course, he had to be a much older man because of all of the great things he had already accomplished. He was one of the leaders in our field and the "Godfather" of central auditory processing. You can imagine my surprise when I first met Jack and found him to be a much younger man than I had envisioned. By the way, when the associate editors for

the last Handbook first met to discuss the directions we wanted to move on this text, we realized that many audiologists had probably never met Jack and did not know what one of our great leaders really looks like. None of the previous five editions had included a photo of Jack, which subsequently led to our request to the publisher to have Jack's photo on the latest Handbook.

I first met Jack in 1980 when I attended a two-day conference at Chedoke Hospital in Hamilton, Ontario where Jack was the sole presenter. It was an incredible two days and I learned so much. The information I obtained those two days greatly influenced my thoughts and ultimately shaped my career going forward and led to a passion in central auditory processing that still drives me today. I subsequently met Jack in 1981 while serving as an educational audiologist at MacKay Center in Montreal. After having worked two years there, I was still

struggling to conceptualize how an educational audiologist could best meet the needs of students with hearing loss or processing related difficulties. To get a better handle on this, I contacted some of the greats in the field to gain their insights and went on a three-week voyage in my 1975 yellow LeMans Sport Coupe all over the northeastern USA and Ontario. Jack was one of the individuals who generously gave of his time and he shared his thoughts with me over the course of an afternoon. It was then that I came to know of Jack's generosity and how supportive he is of others.

A fortuitous moment and turning point for me occurred after my first year in the PhD program (1985) at the Graduate Center of City of New York. I was seeking to expand my knowledge of central auditory processing. I had some time off from school so I contacted Jack to see if there was any possibility that I could come and spend

some time with him. Jack informed me that he was offering a three week SSW course at the University of Buffalo. I jumped at the opportunity and Jack graciously allowed me to audit his class. It was a wonderful experience and I have so many great memories of the class. Jack was a great teacher and I was completely enamoured by the information I gained. The experience ultimately led me to focus my dissertation on auditory spoken-language processing.

It was also at this time that Jack shared with me his desire to create software to score the SSW test. The idea sounded great since I often took as long as 20 minutes to score the test. Jack was seeking someone who could create the software and I just happened to have a colleague with the necessary skills. This collaboration ultimately led to the SSW C*I*R software program, which upon entering a few numbers resulted in instantaneous results, interpretations, and recommendations. Not only was it a great time savings but it ensured accurate interpretations of the test findings.

This project was the first of many

collaborative ventures that I have had the pleasure to engage with Jack over the years. Probably the most important of these has been our work together on the *Handbook of Clinical Audiology*, of which I have had the pleasure to serve as an associate editor for the last three editions. To have an opportunity to work with “Moses” has been tremendously gratifying. Jack never ceases to amaze me, with his incredible abundance of energy, dedication, memory and organizational skills. However, the latter two attributes do require some elaboration. Jack owes his amazing memory ability to the palm of his right hand. What do I mean, you ask? All you have to do is just glance at Jack's palm and you'll see what important activity needs to be accomplished that day. Regarding Jack's amazing organizational skills, one just has to be reminded of the expression “Behind every great man is a great woman,” which truly applies in Jack's case since the true organizing force in Jack's life is his wife Irma. And, Jack would be the first to admit that.

Before concluding, I'd like to say something about the SSW test. It is the cornerstone of my test battery, and in

my mind it truly is the most incredible audiology test that has ever been developed. Its design is genius (excuse the grammar). To stagger compound word items in the way that Jack did is mind-boggling to me. And, the ability to capture so much information from one test! For example, in every other test that I am aware of, lexical-decoding speed (requiring more time to process information) and fading-memory (difficulty retaining earlier presented items in short-term memory) difficulties would counteract each other in some way or another, thus, making it difficult to ascertain the presence of either one reliably. Yet, one can do that using the SSW test due to its amazing test design.

As we recognize the 50th anniversary of the SSW test I think about how many lives Jack Katz has touched over his life time as an audiologist – be it students, professionals, or clients. His contributions to the field have been extraordinary. And, on a personal note, I truly feel honoured to have had Jack as a friend these many years.

Canadian Hearing Report 2012;7(4):35-36.

Changes in the Staggered Spondaic Word (SSW) Test over Its 50 Year History

By Judith Felson Duchan, PhD



About the Author

Judith Felson Duchan is emeritus professor from the State University of New York at Buffalo. She has published widely in language pathology with many of her writings emphasizing the conceptual frameworks underlying clinical practice. Her particular emphases have been in the areas of autism, pragmatics, childhood language, and aphasia. Her latest writings have been on different aspects of the history of speech-language pathology from ancient times to the present.

The SSW was launched in 1962. Its birth coincided well with what was going on at that time. It was around then that the field of audiology was looking for ways to identify sites of lesion in the central auditory system¹⁻³ (and for a recent historical review see Gelfand 2009, pages 302–329).⁴ Also, it was in the early 1960s that speech-language pathologists were identifying breakdowns in the auditory system as a cause for speech, language and reading disabilities.⁵⁻⁹ It will be argued here that the SSW meshed well with the needs and sensibilities of the 1960s and, further, that it changed over its 50 year life span to meet new challenges and keep up with new professional trends.

I will describe ways different trends in the profession may have impacted on the SSW from my perspective as a language specialist. I will also reflect on what I learned from eavesdropping over the years from my office down the hall from Jack Katz at the University at Buffalo. I will present this historical account by

decades, mentioning a few things that were going on in each of the five decades since its birth in 1962.

THE 1960s

The SSW was developed in the early 1960s, not long after Helmer Myklebust (1954) published his earth-shattering book on auditory disorders in children.⁵

Myklebust argued that the primary causes of children's learning disabilities were located in the auditory system. Other publications of the 1960s also theorized that breakdowns in auditory system led to language disorders and learning disabilities. Different authors focused on different kinds of audition. Areas of primary concern at the time were auditory discrimination,^{10,11} auditory (temporal) integration¹² and auditory sequencing of various stimuli.^{6,13-16} These different types of auditory skills were brought together in the Illinois Test of Psycholinguistic Abilities that included subtests of auditory reception, auditory association,

auditory sequential memory, auditory closure, and sound blending.¹⁷

While speech language pathologists of the 1960s were looking to find an auditory-based cause for language disorders, audiologists, too, were designing tests to understand and find breakdowns in the higher order auditory system.¹⁸ Katz, in his 1962 article announcing the birth of the SSW test, outlined various ways his fellow audiologists were going about challenging the auditory system in search of higher order cortical lesions.³ Among those methods being used was a dichotic listening task. In 1961 Doreen Kimura found that those with normal hearing showed a right ear advantage with dichotically presented spoken numbers.¹⁹ She attributed this “to the localization of speech and language processing in the so-called dominant left hemisphere of the cerebral cortex.”

So the conditions in 1962 were ripe for the SSW test. Jack Katz was a newly

minded audiologist and was also strongly identified with the field of speech pathology.²⁰ At that time the fields of audiology and speech pathology were more integrated, as evidenced by the fact that many professionals, Katz among them, had dual certification. Katz responded to the call in both fields for an instrument that could provide information about the existence and location of lesions and breakdowns in the central auditory system.

THE 1970s

The 1970s brought with it a linguistic revolution in the field of speech language pathology that was to pose problems for the SSW.²¹ The theoretical, research and clinical focus shifted from looking for perceptual causes of speech and language disorders in the 1960s to identifying innate and acquired knowledge such as phonologically based speech sound categories and linguistically based morphological and syntactic rules. Identification of speech sounds, words, and sentences were seen as deduced from higher order linguistic knowledge rather than as being induced from information in the auditory signal.

Emblematic of this linguistic trend, and a significant contributor to it, was an influential article written by Norma Rees.²¹ Rees argued that speech perception and language understanding did not come from first identifying separate sounds or phonemes and then stringing them together to form words and sentences. Rather, sounds were overlapping (co-articulated) and required a special kind of knowledge for their processing – information not present in the speech signal. The linguistic movement was divisive, with its biggest rift between language pathologists and audiologists. That division has changed shape over time, but has remained a problem in the field since the 1970s.

Meanwhile, in the 1970s audiologists began working to integrate their various audiometric measures by creating test batteries.^{23–26} The batteries were designed, in part, to locate problem areas along the auditory processing system. They were also used to diagnose CAPD and its subtypes.²⁷ Following this trend, Jack Katz tucked the SSW into a larger battery of tests all aimed at classifying children into one of three different auditory processing groups: auditory decoding, tolerance fading memory, and auditory integration.²⁸ His battery positioned him for creating what he and his colleagues in Buffalo later called The Buffalo Model.^{29–32}

THE 1980s

The clash between those who regarded learning problems as language based and those who saw them as based in auditory processing continued into the 1980s. It became reified in the literature on information processing when described using computer metaphor: “top down” versus “bottom up” processing. This metaphor, originally used to describe software development, was adopted and used to render how the mind processes information. Coming from a language background, I embraced the top-down processing perspective and focused my attention on higher order processes of language and cognition. Jack Katz, as an audiologist, saw language processing as beginning peripherally, when auditory signals meet the ear, and then proceeding in steps through the auditory pathways to the level of language interpretation. His was a model of signal detection, sound perception and meaning extraction. For me, the SSW test was a language task, for Jack it was an auditory processing one.

Indeed, our debate resembled the one raised by Norma Rees in the 1970s, only now we used a more detailed

information-processing model to depict the issues. We wrote an article together in which we tried to resolve our differences (and the differences between our two professions). We argued for combining the two views and said that the direction of information processing depended upon the processing task at hand. Writing the article helped us understand one another's viewpoint, but it did not convince us to assume the other person's position. I went on feeling that linguistic and conceptual knowledge were the primary place to look when trying to understand poor performance on auditory processing tasks and Jack continued to see poor auditory processing performance on tests as a primary cause of language disorders.

THE 1990s

Central auditory processing disorders took off as a clinical category in the 1990s as evidenced by the number of books and articles devoted to it^{34–36} and to the attention paid it by the national organizations serving speech-language pathologists and audiologists.

Debates between speech-language pathologists and audiologists continued through the 1990s, but they shifted in emphasis from whether CAPD was a language or auditory processing problem to how one should go about distinguishing between the two.^{35,37} Underpinning this concern about differential diagnosis was another concern: Whose job was it to diagnose and remediate in this burgeoning area of specialization, speech-language pathologists or audiologists?

The national organizations representing audiologists and speech-language pathologists became the referees assigned to clarify and helped professionals decide how to identify CAPD. In 1992 the American Speech-Language and Hearing

Association (ASHA) created a task force to address controversies surrounding CAPD³⁸ and in 1996 they issued a technical report that distinguished language from auditory processing disorders.³⁹ And, in 2000, a consensus paper was published in the *Journal of the American Academy of Audiology* that included guidelines for defining, diagnosing, and assigning responsibility for clients with CAPD problems.³⁷

The general conclusion of these deliberative bodies was that CAPD, while sometimes confused with language processing disorders, is separate from it, and that diagnosing CAPD requires audiometric testing, using batteries that include electrophysiologic, as well as behavioural measures. Performance on dichotic listening tasks, such as the SSW, was among the ways recommended for diagnosing CAPD.²⁹

THE 21ST CENTURY

By the end of the 20th century, audiologists and their professional organization ASHA seemed to have arrived at a consensus: CAPD is an entity, separable from other diagnostic categories, and it should be diagnosed by audiologists using a group of tests including dichotic listening tests such as the SSW. Once diagnosed by audiologists, speech pathologists or other professionals should become involved so they can design appropriate individualized CAPD therapy involving both top down and bottom up therapies.^{32,40-43}

But, judging from the latest exchanges in the speech and language literature, the battles surrounding CAPD saga is not yet over. There are those who still feel that there is no evidence for the existence of CAPD as a clinical entity,⁴⁴⁻⁴⁶ pointing to research that shows that auditory processing training did not lead to improved language processing.^{47,48}

One particularly grim take on this long-lasting debate is that of Alan Kamhi, one of the strongest voices against the separate existence of CAPD.^{44,45} Recently Kamhi argued that the disagreements between speech-language pathologists and audiologists about auditory processing may have as much to do with issues of professional territory than with interpretation of research evidence.^{44,45} This would explain why audiologists are promoting the use of audiometric tests such as the SSW for diagnosing CAPD and why speech-language pathologists say that there is no such thing as CAPD. It would also explain Kamhi's admission that he is willing to accept the latest definition of CAPD put forth by ASHA because it excludes cognitive and language functions.^{41,45} This leaves the responsibility for higher order processing disorders to speech-language pathologists.

Whether this debate is due to differences in frameworks used by the two professional groups, as Jack Katz and I argued in our 1983 article, or whether it is about professional territoriality, as is suggested by Alan Kamhi, the debate is far from being resolved. And the use of the SSW is implicated in the outcome of this debate since one of its primary uses in these recent years has been to diagnose clients with CAPD. The next chapters in the history of the SSW have yet to be played out.

I am pleased to have been asked to join in on this 50th anniversary celebration of the SSW. I encourage us all to use this milestone as a time for historical reflection and review. By learning about the trends in the field over the last half century we can better understand the role the SSW test has played in our professional history. Kudos to Jack Katz for the clever and intricate ways he has adjusted the SSW test to meet the various

needs and challenges of the field over these last 50 years.

REFERENCES

1. Carhart R. Clinical determination of abnormal auditory adaptation. *Archives of Otolaryngology* 1957;65:32-39.
2. Matzker J. Two new methods for assessment of central auditory function in cases of brain disease. *Annals of Otology Rhinology and Laryngology* 1959;68:1185-97.
3. Katz, J. The use of staggered spondaic words for assessing the integrity of the central auditory system. *Journal of Auditory Research* 1962;2:327-37.
4. Gelfand SA. *Essentials of audiology*. 3rd Ed. NY: Thieme; 2009.
5. Myklebust H. *Auditory disorders in children: A manual for differential diagnosis*. New York: Grune & Stratton; 1954.
6. Monsees E. Aphasia in children. *Journal of Speech & Hearing Disorders* 1957;26:83-86.
7. McCarthy J, and Kirk S. *Illinois Test of Psycholinguistic Abilities*. Urbana, IL: University of Illinois Press; 1961.
8. Eisenson J. Perceptual disturbances in children with central nervous system disfunctions and implications for language developments. *The British Journal of Disorders of Communication* 1966;1:21-32.
9. Eisenson J. Developmental aphasia (dyslogia): A postulation of a unitary concept of the disorder. *Cortex* 1968;4:184-200.
10. Wepman J. *Auditory discrimination test*. Chicago, IL: Language Research Associates; 1958.
11. Wepman, J. *Auditory discrimination, speech and reading*. Elementary School

- Journal 1960;60:325–33.
12. Hardy WG. On language disorders in young children: A reorganization of thinking. *Journal of Speech and Hearing Disorders* 1965;8:3–16.
13. Lowe A and Campbell R. Temporal discrimination in aphasia and normal children. *Journal of Speech and Hearing Research* 1965;8:313–14.
14. Stark J. A comparison of the performance of aphasic children on three sequencing tests. *Journal of Communication Disorders* 1967;1(1):31–34.
15. Stark J, Poppin R, and May M. Effects of alterations of prosodic features on the sequencing performance of aphasic children. *Journal of Speech and Hearing Research* 1967;10:849–55.
16. Aten J, and Davis J. Disturbances in the perception of auditory sequence in children with minimal cerebral dysfunction. *Journal of Speech & Hearing Research* 1968;11(2):236–45.
17. Kirk S, McCarthy J, and Kirk W. *The Illinois test of psycholinguistic abilities*. Urbana, IL: University of Illinois Press; 1967
18. Jerger J. Observations on auditory behavior in lesions of central auditory pathways. *Archives of Otolaryngology* 1960;71:797–806.
19. Kimura D. Some effects of temporal lobe damage on auditory perception. *Canadian Journal of Psychology* 1961;15:157–65.
20. Katz J. Interview with Jack Katz, Ph.D. 2004. Retrieved from http://www.audiologyonline.com/interview/pf_interview_detail.asp?interview_id=303.
21. Duchan J. A history of speech-language pathology: 20th century, The Linguistic Era. 2011. Retrieved from <http://www.acsu.buffalo.edu/~duchan/1965-1975.html>.
22. Rees N. Auditory processing factors in language disorders: A view from Procrustes' bed. *Journal of Speech and Hearing Disorders* 1973;38:304–315.
23. Jerger J, Lovering L, Wertz M. Auditory disorder following bilateral temporal lobe insult. *Journal of Speech and Hearing Disorders* 1972;37:523–35
24. Willeford JA. Assessing central auditory behavior in children: A test battery approach. In: R. Keith (Ed.), *Central auditory dysfunction*. New York: Grune & Stratton; 1977.
25. White E. Children's performance on the SSW test and Willeford Battery: An interim report. R. Keith (Ed.). In *Central Auditory Dysfunction*. New York: Grune & Stratton; 1977.
26. Katz J. The Staggered Spondaic Word test. In: R. Keith (Ed.), *Central Auditory Dysfunction*. New York: Grune & Stratton; 1977.
27. Rosenberg PE. The test battery approach. In: J. Katz (Ed.), *Handbook of clinical audiology*. Baltimore, MD: Lippincott Williams and Wilkins; 1972.
28. Katz J, and Smith P. The Staggered Spondaic Word test: A ten-minute look at the central nervous system through the ears. *Annals of the New York Academy of Sciences* 1991;620:233–51.
29. Katz J. Classification of auditory processing disorders. In: J. Katz, N. Stecker, and D. Henderson (Eds.), *Central auditory processing: A transdisciplinary view*. Chicago: Mosby Yearbook; 1992.
30. Stecker N. The Buffalo Model Updated. *SSW Reports* 2004;26:2.
31. Masters MG. *Clinic for Central Auditory Processing Disorder*. 2012. Retrieved from www.speechlanguagevoice.com/capd.
32. Gerard A. Identifying and remediating auditory processing difficulties: An interview with Terri Cinotti. 2012. Retrieved from www.nldline.com/alice_&_capd.htm.
33. Duchan J. and Katz J. Language and auditory processing: Top down plus bottom up. In: E. Lasky and J. Katz (eds.), *Central Auditory Processing Disorders*. San Diego, CA: College Hill Press; 1983.
34. Bellis T. *Central processing disorders*. San Diego, CA: Singular Press; 1996.
35. Jerger J, Johnson K, Jerger S, et al. Central auditory processing disorder: A case study. *Journal of American Academy of Audiology* 1991;2:36–54.
36. Katz J, Stecker N, and Henderson D (Eds.). *Central auditory processing: A transdisciplinary view*. Chicago: Mosby Yearbook; 1992.
37. Jerger J, and Musiek F. Report of the consensus conference on the diagnosis of auditory processing disorders in school-aged children. *Journal of the American Academy of Audiology* 2000;11(9):467–74.
38. American Speech-Language-Hearing Association. *Issues in central auditory processing disorders: A report from the ASHA ad hoc committee on central auditory processing*. Rockville, MD. Author; 1992.
39. American Speech-Language-Hearing Association. *Central auditory processing: Current status of research and implications for clinical practice [Technical Report]*. *American Journal of Audiology* 1996;5(2):41–54.
40. Merzenich MM, Jenkins WM, Johnston P, et al. Temporal processing deficits of language-learning impaired children ameliorated by training. *Science* 1996;271:77–80.
41. American Speech-Language-Hearing Association. (Central) auditory

processing disorders - The role of the audiologist [Position Statement].

2005. Retrieved from <http://www.asha.org/docs/html/PS2005-00114.html>.

42. American Speech-Language-Hearing Association. (Central) auditory processing disorders [Technical Report]. 2005. Retrieved from <http://www.asha.org/docs/html/TR2005-00043.html>.

44. Kamhi A. A meme's eye view of speech-language pathology. *Language, Speech, and Hearing Services in Schools* 2004;35:105-111.

45. Kamhi A. What speech-language pathologists need to know about auditory processing disorder. *Language Speech Hearing Services in Schools* 2011;42(3):265-72.

46. Fey ME, Richard GJ, Geffner D, et al. Auditory processing disorder and auditory/language interventions: An evidence-based systematic review. *Language, Speech and Hearing Services in Schools* 2011;42:246-64. Retrieved from <http://lshss.asha.org/cgi/ijlink?linkType=ABST&journalCode=lshss&resid=2/3/246>

47. Gillam RB, Frome Loeb D, Hoffman LM, et al The efficacy of Fast ForWord language intervention in school-age children with language impairment: a randomized controlled trial. *Journal of Speech, Language, and Hearing Research* 2008;51:97-119.

48. Gillam RB, Loeb DF, and Friel-Patti S. Looking back: A summary of five exploratory studies on Fast ForWord. *American Journal of Speech-Language Pathology* 2001;10(3):269-73.

Canadian Hearing Report 2012;7(4):37-41.

SSW & Buffalo Model Workshop November 2 & 3, 2012

Jack Katz, Kim Tillery and Nancy Stecker have combined their more than 100 years of experience with the SSW Test and The Buffalo Model to present a special two-day workshop. The program will cover these two topics in depth at an intermediate level to meet the needs of those just getting started with little experience and those with years of experience who want an update and learn of the newest procedures.

Where: Double Tree Inn, 10 Flint Road
Amherst, NY 14226

Contact the hotel at 716-689-4414 for room reservations at a special cost: \$100+tax/night

Fees:

	On or Before Oct. 15	After Oct. 15
Professional	\$250	\$275
Student	\$40	\$45

Conference fee includes registration, continental breakfast, lunch, breaks, and materials for both days.

**Please contact Nancy Stecker at
716-829-5541 or nstecker@buffalo.edu
for the conference brochure or for
more information.**

A Personal Journey with Auditory Training and Jack Katz

By Jack King, PhD



About the Author

Jack King, is currently on the teaching faculty in the Department of Audiology and Speech Pathology at Bloomsburg University of Pennsylvania. His experience as a cochlear implant recipient drives his academic and research efforts.

When the late Dr. Roger Ruth introduced me to his colleague on sabbatical from the State University of New York at Buffalo, I had never heard of Jack Katz or his contributions to audiology. At the time I was one of the star performers of the cochlear implant (CI) program at the University of Virginia, receiving a CI shortly before Jack arrived. So, Roger asked if I would mind meeting with Jack and participating in a small study with him. People who know me will tell you that I am extremely inquisitive and have a tendency to barrage people with questions. My meeting with Jack was no exception as I practically profiled the poor man while eating a sandwich at a nearby restaurant. I learned that he was an audiologist, living in Buffalo, New York, and that he was very interested in studying how the brain processes auditory information. He also shared with me that he had worked with a lot of individuals who had difficulty understanding speech despite having normal hearing – something he referred

to as auditory processing difficulties. I soon learned that Jack was my ultimate match – for every question I had for him, he had twice as many for me! He inquired about my pre-lingual deafness, how I learned to talk, my initial experience with the CI, as well as other aspects of my development of hearing, speech and language. I don't recall, but he might have even asked about the phase of the moon when I was born.

Jack taught me that he observes CI patients making errors similar to those often made by patients with auditory processing disorders. Many of these auditory processing patients have good responses to therapy involving specific auditory training exercises, which then led to his hypothesis that perhaps CI users may benefit from similar therapy approaches. Other than certain vegetables, there are very few things that I won't try – so, I became Jack's first CI guinea pig. Little did I know that this would be the start of a wonderful journey!

We were given a small utility room in the hospital in which Jack and I sat at a small table for our sessions. I was dumbfounded when Jack began asking me to do simple tasks such as listening to sounds, pointing to cards with speech sounds written on them, and synthesizing words from individually presented phonemes. Our initial session wasn't much longer than an hour or so because he didn't want to fatigue me. The funny thing was, prior to the session I had told him that if he needed me to work for longer than an hour, I could go as long as he could. I left the room completely drenched in sweat and beaten down as if I had just run a marathon. Score one for Jack Katz.

We met for several sessions before Jack had to return to Buffalo. Jack increased the complexity and difficulty of the exercises by having me perform various tasks including phonetic discrimination, acoustical highlighting, short-term memory, interference memory, phonemic synthesis, and phonemic analysis drills. I

will never forget the extreme difficulty that I had with the phonemic synthesis task – it was so difficult that initially, I could not even perform it for one-syllable words. I was mystified – how could such a “childish” task be so difficult for the star of the Virginia CI program? Boy, did I feel the effects of being brought down a peg or two! Thankfully, after several sessions my poor brain finally began to figure things out and I started to do what was previously impossible. Amazing – listening to speech sounds and pointing at the little silly cards was actually starting to take effect!

I was disappointed that Jack had to leave because I didn't want to discontinue the progress I was making. Thankfully, one of the audiology graduate students, Katie, was interested in the study so Jack trained her to do the therapy sessions and he directed our sessions from afar. I continued to improve to the extent that we increased the training speed and received more difficult tasks. Sadly, Katie graduated but the baton was passed to another student, Lori. In retrospect, I am in debt to these two ladies because their efforts and putting up with my silliness really did help me reach a whole new level of performance with my implant. To put things in perspective ... my word recognition skills improved from 10% to greater than 70% as a result of participating in Jack's innovative therapy program. For me, this made a world of difference as I was now able to communicate with strangers on the telephone when previously I was limited to familiar voices.

When people ask me about Jack Katz, I tell them about his desire to share and help others. After our initial encounter,

Jack invited me to visit him in Buffalo several times during which I shared my experiences with his students. I was nervous about visiting him in Buffalo, because when the audiology students at Virginia learned that I was working with him, they reacted as if I had been hanging out with a rock star. I didn't understand why until I saw his name on the spine of the gargantuan book, *The Handbook of Clinical Audiology*, that they lugged around to their classes. So, he was the man responsible for their back pains!

The first time I stayed with him, we started talking one night about his work with the SSW test and the next thing I know, we're viewing slides in his living room of brain scans, reports detailing sites of lesions, and SSW test findings that were just remarkable at identifying these sites of lesions. The idea seemed impossibly simple, yet complicated – we must have spent hours talking about his work and I never once lost interest. How was it possible for Jack to do what he did without modern technology? How in the world did this man remember all the details of cases that he saw 20 odd years ago that he discussed as if he had seen the patients only days before? The next day, we went to a local fixture known as Duff's for wings and beer – which would become our tradition until he moved from Buffalo to Kansas. I miss our conversations about politics, religion, and all sorts of other topics while devouring a bucket of those famous wings. How could this unassuming man be one of audiology's rock stars? What a fantastic role model!

If I wasn't already in awe of the man, I had no choice but to be when I tagged along with him to observe therapy with

a mentally challenged young man. Interestingly, Jack was applying some of the same therapy approaches that he had used with me to this client. We told the young man to call me “Junior” so that he would not be confused with interacting with two Jacks. I was tickled because at one point during the session he looked at me, addressed me as Junior and then proceeded to explain how to complete the task that we were addressing. Here we are, working with an individual who is severely mentally challenged and he is now teaching me to do the task that Jack has been using in their therapy sessions. When Jack told me his story and the significant progress made, I thought to myself that this is absolutely incredible because Jack is succeeding with a person that many people would not have given a second thought. Yet again, Jack has reached outside of the box and accomplished something novel.

There is no doubt in my mind that Jack Katz is the most genuine, humble, selfless human being that I have had the honour of knowing. He is a brilliant clinician that has consistently and tirelessly given of himself for the betterment of audiology and countless individuals throughout his career and deserves every accolade. I am proud to have had him as a mentor, friend, and father-figure for the past 17 years. I shudder to think where I and many others would be if it were not for his work and efforts. Jack, on behalf of myself and everyone that has been touched by your efforts,

T-H-A-N-K-Y-O-U!

Canadian Hearing Report 2012;7(4):42-43.

My Tribute to Dr. Jack Katz

By Donna Geffner, PhD, CCC-SP/A



About the Author

Dr. Donna Geffner is the director of the Graduate Program in Speech-Language Pathology and Audiology at St. John's University, where she founded the undergraduate and graduate programs, and the SJU program director of the Long Island AuD, a consortium which she co-founded with Adelphi and Hofstra Universities. She is also the director of the Speech and Hearing Center, which she developed in 1976.

When I was invited to write an article for the *Canadian Hearing Report* in tribute to Jack Katz, I was delighted to be able to highlight his illustrious career. Jack was awarded the Honors of ASHA last year due to the enormity of his contributions to the field of audiology, auditory processing, test instruments and therapy. In my own work as an academic and clinical audiologist over many years, I have had the benefit of Jack Katz's contributions through his textbooks, chapters, research articles in professional journals, tests, manuals, lectures, SSW study groups at national meetings, online programs, workshops, and personal mentoring. I can't imagine what audiology would be like without this remarkable man's guidance and knowledge. His *Handbook of Clinical Audiology*, a textbook that emerged in the early 1970s, was the teething bones for every audiologist to read, learn, and prepare for the Praxis exam. I remember reading it cover to cover prior to taking the test because it was so comprehensive. He is a leader and innovator in providing students, instructors and clinicians with such a compendium of information. The

Handbook is now in its 6th edition, and still being used extensively throughout the country. Jack has not stopped producing even though he provided us with so many contributions over the 50+ years of his career.

Throughout his career, he has written 12 textbooks, 37 chapters, 20 manuals and guides, as well as 19 copyrighted tests and therapy materials. His first published article appeared in the *Journal of Nervous and Mental Disease* with Louis DiCarlo and Stanley Batkin, in 1959. His articles and research span a myriad of topics including: middle ear pathology, stuttering behaviour (he is dually certified), temporary threshold shift, classical conditioning in GSR speech audiometry, continuous tone audiometry, use of phonemic synthesis, auditory sensory deprivation, identification of site of lesion, auditory perception for children with learning disabilities, the effects of Ritalin on auditory processing, and auditory assessment and treatment. The extraordinary breadth of his published works addressing these timely topics is simply astounding, and is still relevant and of the highest quality today.

In my professional work with auditory processing disorders, I marvel at how Jack Katz has provided clinicians with a road map to help diagnose and treat individuals with a central auditory processing disorder. His Staggered Spondaic Word (SSW) Test, a test that was first developed in the 1960s to identify people with temporal lobe lesions, was reconfigured to serve as a diagnostic tool in the identification and classification of individuals with CAPD. Its error calculation and patterns – known as the Buffalo Model – has been used by audiologists throughout the country. In fact, in a recent study concerning the most commonly used tests in central auditory processing disorders, his SSW was ranked second in its usefulness and frequency of use. I personally find the SSW Test to be consistent, accurate, and reliable. Thus, for me and other clinicians, the SSW has been enormously helpful in clinical practice. The test and its findings are content material covered in graduate courses where the study of the central auditory system is paramount. In fact it has been translated into Portuguese, Hebrew, and Spanish. Jack has given us

all a model, a rubric, a guideline in this pursuit of knowledge about the central auditory system. He cares deeply about understanding the role of the central system in the perception of auditory information.

Although a superb professor and investigator, Dr. Katz has always been a dedicated clinician because he recognizes it is within the clinical milieu that new theories and practices arise to benefit children and adults with communication disorders.

As the consummate clinician for nearly 50 years (SLP/A), his administration of tests and treatment protocols has not only improved the lives of many thousands of children and adults, but also laid the groundwork for new diagnostic procedures and intervention strategies. His devotion to the area of research and clinical practice, along with providing education for other clinicians can be substantiated by the hundreds of workshops he has been invited to give to fellow audiologists and speech-language pathologists. His short courses at ASHA conventions, his SSW workshops at national and local conferences, his poster sessions, discussion groups, and online courses demonstrate his commitment to clinical excellence. His knowledge has been disseminated throughout the US and in other countries such as Poland, Israel and Brazil, where his SSW has been translated. Jack Katz is internationally known, respected and sought after as an invited speaker. He is considered a “father” of auditory processing, working tirelessly to refine its definition, its assessment and its validity.

Upon his retirement from SUNY Buffalo in 2004 he opened a private practice in Kansas City to provide diagnostic and rehabilitative services to individuals with

central auditory processing disorders. I recall sending one of our clients to see Dr. Katz in Kansas. He returned after several weeks of working with Dr. Katz reporting that he felt “so much better.”

Dr. Katz’s work crosses disciplines beyond audiology such as speech-language pathology, and reading and learning disabilities. His recent publication is a training manual “Words in Noise,” an outgrowth of his experiences and treatment with individuals with CAPD.

He has had a profound impact upon the professionals of audiology and speech-language pathology, as well as students and clients and so generously shares his knowledge. I can recall, for example, when he was asked to be a speaker at a fundraiser for the Long Island Preschool Hearing Council. Since the council was low on funds it planned to host a full-day workshop in the hopes of raising some money to continue its free pre-school hearing screening program for the Long Island Community. Jack graciously accepted no honorarium to help the council financially. Because of his recognized expertise, the event had a very large turnout of professionals. The funds raised kept the council solvent and in existence for years thereafter.

Dr. Katz’s incredible record of publications spans his entire career of over 50 years – 25 peer reviewed journal articles, 37 book chapters, 6 books in addition to his 6 editions of the *Handbook of Clinical Audiology*, plus many manuals, tests and therapy materials. These superb accomplishments blend with his notable achievements in academia to form a picture of utmost career excellence. His contributions as an academic leader and professor include department chair at SUNY Buffalo for five years and associate

chair for seven years. He was a university professor at SUNY Buffalo from 1976–2002 and went on to serve on the faculty at the University of Kansas Medical Center from 2003–2010. Currently, he is a clinical professor in the Graduate School of Psychology at Touro College in New York. His role as professor since 1961 from Tulane University to University of Northern Illinois, University of Missouri at Kansas City, to SUNY Buffalo for over 26 years speaks to his commitment to students and teaching. He continues to teach, practice, lecture, and write.

Dr. Katz has had a most laudable and fruitful career, and is, to this day, a productive scholar. He continues to develop new approaches and training techniques. He continues to work with individuals with CAPD, as well as those with cochlear implants, hearing impairment and developmental disabilities. He continues to mentor students and fellow colleagues. I, for one, am eternally grateful to him for agreeing to review a proposed Listening Inventory I developed called the *Auditory Skills Assessment*. Typical of Jack, he agreed enthusiastically to read it and offer valuable suggestions. He is always willing to help fellow colleagues, provide suggestions and give encouragement. He is one of the most approachable human beings who truly gives of himself in a genuine, caring way to help others, although most modest about himself. Jack is a “sweetheart” with the emphasis on the last syllable to truly reflect the nature of his character.

By his work, he has improved the quality of lives of others and has left an indelible mark on the profession. Thank you Jack! Canadian Hearing Report 2012;7(4):44-45.

The Gentle Giant: A Tribute to Jack

By Maxine Young, AuD



About the Author

Maxine Young, is a dually licensed audiologist and speech-language pathologist in private practice in Broomall, PA, near Philadelphia. Dr. Young is an adjunct instructor at Salus University, formerly Pennsylvania College of Optometry. She was a member of the American Academy of Audiology (AAA) Coding and Practice Management Committee and the AAA task force that developed the recently published CAPD Practice Guidelines. Because of her close relationship with internationals on a personal level, she has developed a professional interest and expertise in working with international adoptees and post-institutionalized children who have CAPD and dyslexia. Her work with twice exceptional children who exhibit CAPD is also a well-recognized specialty in her practice.

It was the fall of 1982 that I first met him face-to-face. The Delaware County Memorial Hospital Hearing and Speech Department was hosting Dr. Jack Katz's several-day SSW Workshop. I remember the excitement I had since I was the one chosen to pick Jack up at the airport. Having heard of him for years, and knowing how brilliant and well known he was, he was, after all, a giant in our field. In my mind's eye, I began to wonder, "How would I fit this giant in my car?" Perhaps I could have him stick his feet out the window, or I could push the front seat way, way back to accommodate his size. Well I soon learned that this giant was a humble, gracious, soft-spoken, left-handed man from whom charisma oozed. And so it was that I first met Jack, whose teaching and contributions to the profession changed my life as an audiologist. It was Jack who introduced the brain, in total, and the neuroscience behind central auditory processing. To me, he was a giant in our field, and still is.

Up until that time, the meetings and conferences on central auditory processing disorder (CAPD) mainly focused on test administration,

outcomes and interpretation since audiologists were primarily CAPD diagnosticians. Not so for Jack's workshops, for he not only brought a human brain for purposes of teaching anatomy, at least for the first few I attended, but he also clearly expounded on how each part of the brain was connected to every other part in the whole brain processing of human speech. What a delightful treat to see, up close and personally, the gyri and sulci that we were testing after our patients heard, "Are you ready?" Even the most squeamish of participants found it fascinating to see how the human brain was intricately formed and more importantly, how it functioned normally and the consequences that contributed to abnormality. Jack spent as much time elucidating on the intricate areas of the central nervous system as he spent on how to score and interpret the SSW. There were left temporal deficits, some motor strip involvement, fronto-temporal connection issues, and cross-callosal transmission break downs. It was Jack who was able to see whole brain involvement using a 10-minute test using stimuli compromised of two staggered and overlapping spondees.

Much as his test at that time was highly successful in determining site of lesion in neurologically involved adults, it was just as easily applicable in assessing children with delays in the development of CAPD and learning disorders. There he would be, chalk in his left hand, drawing diagrams to depict the spondees going in and the responses coming out and all that was involved. His illustrations were exquisite and his verbal descriptions of neurophysiological function were literally word art. One could just close his or her eyes and follow his word art through the brain like taking in a movie.

Different from other behavioural CAPD tests, scoring the SSW was highly complex and incredibly revealing as to what was really happening in the brain of each individual being assessed. Scoring was not just correct versus incorrect, but done beyond noting the correctness of response, but also the quality of response across many differentiating paradigms. Jack's scoring procedure made particular note of individuals who reversed the words but recalled them correctly, a factor not at that time differentiated in other CAPD behavioural tests. There were Ear Order Effects and High-Low

and Low-High responses, and the classic type-A error pattern, the latter seen in many individuals who have dyslexia (Young, Out-Law-In-Side: Dyslexia in the Booth, *SSW Reports* Vol. 27 No.2, May 2005). This one pattern of errors is still, in my humble opinion, most unique and one that I have used in forensic cases to prove that a patient's responses proved valid CAPD, for after all, who could malingering by memorizing the test and then try to remember to miss only the words in the left competing column on the Left-Ear-First presentation of staggered spondees?

Not only was there a test of staggered spondees, but in 1976 and edited for clinical use in 1985, there was a test of Competing Environment Sounds (CES). It was first published as an experimental tool for the study of central auditory function using 14 sounds found in the environment such as a door slamming, someone coughing, wood being sawed, or dialling a telephone. The results of the CES test were compared with the results of the SSW to provide accurate information regarding the site of the lesion, or whether the corpus callosum was involved in neurological cases. Jack had previously developed three different tests to obtain information about music and environmental sound processing which presumably were processed in the right hemisphere and with tweaking, he developed another unique CAPD test. This now gave us tests of processing in both hemispheres, complementing the behavioural CAPD test armamentarium.

Jack was among the first to develop a clinical test that related directly to learning to read. Even before I started using the SSW, I had been trained in my undergraduate speech-language pathology program to use the Kindergarten Auditory Screening Test, a wonderful test of phonological processing. This was one of my most favourite ones to use with

very young children at the time I used it. I'd started using this test when I did my undergraduate work in at Carlow College, right up the street from the University of Pittsburgh, where Jack developed the SSW. It was Sr. Rita Alice Fitzgerald, department chair, who said, "This test will identify those children who are going to have trouble learning to read." And so it did. Later, after earning my degree in audiology, I started using the Phonemic Synthesis (PS) Test which also had normative data for very young children. This test is easy to administer and results are highly correlated with children who have difficulty learning to read. Granted, there are many phonological awareness tests that are more time consuming and are administered to obtain detailed information about phonological processes, but the PS test cut to the quick and clearly identified children who could not blend sounds. It is fascinating to see children fail this test, who are in fact good "word readers," but who have absolutely no ability to decode the words they visually read.

Audiologists did CAPD testing, but Jack was not satisfied with the notion that audiologists were primarily, if not exclusively, diagnosticians, so he was among the first to develop an auditory processing intervention, Phonemic Synthesis Training Program. It came as a thick 3-ring binder, filled with detailed exercises, and as a child progressed through the program, their literacy skills significantly increased. Of all the auditory training programs, this still remains one of the most highly successful. It is a timeless and highly efficacious tool. (Currently available in CDs through Precision Acoustics.)

As for Jack the professional, there was never a time that I called Jack that I did not have him on the phone for nearly a half hour, or more, while he explained

nuances of scoring details when I called about very intriguing cases. He is always generous with his time, his expertise, and his dedication to helping colleagues. Over the years, I have met many parents whose children were privileged to have been evaluated by Jack and who have received therapy regime from him. All praise him for his competence, his compassion, and his big heart. Parents and kids alike, love him.

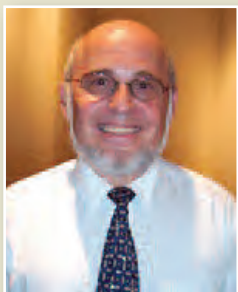
So from Jack the Giant, I started to really learn about the brain in a way which greatly impacted my professional life. Having a dual master's degree in both audiology and speech-language pathology, with an emphasis on child language development and aphasiology, I had a background in neurolinguistics and the neurosciences, but when I met Jack and began to learn from him, my appreciation of the central auditory nervous system took an incremental, rather, a giant leap forward.

It is beyond my imagination that someone could develop a 10-minute behavioural auditory test as highly detailed and profoundly diagnostic as the SSW, in this day and age. Quite frankly, it was beyond anyone's imagination, except for Jack! Imaging studies now replace behavioural audiology tests that were once successfully used as site of lesion tests. While those images are quite revealing and diagnostic, function and development within the CANS is still well identified with behavioural tests of CAPD, including the SSW. And were the SSW to be updated, would the spondees be words such as "up load," "flash drive," and "hard drive"? So when Jack eloquently asks, "Are You Ready? Up -Load -Down -Stairs", the reverser would respond, "Up -Stairs - Down - Load". By the way, Jack, just let me know if you ever think of revising the SSW.

Canadian Hearing Report 2012;7(4):46-47.

“Were We Ready?” A Tribute to My Mentor: Dr. Jack Katz

By Jay Lucker, Ed.D., CCC-A/SLP, FAAA



About the Author

Dr. Jay R. Lucker is an associate professor in the Department of Communication Sciences & Disorders at Howard University in Washington, DC. He also has a private practice specializing in assessment of children with APD in the greater metro DC area. His research and clinical focus is on understanding APD and processing problems affect children and adolescents educationally, socially, and in life, in general. He has been strongly influenced by Dr. Jack Katz and his pioneering work on APD.

I was in graduate school working towards my master's degree in audiology. My interests lay in answering the following question, “Why do some people understand what they hear better than other people?” I decided to go to the New York State Speech and Hearing Association convention that year and attend as many presentations on how we understand what we hear.

At the conference was a presenter from the State University of New York at Buffalo presenting on a new test he had created to help us understand why people process verbal information differently. He described an unusual method of testing people using something I had never heard of before, “dichotic listening.”

My graduate advisor who was helping me with my master's thesis told me about dichotic listening and the use of nonsense syllables like “pa,” “ta,” and “ka,” but this presenter was talking about using real words. The words were

presented so that people could get easily confused whether they heard “upstairs – downtown” or “uptown – downstairs.” WOW! What a concept! But, were we ready to look into what this really meant? My colleagues who attended the meeting with me said something like, “What does this do for us [as future audiologists]?” And we asked ourselves, “How do you present these words live voice with only one audiologist testing?”

Little did we know that this test, the Staggered Spondaic Word (SSW) Test, would change our lives. I wonder if Dr. Jack Katz, creator of this test, really foresaw what his SSW test would mean for thousands of children, adolescents and adults. Somehow, I was able to get a copy of the SSW Test on reel-to-reel tape (remember those machines – I think they are in the back of the closet next to the eight-track tape players). I actually still have my original copy!

Time went on and Jack's SSW test

became for me and so many audiologists a major part of our auditory processing disorder (APD) test battery. But, creating the test was only one part of Jack's contributions in helping students obtain better educational services because their auditory processing abilities could be evaluated, diagnosed, and specified. Jack continued on working with colleagues and developed the Buffalo Model approach in analyzing APD test findings. The SSW test stands as a cornerstone of that APD model, but in the battery is another test developed by Jack: Phonemic Synthesis (PS) test.

At one of the many SSW Study Group meetings before the ASHA convention (at that time, the study group met the day before ASHA), Jack shared how he used to play a game of phonemic synthesis with his growing children at the dinner table. He often told of his surprise when his children could not figure out the words by blending the phonemes and when they were able to

blend difficult combinations and correctly guess the words. Eventually, he developed the PS for children, adolescents, and adults and, then, expanded the test using a picture identification task for use with young preschoolers and kindergarteners.

These tests have stood as important contributors in the works of so many audiologists who use them to help identify auditory processing difficulties and the results of these tests have helped so many students obtain support services and accommodations in schools. I don't know if Jack realizes how many thousands of children, adolescents and adults have been helped because he played his "phonemic synthesis" game with his children and developed it into evaluation tools, and because he came up with this unique concept of overlapping spondaic words leading right ear or left ear looking at numerous response biases involved in the processing of these equal stressed words.

For me, personally, learning about the SSW test was one of the greatest thrills I had as a master's level student. I decided that I wanted to do more and learn more about how children and adolescents understand what they hear using these measures (SSW, PS, and

speech-in-noise) along with other APD measures. I remember using the SSW test with children in the school district in which I worked in Westchester County, NY, who had reading and spelling problems who, today, we would identify as having dyslexia. That unusual pattern with which they all presented was surprising, and the "Type A" pattern (severe left competing errors) on the SSW test was the key identifier. Without that unexpected finding, perhaps many of these children would not have obtained the appropriate and necessary services they needed.

Jack also provided many events for professionals. Annually, the SSW Study Group met bringing professionals interested in APD together into a forum for sharing and building friendships and collegiality. It was Jack who realized the need to share information about APD by creating the SSW Newsletter which grew into the present day *SSW Reports*. Many of the groundbreaking work in APD was originally published in one of these journals, and professionals still have this forum for sharing through *SSW Reports* which is still published today.

But, shall we only remember Dr. Jack Katz as the creator of the SSW, the PS, the *SSW Newsletter* and *SSW Reports*,

and all of his other professional work? Or shall we also remember him as a mentor, a leader, and an inspiration to so many of us. I was not a student at SUNY Buffalo, yet, I still consider Jack Katz my mentor. I read everything I could that he and his colleagues wrote, and I attended many seminars, workshops, and presentations he has given. His ideas, his thinking, and his understanding of auditory processing has been the inspiration that started my journey into this field and began as the tinder that helped spark my fire and passion for helping children with APD.

Someone once said to me, "How will you measure your accomplishments when you retire and look back on your career?" I responded, "I will look at all of the people who I have helped and see how I have led them to positive changes in their lives." Well, Jack Katz has met my expectations of what I told my friend was "a successful professional life." Many of us are among the thousands of people who have been positively touched by this wonderful man. So, were we ready to take up his baton and continue the race? I think we were! And Dr. Jack Katz and his accomplishments will live forever because of how he has touched our lives. So, Jack, "Are you ready ... Up – stairs/down – town."

Canadian Hearing Report 2012;7(4):48-49.

ReSound Unite™ Mini Microphone

The solution for hearing in noise!



ReSound Unite Mini Microphone transmits speech and audio directly to Alera hearing instruments up to 7 metres away.

Great ways to benefit from the Mini Microphone:

- At a busy restaurant - clipped on a companion
- At a card game - clipped on a partner
- In the car - clipped on a passenger or a child's car seat
- At a business meeting - clipped on a presenter
- Wheelchair users - clipped on a companion pushing the wheelchair
- At the gym - connected to an iPod®
- Watching TV - placed next to the TV

To learn more about ReSound Alera and Unite accessories, visit www.gnresound.ca or call **1-888-737-6863**

**CAA Welcomes Dr. Paul Dybala as the Keynote Speaker
at the 15th Annual Conference and Exhibition**

Internet Marketing and Your Online Reputation



To stay ahead of the curve it is imperative to understand new marketing trends and refocus your efforts to include the right mix of online media.

Dr. Dybala will present simple solutions that you can immediately implement in your practice. You will learn how to understand the online demographic, trends in search engine optimization and social media, realize the value of internet video, improve your online and offline credibility and take home website best practices.

Dr. Dybala is an audiologist with a PhD from the University of Texas-Dallas/Callier Center. He currently holds the position of Chief Web Officer for Audiology On-line.



15th Anniversary of CAA Musings of a Past President

By Ann Follows

15 years – wow! I don't feel any older, or wiser, but I think collectively CAA has become wiser. Here's a little of what it was like in 1999-2000 when I served as the third president of CAA.

CAA began as a group of dedicated audiologists with the common goal to give a clear voice to the profession of audiology in Canada. The first meetings in 1997 were held on shoestring budgets, with donations from board members, private practice clinics, and industry to cover travel costs. The first board was truly Canadian with representation from coast-to coast to coast (I was in the Yukon).

One of the first goals of CAA was to host an audiology-only conference to provide quality continuing education and an opportunity for audiologists to network and develop relationships across the country. This was made possible in 1998 by the efforts of Jean and Odilia, with support from board members and volunteers. The running of the conferences was then passed to a management conference, with an organizing committee to oversee the slate of speakers. In 2000 our very own Joe-Canada to organize "Canada-eh?" with all Canadian speakers. The conference has continued to be a cornerstone of CAA. I haven't missed one yet!

In the early years CAA business was managed by volunteers like Lisa Richardson as secretary, and Brian Alexander managing our accounts. In 2000 we had grown enough to hire an association management company to manage the day-to-day, create a member database and expand our website. CAA now has its own office with executive director and staff.

We had a great team on the board in 1999-2000 – Greg Noel, Chuck Fuller, Dennis Herx, André Marcoux, Richard Seewald, Janice Cockburn, Marcia Suderman, Sylvie Auger. We were way ahead of the Olympic trend – our team building activity in February 2000 was beach volleyball! (indoors in Toronto during a snowstorm). Our board represented many aspects of audiology – research and education, private practice, manufacturers, public health. The CAA board continues to have broad representation.

The importance of students as the future of audiology was already recognized with student representatives Jean Chan and Steve Coukell. A special category of student membership was created, and attendance at CAA conferences was encouraged. CAA now has many students at conferences working as volunteers to earn attendance. There are student paper awards and a new student bursary.

From the beginning, CAA recognized that our profession is here to serve the needs of the consumers of hearing health care. At our conferences we invite attendance of representatives from various consumer and support organizations in the exhibit hall, delivering workshops, and having representatives attend board meetings. During the 2000 conference president's reception I was delighted to have CHHA member Gael Hannan perform her moving piece "Unheard Voices". In 2000 I joined the CHHA board, and continued on for several years after leaving the CAA board. CAA has continued to develop strong connections with associations representing our consumer base, including regular columns in each others' publications, and working jointly on

projects such as Noisy Toys or Disability Tax Credit issues.

Newborn hearing screening was a current issue in 2000, with no programs yet implemented in Canada. CAA developed a joint position statement, and participated in the multi-disciplinary Canadian Working Group that created the resource document on Early Hearing and Communication Development. CAA led the way with educational sessions on topics related to newborn hearing at conferences, and a full conference dedicated to the topic in 2003. This became the launch point for a cross-disciplinary group in BC which led to the establishment of the BC Early Hearing Program, which I have the privilege of being involved in. Other CAA members have been instrumental in the programs developed in Ontario and other provinces. Most areas in Canada now have programs, but there are still gaps where advocacy is needed to make this truly universal in Canada.

In 2000 issues around reimbursement and inconsistency of fees across the country were hot topics. CAA was instrumental in taking these issues forward and negotiating with third party funders to make improvements. CAA continues to be a strong voice in advocating for changes, as seen this year with audiologists now recognized as prescribers for Non-Insured Health Benefits.

26 years after I graduated, and 15 years after CAA formed, the audiology still excites me. CAA is you – if you see an issue that needs attention, speak up and get involved.

Audiology Rocks! See you in Ottawa.

Nothing to see. Everything to hear.



Phonak nano

Phonak nano is the perfect combination of ultimate cosmetics and unmatched Spice+ hearing performance – delightfully discreet, and easy to enjoy:

- Easy, no special impression techniques required
- Virtually invisible, the custom Phonak nano sits discreetly in the ear canal
- Available in Phonak Ambra, Solana and Cassia

www.phonakpro.ca

PHONAK

life is on

INTRODUCING

3 series™



Patient driven, performance tested

3 Series includes a newly styled 312 RIC and 312 mini BTE that come packed with our industry-leading performance features, offer all the unique benefits of our IRISTM Technology – including Binaural Spatial Mapping and completely wireless programming/ media streaming – and introduce several new patient-driven extras.

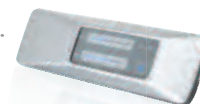
- New switch gives users a simple, tactile way to control volume and change memory modes
- New ISO Compression provides more dynamic and personalized sound
- New SnapFit receivers offer easier receiver connection and ensure greater stability
- 312 mini BTE features redesigned thin tubes to ensure ideal positioning and comfort
- Available in two new patient-requested colors – Espresso and Black – as well as bright and standard colors (minus Pearl and Onyx)

Life without limitations

Powered by IRIS Technology, Starkey's proprietary wireless platform, 3 Series connects seamlessly to all our innovative SurfLink accessories, enabling unprecedented control, convenience and personalization.



SurfLink
Mobile



SurfLink
Media



SurfLink
Programmer



SurfLink
Remote



Scan the image at left with your smart phone or iPod for more information.

Contact your Starkey Representative for more information.

3 Series will be available
SEPTEMBER 2012.


800 387 9353