

## Three-Quarter-Time Spray

**T**hey say that behind every successful music critic lives a failed first violinist. Similarly, as a sometime coach-of-last-resort for the San Diego Lions Australian Rules Football Team and an accredited Aussie Rules umpire, I could have been a champion professional player instead of settling for a backup career in control. All that was wanting was talent, perseverance, a fine football mind, and a more durable body. I have been a game-day coach for the Lions at several U.S. National Championships since I last played in 2004. This position requires three central skills: observation to reliably estimate the parlous state of the game, constrained receding-horizon optimization to manage the ever-diminishing fit human resources on the bench as the game evolves, and oratory during the main breaks in the game. Of these plenary poetic opportunities, none is so revered as the last, the three-quarter-time *spray*. Theatergoers who sit in the front row will understand this latter term only too well.

Some three-quarter-time sprays are legendary. Nigel Dransfield's stirring recitation of the national anthem (<https://www.youtube.com/watch?v=Lwq5cMFPkK8>, but ask your parents for permission before watching!) to the Shepherds' Bush Raiders (one of my San Diego Lion friends was a member of this team) at the 2005 British Australian Football League Grand Final is one. Bluey "Chooka" Fowler's blast to the Nuriotpa Tigers, reported by former Tiger H.G. Nelson (H.G. Nelson, *Sprays: A Collection*

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of *Verbal Touch-Ups*, Pan Macmillan Australia 2008. Extract at "Youse blokes are jokes!" <https://www.news.com.au/news/you-blokes-are-jokes/news-story/dc8f9546b1e29ac9b2e12dc15fd861bf>) is another. I am certain that every sport has its equivalent, and these have been formative to the emergence of great leaders and orators all over the world.

This is my final opportunity to address the IEEE Control Systems Society (CSS) as president and exhort us to take the ball uphill into the wind and score mightily in the last quarter before we hit 2020. Already having been upbraided by our editor for proposing unseemly content, I am lucky that, in this instance, I will not have to borrow too heavily from Nigel's wordbook. Indeed, the Society seems to be going swimmingly, and the future looks peachy, rosy, crackerjack, and princely, to mix metaphors badly. Let me explain with some examples.

Since composing this final column for the December issue occurs in early August, I have just returned from the 38th Chinese Control Conference (CCC) in Guangzhou. With more than 2000 attendees, this is the largest annual control conference. It is only rivaled in size by the triennial IFAC World Congress. I was positively delighted to participate in the CCC but

was most impressed by certain central factors: the burgeoning numbers of young control adherents among the attendees and presenters, the willingness of many to engage in questioning at plenary panel discussions, the very significant proportion of women control engineers, and the strong involvement of volunteer graduate students (largely from the local Guangdong University of Technology).

I attended several regular sessions consisting of 20-min presentations with the ever-present Beamer projector slides. The slides were always in English and well structured. The same was true for the poster sessions. Roughly two-thirds of the presentations were in English, and one-third of them were delivered in Chinese, Mandarin rather than the localized Cantonese. The application of the conference opportunity to gain presentation experience, feedback, and expertise was great to observe.

Of course, being one of the more linguistically limited attendees, I had to ask my questions in English, and the speakers (many of whom were graduate students) did their best to respond in English to me. I found it interesting to appreciate how much I could understand from the slides and presentations, language notwithstanding. The progress to full presentation in English



**FIGURE 1** Student volunteers at the Chinese Control Conference, Guangzhou.

followed a clear systematic path as people gained their confidence. Several plenary presentations were also delivered in Chinese, usually with English slides. The attendees were sure to gain exposure to both ideas and techniques. The subject matter of the CCC was very broad and, of course, highly contemporary. Subject-wise, we seem to be moving from strength to strength.

The other highly rewarding aspect of the CCC experience was to see the large contingent of volunteers. Figure 1 shows the juncture in the awards ceremony, where they were well recognized for their contributions. The photo was taken by CCC Program Chair Minyue Fu, who also told me that the students' response to being congratulated and thanked was to invert the gratitude by insisting that, on the contrary, it was they who had benefited by observing and participating in the technical event. The next generation of control people is looking positive.

A presidential lament is that, when attending conferences [such as the American Control Conference (ACC) and the IEEE Conference on Decision and Control (CDC)] with significant committee loads, it is often difficult to attend many sessions. However, at ACC in Philadelphia, I did sneak into a few of the 18 parallel sessions and was delighted with the caliber, quality, and breadth of the papers. Naturally, the presenters get younger by the year. However, they prove continually

that it is possible to enter the field and begin to generate new and important results quickly. In other words, apprenticeship to control stardom is of manageable duration.

CSS has long held as important the development of pipelines for involvement at the many levels of the Society, and the nurturing of up-and-coming researchers should be part of that. Also, being a volunteer-run organization, it behooves us to look at these aspects. My recent experiences suggest that we are in excellent shape.

On the management front, the ACC in Philadelphia was the venue for the midyear CSS Board of Governors (BoG) meeting, where the initiatives of CSS are given the green or red light. This was roundly discussed in my October column, "... Like a Lizard Drinking." The good news to report is that the efforts to upgrade our operations, mostly through moving to a two-year presidency, were well received by the BoG. Expect to see more details for member comment in upcoming issues of the magazine. Other ventures, such as launching *IEEE Open Journal of Control Systems* (or maybe relaunching it) were also approved but under a modernized imaginative scheme dubbed "Plan CSS" to rely more on existing editorial expertise.

They say a week is a long time in politics. However, one year seems short in the presidency of the CSS, hence the effort to change that. It has

been a real pleasure to work with the Executive Committee, BoG, and larger team of volunteers who comprise CSS. Taking stock and scheming new moves to ensure our continued success really do appear to use the same part of the brain as game-day coaching at the San Diego Lions. Thank heavens the injuries are so much less frequent and severe in CSS. However, the teamwork and enjoyment are right up there. The CSS game has been running for 65 years now. (I should know, as my buddy Michel Gevers and I cowrote and presented a one-act play *Sixty Is the New Twelve* to celebrate CSS's 60th anniversary at the Los Angeles CDC in 2014. The video is here: <http://ieeecs.org/presentation/conference-plenary-lecture/sixty-new-twelve>. The audio is low, so the libretto is here: <http://kangaroo.ucsd.edu/~bob/TalesTwoCol.pdf>. Parental discretion is still advised). And we seem further from the final siren—Aussies would say hooter—than we were when we began. That is a great thing.

At this stage of the game, it is appropriate that we make some personnel changes, bring in some fresh blood from the bench, and put out to pasture those who have little left to give. The new team will bring new strength and new ideas ... and maybe rewrite the rule book. However, have no doubt. It is onward and upward!

**Bob Bitmead**

