

# VOICEPRINT

NEWSLETTER OF THE AUSTRALIAN VOICE ASSOCIATION

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## Breathing and Voice

It was with great regret in the last issue that we noted the passing of Tom Hixon, a giant in the field of speech breathing. To commemorate the work of this inspirational man, we chose to dedicate this issue of Voiceprint to the subject of breathing, speech and singing. Sadly, the singing community subsequently lost another giant, Richard Miller. Richard was a tireless advocate for healthy voicing and a fearless campaigner against what he termed 'pseudo-science' in all its forms. In this issue, Susannah Foulds-Elliott speaks for many of us in describing the influence Tom and Richard had on her own work.

Also in this issue is a fascinating article by Johanna Flavell on the sensational results she has been able to achieve with craniosacral therapy. Plus we're delighted to welcome a fantastic guest article by Sally-Anne Chalmers on breathing for singing. Tempered with a sobering reminder from the casebook of Matthew Broadhurst that the human voice is not indestructible but it is irreplaceable.

The national teleconference for the Annual General Meeting will be on Saturday 15 August - make a note in your diary now to catch up with your colleagues!

But of course the **BIG NEWS** is our international speaker, Christina Shewell, author of *Voice Work: Art and Science in Changing Voices*. Read the reviews, check out the details, and book your place fast!

Sally Collyer  
Guest Editor, VOICEPRINT 35

Make a phone call to be present at  
**your AGM**  
Sat 15<sup>th</sup> August 2009

2.00pm WA Julia Moody, ph 08 9379 9106  
3.30pm SA Jan Baker, ph 08 8361 3141  
4.00pm NSW Jean Callaghan, ph 02 9566 4184  
Qld Adele Nisbet, ph 07 3735 6231  
Vic Susannah Foulds-Elliott,  
ph 0409 662030

*See page 13 for meeting place addresses*

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For the latest on what's happening, visit

[www.australianvoiceassociation.com.au](http://www.australianvoiceassociation.com.au)

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# PRESIDENT'S MESSAGE

## Jan Baker



**Dear AVA Members,**

Welcome to our second VOICEPRINT for 2009. It is most exciting to see that the membership for the AVA has started to increase and thank you to those who have sent in such encouraging feedback about our planned activities, improvements to the website and a number of articles that you have particularly enjoyed in the first VOICEPRINT for the year.

In my message last time I mentioned that while I was visiting Washington DC to attend a conference on Psychogenic Movement Disorders, I had the opportunity to attend the 22<sup>nd</sup> Annual Nancy Hanks lecture on Arts and Public Policy. This happened quite by chance, but I think the serendipitous timing of this artistic and emotional experience on the night before the heady scientific meeting captured what I think many of us are trying to understand and appreciate in our work with voice. This is the intriguing relationship between arts and science, voice and emotion, and how we as individuals integrate the two in our lives – or at times might lose sight of either one or the other aspect.

This lecture was given under the auspices of Americans for the Arts on National Arts Advocacy Day and was one of several events leading to submissions to urge Congress to offer more support for the arts. The lecture was presented on this occasion by the renowned jazz trumpeter Wynton Marsalis who is also well known for his recordings in the classical repertoire with soprano, Kathleen Battle. There were over 2,000 people in the audience, and it was the most inspirational oration I have ever heard. Marsalis spoke of America's cultural heritage being founded on black music, how music and the arts unites people across generations, races and cultures, and that arts education across all levels of the community, especially in schools, is fundamental to fostering a sense of identity for any individual or culture. He made a passionate plea to the American government to recognise that cuts of funding to the performing arts are tantamount to denial of a nation's cultural heritage, and in the long term, its national identity. Marsalis and his band punctuated his lecture with musical excerpts which made the audience laugh and cry, bounce their knees to the rhythm and the beat, all of us relishing in the playful but disciplined syncopation. He then eased us back into our seats to reflect upon his poignant narrative about the journey that black Americans have travelled from slavery to this triumphant time when Barak Obama has been elected President.

He said: "In reality, art forms contain the collective wisdom of the people ... the highest aspirations and

relationship to spiritual matters ... great art forms come out of people's experience with their own environment, with their way of life and their need to express their attitude about their very existence...if an artist sings deep enough he takes you to the frontiers of your soul." He emphasised that "while the American Constitution told us what we are, artists speak the undeniable truth about where we belong and *who we are*, and *it is who we are that matters*".

It was at this point that I noticed I had been holding my breath and that tears were trickling down my face. It was as if my body had recognized that during the six years of pursuing my doctorate as I sought to come to terms with scientific method, and then during the last 2 years whilst meeting the challenges of a new exciting and demanding job in academia, that I might have temporarily lost touch with parts of myself that are also 'who I am' – those aspects that thrive on singing and music, delight in the thrill of a live performance with an artist at the peak of his or her creative excellence and marvel at the eloquence of an impassioned oration with words and sentiments expressed in a way that leaves us all on our feet in silence clapping in appreciation and respect.

And this experience reminded me that in our quest to understand how our voices work, how best to help people restore their voice to former health or develop their voice to the very highest levels of performance and achievement, we are constantly striving to integrate what we know from the performing arts and science. And what better time to be thinking about this as we all prepare for the international tour of our esteemed colleague Ms. Christina Shewell, who will be giving workshops on voice in Melbourne, Sydney, Brisbane, Adelaide and Perth for the AVA in September and October of this year. This master practitioner is one of the finest speech pathologist/voice teachers in Britain, and her efforts to integrate art and science in all her work is epitomised in her recent publication *Voice Work: Art and Science in Changing Voices* (2009). Fundamental to her practice and focus on the development of vocal skills is her belief that,

*an individual's life and emotions are at the foundation of the voice; the way we 'live our sound' is shaped by our childhood background, inherited personality traits, the way life treats us, the moods we experience and the world in which we live.*

One can't help but wonder if she was strumming away on the double bass next to Wynton Marsalis that fateful night – but I think not – because when you hear her voice you will realise that had she been there – she would have been asked to speak or sing too!

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***Art is what remains when all the rest has vanished.***

**attributed to Andre Malraux**

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# DEATH OF TWO GIANTS: TOM HIXON AND RICHARD MILLER

Susannah Foulds-Elliott

In 1996 I began a PhD on breathing for singing. At the time I was an operatic singer and singing teacher with degrees in music and psychology. To begin my research, in which I was mainly interested in brain function during singing, I was surprised to discover that to make a start in the area at all, there were four main papers on breathing which I was going to have to digest very thoroughly. These were Watson and Hixon (1985), Watson, Hoit, Lansing and Hixon (1989), Watson, Hixon, Stathopoulos and Sullivan (1990), and Leanderson, Sundberg, and von Euler (1987). These papers could be traced back to Hixon, Goldman and Mead (1973), which in turn could be said to have come out of the work of Bouhuys, Proctor and Mead (1966). There was a connecting thread through this work from 1966 to 1990, and that connection had been made and was being driven through the years in the person of Thomas Hixon. Generally, the final name in a paper can be said to be the established researcher. It is interesting to see Mead's name initially in this position, then Hixon linking in to the line of work, and eventually ending up in the established researcher position while his student, Peter Watson, took the lead. Thus, a line of research is established, and a life-time's work becomes a permanent research record.

Thomas Hixon died a few days before the publication of our last Voiceprint (34). His work in measuring breathing for singing was a vast output of dense results with very little analysis of those results. For researchers following him, this provided not only a very difficult amount of material to be waded through, but a very rich source of raw material from which further research could be developed.

Another giant in the field for singers was Richard Miller, who died just after our last Voiceprint (34). To begin my research, I had to struggle very hard to come to terms with Hixon, and what his research meant in terms of next steps in researching breathing for singing. To end my PhD research, and to put the results back into a practical perspective, I was thankful indeed to refer to the work of Richard Miller. Here was an extraordinary mind and spirit who was capable of addressing the complex areas of not only different approaches from different singing teachers, but different approaches from different countries in the teaching and performing of classical singing (Miller 1997). His historical overview of vocal pedagogy (1998) shows that not only was an overview possible, but that different approaches had developed a variety of emphases which could nonetheless share vocal health within a given style. To be able to make sense of what, before Miller's writing,

was essentially a morass of conflicting details, was – and I keep coming back to this word – extraordinary. A giant was required. And yet, Miller's books are approachable and accessible for singing teachers everywhere. Miller (1986) gives a summary of how to develop the relationship between technique and art in the singing studio. This classic is found on the shelves of many singing teachers. Later books specialized in the training of particular voice types (Miller 1993, 2000, 2008), and included focus on the art of singing (Miller 1996, 2005).

The contributions of Thomas Hixon and Richard Miller to the world of voice are very different in essence, but both have changed the way the world understands voice use. Their work has its place in the history of voice.

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## OUR VOICES MUST LAST US A LIFETIME Matthew Broadhurst

I recently reviewed a 27 yo male rock singer. He had been suffering for some years with increasing vocal fatigue, loss of his upper range, and hoarseness in his speaking voice. He had reduced his number of gigs down from 5 to 2 per week. Given that his main source of income is from singing, one can understand the seriousness of his situation.

On videostroboscopy in my rooms, he appeared to have a small sulcus vocalis (mucosal deficiency of the vocal cord often resulting in hoarseness). Because his voice quality and history were much worse than his stroboscopy appeared to be, I performed a diagnostic microlaryngoscopy. This had the benefit of very high microscopic magnification and delicate fine instruments to carefully explore the vocal cords. The findings were quite remarkable. He had a very large, linear sulcus on each side with mucosal bridges forming. Essentially, his vocal cords had undergone severe, prolonged phonotrauma with his untrained rock singing to the point of multiple tears that were unable to heal. He had lost the majority of the pliable layer required for normal phonation, the superficial lamina propria.

In addition, there was a small cyst on one cord and a nodule that had formed on the opposite cord. I removed these by subepithelial microflap resection technique, the current gold standard in managing these lesions.

Although he was somewhat improved post-operatively from the cyst and nodule resection, the limiting factor in the longevity of his singing career are the bilateral, large sulci. One cannot help but feel sound vocal technique and attention to vocal hygiene would have greatly prevented this situation.

This case was a sobering reminder that our voices need to last us a lifetime. This is particularly so, if it forms part of our career. As such, the importance of dedicated singing instruction and vocal hygiene cannot be emphasised enough to maximise the efficiency of sound production and vocal longevity. For this patient, such an approach may have been the ideal "preventative measure".

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*I am consistently astonished at the number of [performance] directing programs with no voice and speech component and the number of aspiring directors who do not themselves consider it important to their training.*

**Robert Barton, *Voice in a Visual World***

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Editor: Jane Bickford**

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**by Friday 18 September 2009**

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	AVA Member Prices	Non-member Prices
Quarter Page	\$50	\$75
Half Page	\$75	\$100
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Insertions: Minimum	\$150	\$200

# International Speaker Tour Christina Shewell

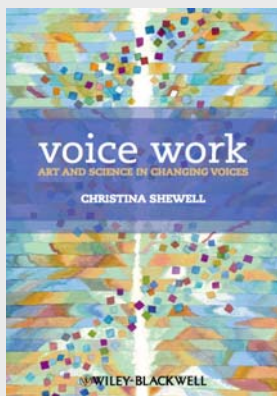
Christina Shewell is one of the finest voice therapists in Britain. Her highly acclaimed workshops are sought after by singing teachers, speech pathologists and theatre voice teachers in the UK and Europe.

Her much anticipated new book,

## ***Voice Work:***

### ***Art and Science in Changing Voices***

(Wiley-Blackwell 2009, ISBN 978 0 470 01992 4) has received rave reviews from the British Voice Association and the UK Association of Teachers of Singing for its interdisciplinary overview. Now, the AVA are excited to have secured an Australia-wide tour for Christina to share her ground-breaking work with us.



Participants in the Christina Shewell workshops will have the opportunity to explore how 'Science and Art' combine for effective voice change, using a wide range of technical and imaginative exercises. The Voice Skills Perceptual Profile (VSPP) approach is a way to organise our observations in a more

structured way and considers voice along eight core functional aspects: Body, Breath, Channel, Phonation, Resonance, Pitch, Loudness and Articulation. Particular focus will be given to the use of the approach with different client groups.

Whether you're a speech pathologist, voice teacher or coach, or a performer wanting to make the most of your voice, you can't afford to miss this fantastic opportunity to work with Christina's revolutionary VSPP. So check out the session nearest you and book now!

*Christina Shewell has written a bible for anyone working with, or interested in, the voice to be able to delve into for greater understanding, ideas and support. Great practical exercises, too - a real achievement.*

Janie van Hool (UK)

*I really recommend this as a definitive and authoritative guide from someone who is clearly an expert in the field of voice.*

Juliet Grayson (Wales)



## **Workshop dates and venues**

### **Melbourne**

Institute for Advanced Study,  
La Trobe University  
Sat-Sun September 19-20  
2 day workshop, 9-5pm each day

### **Sydney**

Reg Grundy Theatre, NIDA  
Tues September 22 afternoon workshop, 4-7 pm  
Wed September 23 workshop, 9-5 pm

### **Brisbane**

Queensland Conservatorium, Griffith University  
Fri September 25 eve workshop, 6-9 pm  
Sat September 26 workshop, 9-5 pm

### **Adelaide**

New Health Sciences Building,  
Level 1, Rooms 1.23, 1.27, 1.28,  
Flinders University Campus  
Wed-Thur, September 30-October 1  
2 day workshop, 9-5pm each day

### **Perth**

Calvert Music Centre, adj. South Fremantle High  
School, Beaconsfield  
Tues-Wed, October 6-7  
2 day workshop, 9-5pm each day

### **For further information**

ring Tony Smith: (03) 9685 9243

email: shewellworkshop@optusnet.com.au

**or download the brochure and book on-line at**  
[www.australianvoiceassociation.com.au](http://www.australianvoiceassociation.com.au)

# LET'S GET PHYSICAL

## Johanna Flavell

The path leading from our basic training as teachers, performers and clinicians can be both exciting and lateral. Our journey of discovery “outside the square” can be driven by recognising that we are falling short of providing our patients / clients / students, with optimum opportunities for progress and positive change.

As a voice and swallowing therapist I have latterly been drawn to explore physical therapies in order to learn to better assess, identify and treat muskulo-skeletal tensions and asymmetries and negative habitual patterns of movement.

Some of the short courses I have attended include: Alexander Technique (see previous Voiceprint article by Tony Smith), Feldenkrais, Iyengar and Ashtanga Yoga, Chi Kung, Accent Method, Mittendorf Breath training etc. Aspects of all inform my ability to assist my clients (and myself) to breathe, deconstrict, swallow, phonate, resonate and project.

Ten years ago, suffering severe cluster headaches and chronic neck pain from an old whiplash injury, my GP suggested that I see a physiotherapist who had studied a “left-of-centre” technique in the US. Skeptical, but desperate, I took myself off for yet another attempt at managing these problems.

I lay on her examination table fully clothed and she explained that she was doing Craniosacral therapy. She was only touching me very lightly and I was waiting for the sound of fish-slapping ... Her gentle touch was at least deeply relaxing. But, I began to feel the release of tension in my sternocleidomastoids and cranio-occipital area. My previously ice-cream headache gripped mastoids seemed to float freely. By the time I sat up my headache was gone. (Although it can take several sessions to feel some change). I came back for more treatment and armed with many personal and clinical questions.

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***I think we all have what I call a ‘secret’ voice: a voice that we hear inside our heads, which conveys exactly what we want, how we think and feel, yet that voice so seldom tallies with what in the end comes out. The inner image does not fit with the outer one—or rather the voice that other people hear does not tally with that inner image. Why?***

**Cicely Berry, *Your Voice & How to Use It***

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Craniosacral therapy (CST) was developed from cranial osteopathy by Dr John Upledger, an osteopathic physician who first witnessed the rhythmic movement of cerebrospinal fluid from the cranium to the sacrum, while assisting during cervical spinal surgery. He observed that this rhythmic pulsing of the membrane was independent of breathing or cardiac rhythms. As Professor of Biomechanics at Michigan State University, he supervised a team of anatomists, physiologists, biophysicists and bioengineers in experiments to test the existence and influence of the craniosacral system: ie. the cerebrospinal fluid, and membrane. The membrane is the fascial system lining the skull, continuing through the foramen magnum, surrounding the spinal cord to the periosteum of the coccyx. This houses the entire central nervous system, in turn responsible for all other systems in the body. One of the basic tenets is that everything in the body is connected to everything else. Any fascial tension can influence the central nervous system and all fascia of the body can be manipulated due to this primary connection. (“The body fascia can be considered as a slightly mobile, continuous from head to toe, laminated sheath of connective tissue investing all of the somatic and visceral structures of the human body”<sup>1</sup>).

Craniosacral therapy is light touch manual therapy that identifies and addresses restrictions in the craniosacral system. It is performed on fully clothed supine clients (I find Alexander’s semi-supine works best for a number of clients with lower back problems.) Using very light touch – generally no more than 5 grams of pressure (less than a 10 cent piece) - the rhythm of the craniosacral system can be monitored to detect potential restrictions and imbalances. Then delicate manual techniques are used to release those problem areas.

The therapist’s intention is to facilitate the body to correct itself and return to homeostasis, by taking away the obstacles. The light touch and gentle manipulation is regarded as essential to create a synchrony between therapist and client, rather than physical (and sometimes psychological) resistance produced by firm touch and manipulation.

I have undertaken 3 levels of training in Craniosacral therapy: Craniosacral I, II and SomatoEmotional Release, and regard myself as a beginning physical therapist. These courses integrate anatomy and physiology with training in therapeutic touch and dialogue. A significant focus of these courses has been on the skull, cranial nerves, larynx, hyoid, TMJ, and the psychosomatic connection.

My training has at times been provocative and challenged my preconceptions and accepted professional wisdom. It was at first difficult to accept as real the information my sensory receptors gave me and I had to temporarily suspend critical evaluation while learning to touch – and touching to learn! I am still sometimes surprised to acknowledge the veracity of what my hands

feel and the positive effects of therapeutic touch.

### Let me feel your body talk...

I was initially buoyed to utilise my new skills with real clients by the knowledge that 5 grams of pressure can do no harm. I now regularly use CST as part of my armamentarium in the assessment and treatment of clients with chronic cough, poor respiratory control for phonation, paradoxical vocal fold dysfunction, muscle tension and psychogenic voice disorders. Clients with muscle tension voice disorders and psychogenic voice disorders present with exquisitely sensitive throats. Initiating traditional circumlaryngeal massage has sometimes been impaired or prohibited by the client's reluctance to be touched in that area, or encountered tissue resistance. I am now able to treat jammed ribs and hyoids, release infrahyoid, retrohyoid and suprahyoid tissues and treat TMJ dysfunction far more effectively than previously.

One of the most dramatic somatoemotional interventions I have experienced occurred while treating a survivor of the Boxing Day Tsunami. He was primarily being treated by a psychiatrist specialising in Post Traumatic Stress Disorder and presented to me with refractory psychogenic aphonia. I initially hesitated in asking him to lie on my examination table as his partner was observing the session and had already expressed the opinion that nothing a Speech Pathologist could do would be likely to work. I was unable to facilitate anything approximating voicing so I took the plunge. Extralaryngeal tension was severe and thyrohyoid space virtually non-existent. The worst wooden throat I had felt. He slowly became deeply relaxed. Hyoid was released and symmetrical, infrahyoids and suprahyoids relaxed – after 45 minutes of gentle touch and manipulation, during which a great deal of heat was generated. At one point sweat was dripping from my face – as the result of therapeutic touch, not physical effort! I was then able to utilise deconstriction manoeuvres and exercises to facilitate

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*Are we as a culture speaking less than in the past? While a fascinatingly untested research topic, anecdotal evidence suggests that fondness for the art of conversation, appreciation of subtlety and nuance in verbal interaction are losing ground. If there are people who communicate exclusively in sound bites or the barest minimum verbal signal, if we as a culture are hearing and speaking less, vocal expression is jeopardized*

**Robert Barton, Voice in a Visual World**

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voicing. He left the session with normal voice (after 1½ hours) and presented the next week with normal voice. He was delighted to be back at work, and continued to see his psychiatrist.

We all search for the best fit for our clients and ourselves according to our belief systems and core interests. When the two are in concert, we have potential for a symphony!

**A Cautionary Tail (sic):** My clients come to see me as a Speech Pathologist, not a Craniosacral therapist. I therefore only work above the belt to address specific problems reasonably within my professional remit. I refer to my Craniosacral trained physiotherapy colleagues for more extensive body work.

### Notes

1. Upledger, John E and Vredevoogd, M F A  
“Craniosacral Therapy” UI Publishing Inc, Florida 2000

Upledger, John E “Craniosacral Therapy 11 Beyond the Dura” UI Publishing Inc, Florida 1998

Upledger, John E “SomatoEmotional Release and Beyond” UI Publishing Inc, Florida 1999

Website: [www.upledger.com](http://www.upledger.com)

## VOICECRAFT FOR SINGERS

with  
**ALISON BAGNALL PhD**

**ADELAIDE - 2009**  
August, 27th - 29th



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G.B. Prof. Singer & Voice Teacher

*“I would recommend this workshop because of the professionalism, backing research, clarity of presentation, opportunity to individually hear all people & ask questions.”* G.D. Singer

*“The information that I have received is invaluable for achieving freedom in singing.”* T.R. Singer/Performer/Singing Teacher

For more information or registration form, visit our website  
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phone: (08) 8239 2088, Fax (08) 8239 2238 or  
e-mail: [anchor@voicecraft.com.au](mailto:anchor@voicecraft.com.au)

## BREATHING FOR SINGING

Sally-Anne Chalmers

*Breath management is partly determined by the singer's concept of what takes place physiologically during the inhalation-exhalation cycle. The singer ought not to base a method of 'support' on incorrect information regarding the physical processes involved in singing. (Miller, 1986, p. 38)*

### **Respiratory Structure, Breath Management and Singing**

In recent decades a significant advancement in the scientific and 'neuromusical' research of vocal mechanics has allowed a more meaningful integration of knowledge about the vocal anatomy. Such integration has become highly useful in vocal pedagogy and the process of training singers (Hoepper, 2001). Voice teachers should value the vast array of both technical and artistic tools within vocal pedagogy and avoid unproductive debates that would try to suggest that technique and artistry are mutually exclusive (Hoepper). By combining the principles and practices of Body Mapping, Primal Sound and Emotional Stimulus (EMS) teachers of voice should have a better chance of achieving a balanced and holistic pedagogy.

### **Body Mapping and Breath Management**

With information about the body readily available, all singers should be encouraged to create an accurate mental 'map' of their bodies, so as to connect to and activate their vocal production in the most efficient and meaningful way possible (Conable, 2000). Conable suggests that the concept of 'Body Mapping' should be used not only for solo singers, but also in a choral context as "a way into the perceptions of a singer" (p.8), or more simply, as a way of connecting the mind, body and voice.

Body Mapping is a prominent term used to describe the anatomical approach of aligning the body, as a means of freeing the voice to operate to its maximum potential - an unhindered, free instrument (Conable, 2000). In support of Miller's (1986) statement above, Conable's advocacy of Body Mapping supports the pedagogical belief that psychological misconceptions about how the body operates will lead a singer to use their bodies improperly or more importantly, inefficiently in the process of singing. Her approach to teaching singers proper body alignment involves finding the balance points of the body in relationship to the spine; the singer must understand that alignment with core strength in the lower body supports freedom for breathing and therefore for vocalising. Blades-Zeller and Nelson (2002) state that freedom of the shoulders is critical to the free flow of air. Conable highlights that good alignment allows

the development of enriched vibrancy and resonant tone for both the solo singer and the choral group.

The term *appoggio* has been used for centuries by Italian vocal educators to denote the physical sensation indicating optimal coordination for breath pressure and airflow needed for skilled singing and speaking (Thurman & Welch, 2000). The theories of Body Mapping suggest that singers who do not properly understand the structure and function of the respiratory system are more likely to misunderstand *appoggio* and create patterns of restricted or inefficient breathing. This is one of the strong arguments in favour of ensuring singers are taught the key anatomical facts about inspiration and expiration.

The respiratory system refers to all anatomical elements that enable breathing (Thurman & Welch, 2000) and for singing, its primary function is the production and support of the sound. Phonation occurs when compressed air passes over the vocal folds setting up ripple waves which in turn generate sound wave patterns of air in the vocal tract. Initially, the difference between breathing for life and breathing for singing needs to be clarified; singers must understand that breathing for singing requires a reversal of the involuntary functions, that is rapid inspiration and prolonged expiration (Miller, 1986).

Exhalation can be passive or active, but in skilled singing it must be active in order to resist the involuntary 'elastic recoil force' of exhalation (Thurman & Welch, 2000). The 'vocal struggle' or 'lotte vocale' refers to the challenge the inspiratory muscles face in striving to retain the air in the lungs (prolonged expiration) in opposition to the natural expiratory muscles of the abdominal wall (Miller, 1986). Exhalation for singing requires controlled and slow expulsion of air and the exercise of holding one's breath, conserving energy before 'exploding' into action, does not at all apply to preparation for singing. Rather, singers must become kinaesthetically aware of the function of their respiratory system both during inhalation and exhalation, and through sensation, train the respiratory muscles to optimally regulate air pressure and airflow in accordance with the phrase or musical element required (Blades-Zeller & Nelson, 2002).

### **The Respiratory System**

The respiratory system is split into the upper airway and lower airway. The upper respiratory system refers to all the channels through into which the air travels on inhalation the nasal cavities, the oral cavity, the pharynx, the larynx and the trachea (Thurman & Welch, 2000). On inhalation the singer takes air in through the mouth or the nose, depending on the musical imperative. The Voice is often described as having several components. The Actuator is the breath, the power source and energy of the voice. The Vibrator is the pair of vocal folds which is a valve-like structure of muscle and tissue. The Resonator is the vocal tract, a combination of the larynx, the pharynx and the oral



cavity amplifying the sound. And finally the Articulators are primarily the tongue and lips which shape the sound into meaningful units (Bybee & Ford 2002, p.134-136). The overall freedom of airflow and breath management will impact positively on each of these functions. However tension in any of these functions due to incorrect body mapping or functional coordination will conversely cause breathing to be constricted, effortful and inefficient.

Much of the action of the larynx is 'reflexive', that is, it is determined by what goes on in the airway. The abduction and adduction of the vocal folds along with other muscular and vocal processes of the larynx are implicitly connected to the efficiency of breath management for the singer, however detailed discussion is outside the scope of this paper. From a pedagogical perspective it is both interesting and important to note that although presenting some anatomical information about the larynx may prove useful in the conceptual development of the singer's understanding of function but such information is "relatively useless in effecting substantial changes in vocal behaviour since the singer has no direct control over laryngeal function." (Bybee & Ford, 2002 p.131-132).

The lower respiratory system is vital for the mechanics of coordinated breathing and involves the lungs, the ribs and their intercostal muscles and the diaphragmatic muscle (Blades-Zeller & Nelson, 2002). The thorax refers to the region from the neck to the abdomen and houses the major organs of respiration – the lungs. It constitutes the outer shell of the torso above the midsection. How the organs and muscles of lower respiratory system work together and interplay throughout the breath cycle is of primary importance to the singer. On inhalation the external intercostal muscles contract causing the ribs to open and the diaphragm to contract downwards. Since the lungs are attached to the inside of the ribs by pleural linkage, when the intercostal muscles contract, the lungs expand down and out, and with the increase in lung volume create a vacuum inside the lungs (Blades-Zeller & Nelson, 2002).

### **Lungs**

The lungs are critical to respiration and can be thought of as elastic sacs that are capable of a vital capacity of up to 5 litres of air when they expand with the aid of contracting muscles around them (Blades-Zeller & Nelson, 2002). Each lung is made up of millions of tiny air sacs (alveoli) which take the form of tree-like structures called bronchioli, the purpose of which is to increase the surface area between the tissue and air so that oxygen and carbon dioxide can be exchanged (Titze, 1994). The pliable tissue of the lungs renders them capable of considerable stretching as the inspiratory muscles contract: this elastic quality also enables the tissues to recoil to their resting position to complete the breathing cycle with expiration (Miller, 1986). It is critical that the singer has a correct 'mind map' of where the lungs are positioned in order to

optimise their expansion. The top of each lung is located as high as the collarbone at the front and at the back, under the shoulder blades which act as shields or protectors and sit over the first five ribs (Conable, 2000).

To optimise breathing, the singer should be aware that the lungs open in six directions (Blades-Zeller & Nelson, 2002):

- Forward where the belly and ribs expand
- To the left and to the right where both the ribs and belly expand
- Backward where the spine lengthens, viscera move backward and ribs expand
- Up lifting the both the scapula and the clavicle
- Down into the pelvic girdle
- Downward into the hips.

The singer should know that if any of these functions are inhibited, a corresponding restriction in breathing and vocal production will result. Conable (2000) suggests that many singers limit their breathing by having a concept of their lungs positioned forward from their spine, and therefore they don't actively 'breathe into the back'. The singer needs to keep the chest open and be conscious of the proximity of the lungs to the back of the upper thorax, 'breathing into the back' and never collapsing inwards or hindering the free flow of the breath supply into the lungs (Blades-Zeller & Nelson, 2002).

### **Rib Cage**

The singer should be aware of the following characteristics of the ribs (Blades-Zeller & Nelson, 2002, p 74):

- They increase in size and weight from top to bottom
- The upper ten ribs are attached to the spinal vertebrae and the sternum
- The lower down the spine, the more flexible and expandable the rib
- The bottom two ribs are not attached to the sternum, only attached to the back - hence known as 'floating ribs'.

With so much recent focus on the role of the abdominal muscles in controlled exhalation, it is timely to be reminded of the role of the rib-cage. Singers should be aware that the ribs are very flexible and capable of considerable expansion and deformation due to the contraction of the internal and external intercostal muscles (Blades-Zeller & Nelson, 2002). One of the necessary controls for inhalation and exhalation is the opening and closing, the ascent and descent of the ribs employing the intercostal muscles. Given that the lungs are attached to the ribs, rib movement is a primary part of the breathing process for singers (Conable, 2000). To master 'passive control' in singing is to train oneself to expand the ribs 'properly' and develop the skill of 'popping the ribs' to allow an effortless yet full breath of air for achieving a supported sound in the next phrase. Blades-Zeller & Nelson explain that 'popping the ribs' is a functionality the singer must train his or her body to

do. It involves allowing the rib cage to ‘pop open’ at the end of a phrase, allowing a spontaneous spacious expansion to occur, thus heralding the new inhalation. Critically combined with this must be a ‘letting go’ or ‘release’ of the abdominal musculature so that the diaphragm has unrestricted freedom to contract and flatten (Blades-Zeller & Nelson). This movement displaces viscera and engages muscles right to the pelvic floor. The sensation of this muscular engagement then guides the subsequent exhalation. When this skill is mastered the singer gains access to an effortless way of ‘refuelling’ for the next phrase.

### **Diaphragm**

Perhaps the most commonly misunderstood function of the respiratory system is that of the diaphragm. The diaphragm consists of muscle mass which when at rest is shaped like a double headed dome that separate the lungs from the abdominal contents (Chapman, 2006). It is important to note that the key function of the diaphragm is in inspiration only. On inspiration, as the intercostals muscles contract and open the rib cage, the diaphragm moves downwards and flattens slightly (Blades-Zeller & Nelson, 2002). The diaphragm form the ‘roof’ of the thorax as well as attaching to the ribs and the spine. Another vital piece of information for the singer is that the movement of the diaphragm cannot be directly sensed because it has no direct innervation (Miller, 1986).

Interestingly, the diaphragm is passive during phonation, and therefore makes no contribution to the ‘support of the voice’ (Miller, 1986). It is other controlling muscles that guide exhalation. Therefore. To begin a holistic understanding of breath management, correct ‘body mapping’ of the diaphragm is important. Beginner singers often believe that the diaphragm is positioned lower in the body, often because of muscular sensations at waist level or the engagement of the lower abdominal wall on inhalation. Correct body mapping of the diaphragm will help students engage full body control in the inhalation and exhalation process.

### **The Abdominal Musculature**

The muscles of the abdominal wall (front and back) and what is called either the pelvic diaphragm (Conable, 2000) or the pubic synthesis junction (Chapman, 2006) play the primary role in controlling the breath flow and

breath compression for singing. Too often these muscles have been held in tense mode and must be released, ready to support the singing act. The singer’s awareness of their function can be usefully linked to their role in expressions of emotion.

### **The role and impact of emotion on breath management and communication**

*A singer who is able to use emotional imagination and stimulus during a performance will constantly be a connecting to the breathing and support machinery in an unconscious way. Herein lies the ‘back to nature’ element, singing from the emotions in a way that has the power to move the audience while not compromising the integrity of the instrument. (Chapman, 2006, p.58)*

The voice, together with the face and the hands signify who we are as people (Titze, 1994). Since breathing is the essential driver of vocal production, and emotion has a strong impact on breathing, the relationship between vocal production and emotion is obviously linked. This relationship between a singer’s response to emotional stimulus and breath management is still largely mysterious, yet the impact this connection has on performance is powerful. Janice Chapman (2006) suggests that the role of emotional expression in vocalisation can be better understood by exploring primary sounds. She defines primal sound as “emotionally motivated vocal expression, often non-verbal, arising from our need to survive.”

*A cry of agony, “Aaaaagh” results from a neurological link between the brain to the vocal mechanism. Such primal or ‘reflexive’ sounds are triggered by involuntary emotional impulses and carry with them crucial responsibility for genuineness of expression. Therefore, even though actual primal sound is probably not what is artistically required for singing, engaging in the practice of ‘primal sound making’ can be incredibly useful in voice training to stimulate holistic patterns of vocal preparation and production (Chapman, 2006, p.17).*

Another study was conducted into the impact of ‘Emotional Stimulus’ (ES) on breathing for singing and it found that classical singers alter their breathing pattern when vocalising with ES by engaging the lower lateral abdomen more prominently (Bjorkoy & Pettersen, 2007). Primal sound activities may also engage these low body muscles and therefore have a positive impact on ‘freeing up’ breathing. Blades-Zeller and Nelson (2002) discuss the delicate balance of ‘control and letting go’ in singing and how a singer can try to control the jaw, tongue or breath mechanics by using a preset notion of how these areas ‘should perform’ (p.74). These false ways of gaining control often add tension rather than ‘freedom’ to the sound, creating a forced performance. The sensation of ‘force’ or pushing can easily create an undesirable habit if not identified by the teacher and the student. The notion of

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*i think what makes it [singing technique] so difficult to acquire is that a lot of beginning singers have an idea of what it should be like, if they could only do it. later on, they find out they could always do it, it just wasn't anything like they thought it would be.*

**mike, the Vocalist, 23 December 2003**

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mastering 'passive control' or 'effortless effort' is essential to free, unrestricted singing (Blades-Zeller & Nelson, p.19). If breathing requires a lot of effort, then less effort is available to power the voice. When primal sounds or activities are stimulated, a subconscious and effortless pattern of holistic breathing is the result. This sense of connectedness to the breath will contribute to a more expressive performance.

From a pedagogical perspective, Chapman's (2006) statement about emotional stimulus and breathing should be embraced within the balanced context of the need for correct Body Mapping as a way of 'connecting up' holistic patterns of response for the singer.

Chapman goes on to say that the singer "obtains an awareness of a more holistic experience when the emotional motor system is activated" (p.18). Hoepfer (2001) also reiterates that an awareness of this connection is characteristic of a holistic pedagogical approach.

### **Teaching Breath Management in The Singing Studio – techniques and exercises**

Based on the above findings, vocal teachers may like to make use of the following pedagogical ideas and exercises, in establishing good breath management for young singers.

#### ***Body Mapping***

Vocal teachers would benefit greatly if they employ Body Mapping techniques with their students. Correct psychological understanding and kinaesthetic awareness of their bodies would prepare the singers for further development. Such information will provide a strong foundation for exploring and utilising their bodies efficiently and connecting to their voices in a responsive way. Fundamental body alignment provides the neutral place from which efficient work can begin for the singer. Conable (2000) identifies five balance points around the spine which, in the tradition of Alexander Technique, make for more efficient and healthy body use. In the choral work with which I am involved, I have already observed a positive impact on vocal production and breathing through the use of Body Mapping techniques. I commend Barbara Conable's work to everyone.

#### ***Training 'Passive Control' in Breath Management***

In his hallmark text, Miller (1986) presents many breath management exercises to be used both with and without phonation, for training the musculature essential for efficient breath management in singing. These are truly worth exploring. The control of breathing for singing would seem to be intrinsically linked to sound making, however there is value in some exercises which do not include phonation. Such exercises without phonation primarily aim to develop the skills to renew breath silently, ensuring that no muscles are engaged unnecessarily on exhalation. Such exercises assist in building musculature awareness and memory of unrestricted breathing patterns prior to engaging in phonation exercises. Miller suggests inhaling while

counting from 1 to 5, then suspending the breath while counting silently from 1 to 5, ensuring no tension or sensation of holding is engaged and finally exhaling silently while maintaining the same posture of the sternum and rib cage, counting again from 1 to 5. This exercise can be extended so that the breath increases until the count is 1 to 10.

Miller (1986) presents several other examples of exercises aimed at coordinating fast respiration-phonation response while employing phonation. The skills needed to open the throat, relax the glottis and take in a silent breath quickly are addressed in this exercise. Each breath must be inaudible, regardless of the tempo of the exercise. Rhythmic accuracy, as another element of breath control, needs to be carefully observed; keys can both rise and lower to allow practice of breath management for skilled pitching.

### **Identifying common sources of tension and breath constriction**

Common causes of inefficiency in breathing can be tension related. Unnecessary head and neck movement caused by misconceptions about the function of the jaw or a badly balanced head will displace the responsibility of breath control for phonation. Conable (2000) states that students must 'map' a single moveable jaw in their body map. She highlights that students with jaws in their body maps will attempt to open them both ways, hence creating unnecessary restriction in breathing.

Since the tongue can have direct impact on the position of the larynx, it is absolutely critical that the tongue is properly mapped. Singers should be made aware of the full depth of the tongue into the throat, the full width of the tongue in the mouth and the length of the tongue (Conable, 2000). Tongue retraction or tongue root constriction can cause lack of vibrancy, restriction in articulation, vocal fatigue, loss or restriction of range, and finally, in terms of breath management, it can restrict flow of air from the vocal folds out of the mouth, causing what could be described as a dark or covered sound (Chapman, 2006). Teachers who identify tongue constriction can assist the singer by firstly isolating the tongue from vocal production. For example to isolate the function of the tongue ask the student to hold their tongue while they sing or stick the tongue out when breathing. There are some most useful strategies listed in the relevant chapter in Chapman's text also.

### **In summary**

From a pedagogical perspective, employing emotional stimulus and primal sound exercises in vocal training will assist the singer greatly in accessing effortless, involuntary patterns of holistic activities including breath management, therein freeing the voice of tension and coordinating the body in the best possible way to support the sound and communicate genuine emotional expression to the audience. The singer's primary aim should always be to communicate the emotional meaning of the repertoire to the listeners: this should be practised, not merely left to the performance occasion.

Practical ways of practising this in the studio involve connecting the student with primal emotive sounds. A singer needs to be uninhibited in exploring their own vocal expressions of emotion – laughing, sobbing, deep sighs connected with love, anger, tiredness, grief, fear, elation. Singers need to notice the body reaction, the energy achieved through sympathetic lower abdominal engagement. Again, I commend Janice Chapman’s writing on this topic.

Good breath management is a process of thinking first, then passively letting it happen, rather than actively doing (Brown, 1998). Combining the pedagogical applications and notions of Body Mapping, Primal Sound and the Emotional Motor System, together with established methods of vocal teaching, should help singing teachers find a more holistic and efficient approach to breath management work for their singing students.

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*Sally-Anne Chalmers is a Postgraduate Vocal Pedagogy student this year at the Queensland Conservatorium Griffith University and this paper was a task within one of the pedagogy courses. Apart from being a contemporary singer, she has a love of choral music and is currently conducting a number of school choirs in Brisbane.*



## Hot off the press

Congratulations to four AVA members for recently published papers. (When do they find the time?!!)

### **Latukefu, Lotte. 2009. Peer learning and reflection: Strategies developed by vocal students in a transforming tertiary setting. *International Journal of Music Education*, 27, 128-132.**

ABSTRACT: The focus of this article is on the analysis of reflection and peer learning in the pedagogical environment. The research draws on findings from a three-year Australian study, which aimed to develop and critically evaluate a model of vocal pedagogy influenced by sociocultural theories. The model sought to position Vygotsky’s theories in the environment of university-level vocal instruction. To capture the developmental nature of this pedagogical project, a design-based development research methodology was employed. Central to this approach was flexibility of the design, multiple dependent variables and capturing social interaction. The students were not the subject of experimentation, but were co-participants in the design and analysis. The results of the study suggest that there

is value in peer learning for both classical and non-classical singers at an undergraduate level. In particular, the data from the student journals in the present study also suggests that if the environment is arranged in such a way that peer learning is encouraged and purposely mediated, singing students find this extremely helpful as a learning strategy.

### **Oates, Jennifer. 2009. Auditory-perceptual evaluation of disordered voice quality. *Folia Phoniatrica et Logopaedica*, 61, 49-56.**

ABSTRACT: “Auditory-perceptual evaluation is the most commonly used clinical voice assessment method, and is often considered a gold standard for documentation of voice disorders. This view has arisen for many reasons, including the fact that voice quality is perceptual in nature and that the perceptual characteristics of voice have greater intuitive meaning and shared reality among listeners than do many instrumental measures. Other factors include limitations in the validity and reliability of instrumental methods and lack of agreement as to the most sensitive and specific instrumental measures of voice quality. Perceptual evaluation has, however, been heavily criticised because it is subjective. As a result, listener

reliability is not always adequate and auditory-perceptual ratings can be confounded by factors such as the listener's shifting internal standards, listener experience, type of rating scale used and the voice sample being evaluated. This paper discusses these pros and cons of perceptual evaluation, and outlines clinical strategies and research approaches that may lead to improvements in the assessment of voice quality. In particular, clinicians are advised to use multiple methods of voice quality evaluation, and to include both subjective and objective evaluation tools."

**Collyer, Sally, Pamela J. Davis, C. William Thorpe, and Jean Callaghan. (In press July 2009). Fundamental frequency influences the relationship between sound pressure level and spectral balance in female classically trained singers. *Journal of the Acoustical Society of America*.**

**ABSTRACT:** "The influence of fundamental frequency (F0) on the relationship between sound pressure level (SPL) and spectral balance (SB) has been largely unexplored in the female singing voice. Five classically trained females performed a *messa di voce* across their musical F0 range. Average maximum SB rose with F0 by 0.27dB per semitone (ST) to B4 and then decreased, while average minimum SB fell by 0.5dB/ST to E5 and then generally rose. Of 318 tokens, 208 showed a linear SPL:SB relationship ( $R^2 \geq 0.5$ ), but F0 affected SPL:SB slope and intercept and their interaction above and below B4. The possibility that this reflects a change from subglottal inertance to compliance is discussed. Consistency of SB behavior change at B4 and E5 contrasted with variability in first-formant frequency. Nonlinear SPL:SB relationships did not arise from SB saturation. The presence of low SPL 'tails' may reflect the challenge in modifying vocal fold adduction during crescendo and decrescendo. The results show that analysis of the SPL:SB relationship must take F0 into consideration."

**Collyer, Sally, Dianna T. Kenny, and Michael Archer. (In press, on-line 30 May 2009). The effect of abdominal kinematic directives on respiratory behaviour in female classical singing. *Logopedics Phoniatrics Vocology*.**

**ABSTRACT:** "Breathing instruction for classical singing is becoming more physiologically focused, yet the effect of chest-wall kinematic directives on breathing behaviour is largely unexplored. Five female classical singers sang Caccini's Ave Maria without directive and under two directives: 'steadily pull the abdomen inward', and 'steadily expand the abdomen' through each phrase. The directives had a statistically significant effect on chest-wall dimension at initiation of phrase and on excursion, but dimension at termination of each phrase reverted to habitual behaviour. Ribcage dimensional change counteracted abdominal change so that lung volume measures were consistent within singer across all breathing conditions. The results have implications for the distinction between consciously controlled and innate respiratory behaviours in singing. Implications for singing pedagogy are discussed."

## Annual General Meeting

Notice is hereby given that the  
Annual General Meeting  
of the Australian Voice Association  
will be held on  
**Saturday, 15<sup>th</sup> August 2009**

**NSW: 4 pm Eastern Standard Time**

At the home of Jean Callaghan,  
208 Hereford St, Glebe 2037  
Ph: 02 9566 4184

(Please ring Jean to advise of your attendance)

**QLD: 4.00 pm Eastern Standard Time**

At the Queensland Conservatorium  
Griffith University, South Bank  
in the Training Room

Ph: 07 3735 6233

(Please ring Adele on 07 3735 6231 to advise of your attendance)

**SA: 3.30 pm Central Standard Time**

At the home of Janet Baker  
22 Howard Tce, Hazelwood Park 5066  
Ph: 08 8361 3141

(Please ring Jan to advise of your attendance)

**VIC: 4 pm Eastern Standard Time**

At the home of Susannah Foulds-Elliott  
624 Centre Rd, Bentleigh 3204  
Ph: 0409 662030

(Please ring Susannah to advise of your attendance)

**WA: 2.00 pm Western Standard Time**

At the home of Julia Moody  
60 Hardy Rd, Ashfield 6054  
Ph: 08 9379 9106

(Please ring Julia to advise of your attendance)

### AGENDA

1. Apologies
2. Minutes of the 2008 AGM
3. Business Arising from the Minutes
4. President's Report
5. Treasurer's Report
6. National Board Membership Election
7. Future Directions
8. Other Business

## Out and about

As the July issue of Voiceprint goes to press, four AVA members will be jetting off to Paris to present posters at the **Seventh International Congress of Voice Teachers**.

Cathy Aggett

*Strategies for baritones to sing Australian art songs past and present*

Sally Collyer

*Bringing breathing science into the voice studio, and Does how you breathe really change how you sound?*

Diane Hughes

*The vocal journal*

Daniel Robinson

*Singing for Contemporary Christian Worship*

The ICVT is held every four years, with a packed four-day program. This year, it will be held at the magnificent Folies Bergère, billed as “The most famous musical hall in the world”. Surrounded by the ghosts of Edouard Manet, Josephine Baker and Maurice Chevalier, it’s hard to describe this as work!



The (in)famous Folies Bergère

Sadly for them, Cathy Aggett and Diane Hughes will have to forgo the sights of Paris because they’ll have their heads firmly stuck in their textbooks. They are among 20 international students selected to attend a course with Johan Sundberg, “Functions of the Singing Voice”, to be held in Sweden the week following ICVT. The five week course involves reading of the course compendium two weeks ahead of the one week workshop, which will take place in Sandvik, followed by a take-home exam to be mailed back two weeks after the course. The course will answer questions such as why do the fold vibrate? How do vocal styles differ? Can breathing habits affect voice? How do my vocal folds look? and what is resonance? Format of the course will be lectures and workshops where participants can watch their voice production in real-time. The week will include a master class with Swedish baritone Håkan Hagegård. The course book is Sundberg’s *The Science of the Singing Voice*.

On their return, Cathy has promised to share some of the new information they’ve learned from one of world’s experts on the voice. Good luck to both with their exam!

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*The voice becomes a medium of communication so profound that you’re kind of taken aback.*

**Kim Chernin, Cecilia Bartoli: A Portrait**

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## Member promotions

VOICEPRINT offers AVA members 6 lines FREE promotion of their services, facilities or products through 2008. Please submit your promotion to the Issue Editor (see page 2).

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Non-members who seek to advertise in VOICEPRINT are asked to contact the Editor.

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After 10 years as a full-time academic (associate professor in singing at UWS), Dr Jean Callaghan is now in private practice in Sydney as singing teacher, voice consultant, lecturer and researcher.

Email: [jean.callaghan@bigpond.com](mailto:jean.callaghan@bigpond.com)

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[www.voiceconnection.com.au](http://www.voiceconnection.com.au)

## Conferences

### 8th International Voice Symposium: Exchange your experience: Tradition and innovation in voice care

7 – 9 August, 2009, Salzburg.  
[www.austrianvoice.net](http://www.austrianvoice.net)

### PEVOC Pan European Voice Conference.

26 – 29 August 2009, Dresden, Germany.  
[www.pevoc8.de/](http://www.pevoc8.de/)

### The Performer's Voice: An International Forum for Music Performance and Scholarship

28 Oct – 2 Nov 2009, National University of Singapore  
[www.performersvoice.org/](http://www.performersvoice.org/)

### Music Therapy Association Annual Conference: Pacific Melodies: Catching Waves to the Future

13 – 15 Nov 2009, San Diego CA, USA  
[www.musictherapy.org/conference.confindex.html](http://www.musictherapy.org/conference.confindex.html)

### International Symposium on Performance Science (ISPS) 15

– 18 Dec 2009, University of Auckland, New Zealand  
[www.performancescience.org/ISPS/ISPS2009/Home](http://www.performancescience.org/ISPS/ISPS2009/Home)

### The Voice Foundation's 39th Annual Symposium: Care of the Professional Voice

2 – 6 June 2010, Philadelphia PA, USA  
[www.voicefoundation.org](http://www.voicefoundation.org)

### 51st NATS National Conference

2 – 6 Jul 2010, Salt Lake City UT, USA  
[www.nats.org](http://www.nats.org)

### 28th IALP (International Association of Logopedics and Phoniatrics) World Congress

22 – 26 August 2010, Athens, Greece.  
[www.ialpathens2010.gr](http://www.ialpathens2010.gr)

## Useful contacts

▲ **ANATS:** Australian National Association of Teachers of Singing. ANATS newsletter is *The Voice of ANATS*, published in March, July and November.  
Email: [anats@apcaust.com.au](mailto:anats@apcaust.com.au), [www.anats.org.au](http://www.anats.org.au)

▲ *Australian Voice* is a refereed journal published annually by ANATS. The good news is that if you are a full member of the AVA, you already receive *Australian Voice*. Use the ANATS contact details if you would like more information about *Australian Voice*, or see the publications section at [www.australianacademicpress.com.au](http://www.australianacademicpress.com.au)

▲ **British Voice Association:** Highly recommended for book reviews and much more. Contact them at The Royal College of Surgeons, 35/43 Lincoln's Inn Fields, London WC2A3PN. Tel/fax UK 44 (0) 20 7831 1060. [www.british-voice-association.com](http://www.british-voice-association.com)

▲ **International Centre for Voice** (London). Central School of Speech and Drama, hosting email discussion list about voice, jiscmail. Free subscription, [www.cssd.ac.uk/icv/index.html](http://www.cssd.ac.uk/icv/index.html) Current discussions between speech-language therapists on voice and other issues can be viewed on [www.slt-list-uk@jiscmail.ac.uk](http://www.slt-list-uk@jiscmail.ac.uk)

▲ The *Journal of Voice* is the official journal of **The Voice Foundation** ([www.voicefoundation.org](http://www.voicefoundation.org)) and the International Association of Phonosurgeons. Published quarterly, see [www.jvoice.org](http://www.jvoice.org).

▲ **SID3voice** (USA)—special interest division of ASHA (American Speech-Language Hearing Association). SID3voice is also the name of its lively and active free email discussion list. To subscribe to SID3voice, send an email to [lyris@list.medicine.uiowa.edu](mailto:lyris@list.medicine.uiowa.edu)

▲ **VASTA** (Voice and Speech Trainers Association) Voice and speech trainers in professional theatre, radio, TV, business and academia, as well as singing teachers, speech pathologists, acting/directing teachers, otolaryngologists and dialecticians. They have an email discussion group called *vastavox*. [www.vasta.org](http://www.vasta.org)

▲ **National Center for Voice and Speech** Research, clinical and teaching centre dedicated to the enhancement of human voice and speech. [www.ncvs.org](http://www.ncvs.org)

▲ **University of California (Santa Barbara Library)**, providing a fantastic list of websites for all things musical. [www.library.ucsb.edu/subj/music.html](http://www.library.ucsb.edu/subj/music.html)

▲ **Gastric Reflux Tips**  
<http://cantbreathe suspectvcd.com/page10.html>

▲ **University of Pittsburgh Voice Centre** Excellent site with plenty of voice information (articles, images, including downloadable Voice Handicap Index with scoring instructions. [www.upmc.edu](http://www.upmc.edu)

**THE AUSTRALIAN VOICE ASSOCIATION  
MEMBERSHIP 2009**

*Inaugurated in 1991*

GENERAL SECRETARIAT

2<sup>nd</sup> Floor, 11 – 19 Bank Place, Melbourne VIC 3000 Phone: 03 9642 4899

Fax: 03 9642 4922

The objectives of the AVA are to promote the field of voice in Australia; to encourage links between artistic, clinical and scientific disciplines related to voice; to promote education and training in the clinical care of voice, as well as vocal performance and voice science; to promote research into voice. Membership is open to individuals with an artistic, clinical or scientific interest in voice. Membership entitles you to copies of the regular newsletter Voiceprint, the opportunity to receive the refereed journal Australian Voice as well as concessional attendance at all events.

**2009 Membership Application Form    1 January 2009 – 31 December 2009**

**MEMBERSHIP RATES FOR 2009**

- |  |                 |
|--|-----------------|
| <input type="checkbox"/> Full Membership   | <b>\$100.00</b> |
| <input type="checkbox"/> Student Membership<br>(full-time undergraduate or postgraduate students, in any voice related field; proof of full time enrolment must be enclosed) | <b>\$30.00</b>  |
| <input type="checkbox"/> Institution Membership<br>(two delegates may attend AVA events at the members' concessional rate)   | <b>\$180.00</b> |

Name: \_\_\_\_\_

Postal Address: \_\_\_\_\_

Phone / Mobile: \_\_\_\_\_ Fax: \_\_\_\_\_

Email: \_\_\_\_\_

I **will/will not** allow my contact details to be circulated by email among the other members of the AVA

Profession\* \_\_\_\_\_

*\*If Voice Teacher or Lecturer in Voice, please specify whether singing or speaking voice, or speech pathology*

**Workplace Details**

Workplace: \_\_\_\_\_

Postal Address: \_\_\_\_\_

Phone / Mobile: \_\_\_\_\_ Fax: \_\_\_\_\_

Email: \_\_\_\_\_

**Student Details** (If you are a full-time student, please indicate the institution and course of enrolment)

\_\_\_\_\_

*To be eligible for Student Membership Rate you must enclose a copy of your student card with photograph,  
that indicates full time enrolment*

**Payment can be made by cheque or by credit card:**

I enclose my cheque/money order     Visa     Mastercard     for \$ \_\_\_\_\_

Card No:

Expiry date: \_\_\_\_ / \_\_\_\_

Name on card: \_\_\_\_\_ Signature: \_\_\_\_\_

**Please forward this form with payment to: Australian Voice Association  
General Secretariat, 2<sup>nd</sup> Floor, 11–19 Bank Place, Melbourne VIC 3000**