

# Script for “Sixty is the new twelve” by Two Gentlemen of Boronia

Robert R. Bitmead and Michel Gevers

*Abstract—Scene: A low coffee table set between two comfortable arm chairs set at 10 o'clock and 2 o'clock. House lighting is low with the stage lit to indicate intimacy and relaxed atmosphere of the venue, which is largely unseen. It could be a gentlemen's club (in the English sense of the expression) or an old-fashioned faculty lounge. Perhaps a single prop could be used such as a standard lamp, high side-table with flowers, or other.*

*Opening, Michel is seated and relaxed, reading the LA Times or (better) Libération. The newspaper effectively obscures his face from the audience and he is clearly engrossed in the idle pursuit of reading the paper. By his side is an untidy folder of notes.*

*As the audience settles in the darkened space, Bob enters with his own pile of technical papers including a copy of the Transactions, a bottle of whisky, and two low glasses one containing ice.*

*Of course the papers and notes conceal the script.*

## Introduction for CSS birthday:

**Bob:** Bonsoir mon vieux complice. Michel, I saw your billiard cue in the rack and knew that you would be here. We need to work on Marie-Antoinette's new paper dealing with Remodulated Dampening Fields. So I brought my notes and some *Mazout* to share. I need a drink.

*Throughout, both Michel and Bob continually check their notes and shuffle their papers.*

**Michel:** You mean you *deserve* a drink. Just turned 60 if I'm correct, right? Good reason to celebrate, young man. I can't even remember when that happened to me.

**Bob:** Yeah, 1954 is when I hit this planet. And you know what? It seems like lots of people we know were born that same year. Like Toshi Sugie, Angela Merkel, Hugo Chavez, John Doyle.

**Michel:** John Doyle, who cares? You know what I found out yesterday? The IEEE Control Systems Society was born in 1954 as well. Sit down mate. This really *deserves* a stiff one. We'll send them the bill.

**Bob:** CSS is sixty! It seems only yesterday that the Executive Committee was trying to develop a policy on dirty jokes being told by the Society President.

**Michel:** Oh yes, this happened after Hal Sorenson had been telling those off-color one-liners at the 1982 CDC banquet. I knew them all, of course, from elementary school. So nothing learned except for the icy reception that they received.

*Pause briefly*

**Bob:** Remember the one about 'A physicist, a philosopher and a control theorist walk into a bar ...'?

*Sniggers*

**Michel:** *sniggering too:* You are shocking Bob.

*Waits a few moments.*

I really liked the one about 'doing it with observers.' At least that was clever and not just smutty.

**Bob:** Yes, that one was OK by the standards of the time, but you couldn't get away with that today; too many wower

bastards and thought-police. Bugger me with a barge pole. There's no way we could be on stage and talk about such things. I suppose we do find ourselves in this new age of political correctness and sensitivity. It's not a bad thing either, I guess.

**Michel:** Do you reckon that the Control Systems Society has always had problems dealing with itself, kind of like a pre-pubescent twelve-year-old?

**Bob:** Sure, it's always been a question of image, positioning, reputation, competition. We had to be the best, the most selective, *la crème de la crème*, an almost inaccessible fortress whose entrances had to be protected by the guardians of the purity of control theory.

**Michel:** And who were those guardians, Bob?

**Bob:** The Information Dissemination Committee.

## Information Dissemination Committee

**Bob:** Apparently George Axelby, the first TAC Editor had a *Paper Study and Procurement Committee*. But it turned out that Procurement was illegal in thirteen states.

**Michel:** I know... (You are lost in your notes.)

**Bob:** So they changed the name to the *Information Dissemination Committee*.

**Michel:** Oh, I know...

**Bob:** This was at the height of the Cold War, so the whole atmosphere was very much influenced by Soviet-style vocabulary.

**Michel:** I know, I know...

**Bob:** So IDC was the forerunner of the Editorial Board of the TAC and of the Technical Activities Board of CSS. Very Stalinist/Orwellian in its title, but just a bunch of do-good amateurs bringing their own predilections, persuasions and perversions to the technical side of CSS for many years.

**Michel:** Oh yes, I know...

**Bob:** Back in those days, the IDC discussed every single paper, accepted or not. This took a very long time; the lead editor would present it and the rest of the IDC would discuss it and make a decision. Mike Sain, Lucien Polak, Roger Brockett, Tim Johnson, Al Willsky, Petar Kokotovic and others of note from old TAC inside covers.

Wise men, because the CSS was too stupid to have wise women at the time.

**Michel:** I know, Basil, I know...

**Bob:** Bob.

**Michel:** Err, yes, Bob, I know...

(*Michel is paying attention again.*) They reckon that in the 1970s, the big guns of control each had their specific function on IDC.

Jan Willems and Roger Brockett were the guardians of the faith; the tough bastard goalkeepers who stopped the riffraff.

Lucien Polak was able to argue so specifically and densely that nobody else could keep up ... but it sounded logical.

Mike Sain, a future Transactions Editor-in-chief, was so well prepared that no-one else stood a chance.

They reckon that Marvel Comics got the idea for superheroes, each with their own special powers, from the IDC.

**Bob:** But Mike Athans and the MIT crowd had been pushing the envelope at the IDC for many years. They had been staging a denial-of service attack on the IDC even before the internet existed. Back in the early 1970s, the large MIT group was submitting a huge number of papers for the Transactions. With all of those MIT papers, Len Silverman suggested that MIT be entitled to the *Bulk Rate*, where discussion would be limited to the total amount appropriate to that one institution. While a great suggestion, it was never implemented.

**Michel:** And you, Bob, were you ever a member of the IDC, or are you too young for that?

**Bob:** I was the Technical Committee Chair for Adaptive Control and Robotics, which meant that I had lots of papers on Adaptive Control. I started out on the Information Dissemination Committee but I ended up on the Transactions Editorial Board. Communism was on the decline and Boris Yeltsin was just a young dancer in leotards.

**Michel:** At the time, the executive positions on the CSS were almost entirely held by US members, just as in most other IEEE societies. Were you the first non-US member on the IDC?

**Bob:** No, this specific position on the IDC has an interesting history. Graham Goodwin was the first non-North American to take a position on the IDC – a conscious effort to internationalize. This must have been 1978. They chose Graham because he was in Adaptive Control and a trustworthy technocrat. This process was repeated, with the first European editor Gerhard Kreisselmeier in 1981. Then in 1984 the international system broke down and Howard Elliot from UMass took the Adaptive position but then had to leave due to ill health later that year and it was passed to me, another bloody Aussie doing the Adaptive Control rotation.

It turns out the Adaptive Control atmosphere in the US was too poisonous to engage a North American and the internationals were introduced as moderators, rather like cadmium rods into a nuclear reactor; just dumb bastards with slow neutrons, or maybe slow neurons.

**Michel:** I know, this is a very touchy subject, Bob, which could put us in real trouble. I wouldn't be surprised that there are microphones around the place. So let's not mention it until they have been cut off or at least half the the club membership has fallen asleep.

So, as I understand it, Bob, with every member keeping a watchful eye on the recommendation of every other member, IDC was there to make sure that nothing too controversial would hit the floor. Every result had to be fully proved, rubber-stamped, and approved by the guardians. Did that last forever?

## *Industry papers*

**Bob:** No. Something happened. I recall the Control Systems Society in the 1980s, when the outfit was run out of Urbana-Champaign. The Society had a real inferiority complex and felt that nobody loved them, most especially themselves. This must have been their teenage years. They were so concerned that the interstitial competition in Control was so strong and personal that they became preoccupied that tearing each other's work apart did not really promote the field.

**Michel:** Oh yes, people were worried that all the NSF money would be given to Operations Research simply because those guys were always very supportive of each other, while the Control people tore each other to shreds.

**Bob:** In fact, I remember being at Illinois in 1985 when Vidyasagar, then at Waterloo, was planning on delivering a talk at CDC on Robotics as the great future. People were running scared that this would mark the end for us, control theorists. Kameshwar Poolla, who was just a young punk postdoc at Illinois at the time, somehow got a hold of Sagar's talk. So, many of us - Petar Kokotovic, Joe Cruz, Bill Perkins, PR Kumar, Tamer Başar - got together in a powwow to plan defensive actions. It was all very introspective and paranoid.

**Michel:** Did you guys manage to change Sagar's mind?

**Bob:** No. In the end, we went down to Fort Lauderdale for CDC and Sagar's talk was unaltered but well received. Mike Polis, the NSF person was there for the evening presentation. But the wheels did not fall off Control nor Control funding. We lived to fight another day.

So nowadays the Control people strut around like Lord Muck secure with their place in the world and behaving as if everyone loves us .. or at least needs us. Feckless bastards!

**Michel:** That's right! I remember the same thing happening with *Industry doesn't love us!* Inside, we all know just how noble and good we are. But there were never any papers about glorious industrial applications in the Transactions on Automatic Control. In the 1970s and 80s, CSS editorial people were moping about and tearing their hair out over this. Many lunatic schemes were launched and failed.

**Bob:** The problem was identified as stemming from the dearth of submissions of papers for consideration. Aha! Industry people needed to protect their secrets and not crow about them in journals. A drive was launched to solicit industry papers with promises of non-dimensionalizing all the graphs and anonymizing all the secret product names and new capabilities.

A few industry papers trickled in.

**Michel:** So we crucified the bastards because there were no proofs. We could not publish material just because some industry guys got lucky and managed to get their application to work. We had standards to protect.

**Bob:** Next we introduced Editors-at-large – larger than life figures capable of discerning the frivolous from the magnificent and helping provide an avenue to publication for the best industry papers. Still, few arrived and were tossed out for exhibiting too little finesse in L<sup>A</sup>T<sub>E</sub>X.

**Michel:** So we tried Special Issues on relevant topics with carefully chosen Guest Editors. No luck there either! Nothing really changed.

**Bob:** Then in 1993 the IEEE Transactions on Control Systems Technology starts and we are drowning in applications papers. Who knows what happened? I think that it was the Automatic Control Proof Mafia who was stopping the publication all along.

### *Neuro-fuzzy - nobody loves us*

**Michel:** But did that really improve the image and relevance of our Society within the broader IEEE?

**Bob:** Not really, Michel, and that became an obsession. There never has been a Control story in *IEEE Spectrum* and especially in the Technology Quarterlies. It is always full of devices, power systems, computers, robotics. Does nobody love us? Let's push to have even just one Control article in Spectrum. A committee was formed with Gene Franklin, Tim Johnson and others to achieve this. The result was a bit part in a fuller story about robotics and computers. Nobody remembers when that happened.

**Michel:** "So, what is worse than *not* having a story in *IEEE Spectrum* about Control?"

**Bob:** "Having a story in Spectrum about *Nero-adaptive-fuzzy intelligent control* appear from left field and written by someone we did not know."

The response was anguished in the CSS. We decided to have the paper reviewed, just so we could stomp all over it in the privacy of our editorial process. I was one of the reviewers, pushed into this by Robert Kosut, and so wrote an inflammatory letter to Control Systems Magazine which earned me praise in private and flames in public. Such is life. That's a dying quote of Ned Kelly, you know.

**Michel:** It was horrible dealing with the sole appearance of Control in Spectrum as a hokey article about the neuro-fuzzies. Total shame. As far as I know, you characters achieved only one thing from this; Lotfi Zadeh has a quote from you about Fuzzy Control on his introductory slide: "Idoltrous claptrap"

I suppose any kind of fame is good, hey Bob?

**Bob:** You would have to reckon that it was a fair cop. Nobody but a pommy or an aussie will understand that, which is OK.

Talking about fame, why is it that you and I have worked our guts out, climbed the greasy pole, saluted every flag we saw, put our asses on the line, put-up with public mockery, humiliation and ridicule for all these years, and we've never been able to achieve anything like the deserved fame for our illustrious co-author Marie-Antoinette?

### *Marie-Antoinette Poubelle*

**Michel:** Oh, Marie-Antoinette Poubelle! She was a real devil, but so bloody smart. The thing that I remember the most from CDC in Athens in 1986 was you, me and Marie-Antoinette Poubelle working on the FARTS paper at the Temple of the Olympian Zeus.

**Bob:** Yes the FARTS paper: *Fake Algebraic Riccati Techniques and Stability* in small caps. I remember it well. It appeared in the Transactions in 1988. One of my most highly sniffed out papers.

**Michel:** You may remember, Bob, the reason we did this paper was that Marie-Antoinette was rather upset that her previous paper in the AC Transactions of 1986, had not ensured her the international brand recognition that she thought she deserved, as a young and very ambitious post-doc. This one certainly made her rocket to stardom.

**Bob:** Yes, a sudden burst of fresh, warm air, as pointed out by reviewer Alan Laub, made her rise and rise. But remind me, Michel, how did we know that Alan was a reviewer?

**Michel:** When we wrote the FARTS paper, I remember suggesting to the Editor that Alan Laub be one of the reviewers. "Far be it from the authors' prerogative to suggest reviewers to an editor, but in this case we do know that Alan Laub has a special interest in Fake Algebraic Riccati Equations." we said and they took the bait.

Alan had been stand-in Editor-in-chief at the Transactions Editorial Board in Athens. Real Editor-in-chief Abe Haddad boycotted the event because of the TWA hijacking that year. So Alan was running the meeting where both of us were present. We introduced him to the Fake Riccati Equation and to Marie-Antoinette there. He was particularly impressed by her coming into being as a response by the gods angered by mankind's vanity as displayed in the auto-biographies in the Transactions. They ran for pages, while the authors were told to cut out the proofs.

**Bob:** I remember that Marie-Antoinette was a real devil for neologisms. Didn't she invent the control systems concept of *detestability*?

**Michel:** Yes. She also coined several new words. There was the *Poison Process* which is a stochastic process used to choose the order of the authors of her papers. She invented a new word to describe two lemmas dealing with related topics – the *dilemma*.

**Bob:** Indeed, and so when the FARTS paper was accepted by the AC Transactions half a year after the CDC in Athens, we had received this glorious review which could only be from a man as educated as Alan Laub aided and abetted by his bloody aussie colleague Ian Rhodes. Upon reading his review we suggested to the CSS that one should create a Prize for the best review of the year but, for some reason, this idea was never accepted. Today is the day to redress this error of our Society, and pay tribute to Alan's and Ian's creativity. I am sure you keep this 27 year old review back in your wallet, Michel, why don't you remind me?

**Michel:** Good thinking, Bob. I'll get the little sucker out of my wallet.

Making a review public in a gentlemen's club! Are you sure this is protected by the First Amendment? Will they still let me publish in the Transactions? OK, perhaps I'm old enough to take the risk. So here it is, Bob:

*This Technical Note extends some recent work of Poubelle et al. and presents some more monotonous properties of*

*Fake Algebraic Riccati Equations while relaxing some earlier conditions, particularly pertaining to detectability, which the authors apparently found to be rather distasteful. The results appear technically correct and the algebra's quiet sound.*

*Even if the authors' names were (as indicated) chosen randomly (incidentally, the word Poisson looks "fishy" and we assume should read Poisson), the mark of the redoubtable Mlle Poubelle as principal authoress is evident from the liberal sprinkling of Gallic phraseology throughout the paper. One might be tempted to suggest that her writings bring a welcome breath of fresh air to the control literature, though a paper concerned with Fake Algebraic Riccati Techniques is perhaps not the most opportune choice for making this analogy.*

**Bob:** So did she ever manage to get her autobiography in the Transactions?

**Michel:** No, she published in the Transactions and in Systems & Control Letters but never as a full paper. So her story remains largely untold. However, the little piece of information that transpired about her is her ever-changing affiliation. In her AC Transactions papers, she was said to be at the Australian National University, on leave from DGSE. The surprising thing is that the Editors never asked her what the DGSE meant, which is of course the French secret service: la Direction Générale de la Sécurité Extérieure.

**Bob:** Yes, I remember that this lack of curiosity really surprised us. But by the time she published her third paper called "How exciting can a signal really be?" in the Systems and Control Letters, she had moved, right?

**Michel:** Yes, by that time she was at TITS, the Turrumurra Institute of Technological Sciences, in the suburbs of Sydney. At the ANU in Canberra we had a long-time collaboration with TITS. Nevertheless Jan Willems, who was Editor in Chief of Systems and Control Letters, got mildly but gently suspicious; so he asked Marie-Antoinette to send him a copy of her passport, which she happily provided.

**Bob:** After the eighties she kind of disappeared from the scene, didn't she?

**Michel:** Yeah, I've lost track of her as well. Last I heard she was still in jail in New Zealand. But she had several followers and lovers. I do know that one of her many lovers, A. Mayalar Baksho, did publish a full paper in Automatica with Rick Johnson and Soura Dasgupta. His autobiography is primarily dedicated to Marie-Antoinette, whom he presents as his de-facto although we cannot confirm that this was reciprocated.

**Bob:** I heard that she did a lot of reciprocating over the years.

**Michel:** But later on there was competition from a Tom Beron, who published a paper in the IEE Proceedings with Petre Stoica, and who also pretended to be Marie-Antoinette's de facto. But I have my doubts about these fellows, Bob; you know, I did some investigation: A. Mayalar Baksho means *garbage bin* in Bengali, while Tom Beron means the same thing but in Romanian. You can't really trust these mongrels.

**Bob:** In the end, we owe a lot to Marie-Antoinette, Michel. More than 110 citations according to Google Scholar; of

course, we don't believe in citation counts, but some sad bastards do.

**Michel:** You are absolutely right, Bob. I believe we owe some of our fame in the CSS to her. But this pales into insignificance, if I may say so, in comparison with what we achieved in 2004 by forcing the IEEE to recognize that it was a scientific and not a political organization.

### *The Axis of Evil story*

**Bob:** Oh, I see what you mean: the Axis of Evil story. I remember that time when the Control Systems Society was the intellectual leader of the pack in IEEE.

It all started In 2003, when George W. Bush invented the Axis of Evil. He ordered all American businesses to refuse to provide services to those scumbags from Cuba, Iran, Libya and Sudan.

**Michel:** So far none of our business. But just before the Hawaii CDC in 2003, you alerted me, Bob, that IEEE President Michael Adler and the Board of IEEE had decided not just to abide by the orders of G.W. Bush. Almost unbeknownst to most of us, services had been cut off to the IEEE members of these 4 countries in precognition of an executive order. No member rate for attendance of our conferences, no permission to publish in our journals, online access to IEEE publications was cut off. I had been working hard, as chairman of the International Committee of CSS for many years, and later as Vice President for Member Activities to make our Society truly international, and it had really become international. So this was a severe blow to the principles of an international scientific institution.

**Bob:** So what did you do, Michel?

**Michel:** During the CDC in Maui, a group of us, all of whom IEEE Fellows by the way, decided that we could not let this happen. We agreed on the text of a petition. And as soon as I got back to Belgium, I started sending out emails to IEEE members. I started off with our own Society; Pradeep was a big help, as always. Let me just say in passing, Bob, that if we had not had Pradeep in our Society, we would have had to invent him, to quote Voltaire. Actually, I'm sure our incoming President, Maria Elena Valcher, would have been responsive to that idea.

I got a great response from CSS members; most of the IEEE Fellows from our Society signed the petition.

**Bob:** I remember that I was outpaced by my daughter Naomi, a junior IEEE member, who signed the petition before me.

**Michel:** Then I turned to the other Societies, and to the local Chapters. Every evening I would send a few thousand emails, getting in touch with Society after Society, Chapter after Chapter, copying email addresses from their webpages when I didn't get the list from the presidents. An excruciating job. After several weeks, I had sent way over 100,000 emails. I was getting lots of supportive responses, but also some very nasty threats: my details were sent to the Homeland Security Office; I would never be allowed again in the US.

**Bob:** Did you get any reaction from the IEEE ?

**Michel:** Sure, the new IEEE President in 2004, Arthur Winston, tried to persuade me to stop. He pretended that IEEE had no choice, being established in New York: they had to follow the instructions of OFAC, the Office of Foreign Assets Control. But of course, that was entirely false.

**Bob:** How did you know?

**Michel:** By that time, I had been flooded with information from US members of IEEE and also from members of other scientific societies. I had learned that all the major US scientific societies like the American Mathematical Society, the American Physical Society, the American Chemical Society, and others had replied “nuts” to OFAC, no matter that they were American societies and IEEE was international. Some cases had gone to court and I had received the court decisions, all in favour of the freedom of information.

**Bob:** This must have put the IEEE in an awkward position.

**Michel:** Yes, because these other societies were also putting pressure on the IEEE to join them in their opposition to the OFAC-imposed embargo. In addition, by February - March 2004 the whole dispute between the IEEE and many of its members had drawn the attention of the press. I remember one 2-hour phone call I got on a Saturday afternoon at home from a journalist from the New York Times. As we were talking, I was sending him information, articles, court decisions, online by email. He was very grateful.

**Bob:** And how did it all end?

**Michel:** In September, just before the start of the membership renewal campaign, I told the IEEE President that our group of self-declared internationalist provocateurs would recommend to the membership not to renew unless the IEEE ceased its embargo against the so-called criminal citizens of those four countries.

**Bob:** So you attacked them where it hurt most: the money. How devious.

**Michel:** Yes, and it worked. They lifted the embargo.

**Bob:** Great, and what really matters is that CSS took the leadership role in this campaign and has been the hotbed of IEEE resistance ever since. That’s why CSS has so few IEEE Fellows or society-wide prizes. Mission Control hates us!

**Michel:** But you see, Bob, there is no rest for the wicked. That’s what either God or George W. Bush said. I forget which it was. Might have been Henry Kissinger.

### *Making money story – amateur control engineers*

**Bob:** Life has not always been so rosy for CSS. In the 1980s, the society was faced with dire financial problems and needed to be imaginative and not just economical. The anxiety was so great that the CSS President, Ted Davison, decided to go public: he revealed the exact numbers in an Editorial in the AC Transactions. Listen to this: CSS had been used to making some reasonable profit out of its publications activities and Conferences, thus generating a yearly surplus. But in the 3 years before 1983, the surpluses turned negative. Yes, Michel,

a negative surplus, something entirely new for the Society. The situation required “urgent attention”, to quote Ted’s editorial.

**Michel:** So what did they come up with?

**Bob:** First the classical things: a rise in membership fees and a reduction in the page numbers, the selling of first-born children for medical experiments.

**Michel:** Did that solve the problem?

**Bob:** Surely not, mate, that wasn’t enough. So someone came up with a grand idea. “We can’t all make a living opening doors for each other.” So let’s produce a cumulative index for TAC and sell it to the libraries (Bastards!) for a profit to lift us out of the financial mire. A cumulative index would be of such value that the rat mongrel librarians would have no choice but to buy it for top dollar.

**Michel:** Clearly the stroke of a genius. But wasn’t that gonna cost a lot of money to produce?

**Bob:** Yeah, they knew it was gonna cost a packet to get this done properly. “But think of the money we will make”, they said. “This is an investment in the future.”

But how do we get a copy to the members without them having to pay extra? Bright idea: make it a part of a regular issue of the Transactions then the member will get it for free.

**Michel:** You beauty. Great Idea!

**Bob:** *Rap this à la Kanye West*

Until the realization way overdue ...

if the cumulative index is a regular issue ...

then all the subscribers will receive their revue ...

and that would have to include ...

the libraries would get it for free too.

**Michel:** You been channeling Kanye West?

**Bob:** *(ignoring Michel’s comment.)* Major bummer! There was total net negative return on this “investment.”

**Michel:** Bad luck, but in the end, you know, Bob, they did manage to get back to positive surpluses and the reserves, which had dwindled down to \$54,000, started rising again. But actually, these CSS guys proved to be really poor control engineers. They discovered the concept of overshoot. No, not just overshoot, but huge overshoot, something like a financial bubble about to burst. By the time I got onto the CSS Executive in 2000, the surplus had reached a staggering \$3.9 Million. And believe it or not, Bob, there was sudden panic.

**Bob:** Panic, but why ?

**Michel:** Because the word came down from our President that IEEE headquarters in NY had suddenly taken note of this huge amount of money. And they wanted to tax it. Tax it, Bob, imagine, the un-American word par excellence....

**Bob:** So what happened?

**Michel:** For one thing, a number of members of the BOG, including myself, had been very vocal for a few years in saying that this money should be returned to the members by offering them more services or diminished costs. I had proposed that we start a program of support to members from developing countries to make it easier for them to attend our conferences.

**Bob:** And what was the response to your proposal?

**Michel:** Man, handing out money to people. You must be crazy. This is a bit like IEEE CSS starting a foodstamps

program. We just don't do these kinds of things. And think of all possible abuses. People receiving their check in Pakistan or Venezuela, and then not showing up. How are we going to recover the money? So my proposal was defeated by the BOG, even though it did attract sympathy from a substantial minority.

**Bob:** So was that the end of it?

**Michel:** No, Bob, I was saved by the threat of the tax. A year later, the mood had changed completely: we must spend the money of our huge reserves before IEEE takes it. So the program was passed. It was one of my proudest achievements in the Society.

**Bob:** And you know what now Michel ....?

I am the incoming CSS Vice-President for Financial Activities. And I am planning on buying shares in Gazprom just to diminish the financial overburden. It is the least I can do.

**Michel:** Good grief, does anybody know you are taking over Finances? Should I not alert Maria Elena? They don't really know what you are up to, Bob. I have known you for 30 years.

**Bob:** Don't let anybody know, Michel. It's all been done behind closed doors.

## *Adaptive Control Wars and Transactions Control Wars*

**Michel:** Now Bob, don't you find this conversation a bit boring? We've been talking about the Information Dissemination Committee, about the image problems of the Society, about George W. Bush of all people, about financial problems (*said in a completely disgusted tone*), but except for Marie-Antoinette's Fake Riccati techniques, you haven't told me anything about the essence of our Society: *control*, man. Has really nothing exciting happened over all these years on the technical side?

**Bob:** Are you sure you wanna know, Michel? I remember all kinds of hassles in the Control developments over the years, which inspired great angst and grief all round.

As a person who devoted a serious part of their career to adaptive control, I am happy to say "Adaptive Control has been a tremendous waste of paper." Back in the late 1970s it was the hotbed of envy, lust, and jealousy.

The race to prove almost sure global convergence was ill-mannered and unduly badly behaved. The paper by Goodwin, Ramadge and Caines with its "Key Technical Lemma" eventually made its appearance on the stage along with the suspicion of editorial shenanigans.

**Michel:** Oh, yes, the famous "Key Technical Lemma"; I remember, for a few years thereafter, every paper had to have a "Key Technical Lemma".

**Bob:** You are absolutely right. It became a famous 3-letter word: the KTL here, the KTL there !! Anyway, the gods eventually smiled on these characters by this paper being identified as one of the 25 most important papers ever on control. But it appeared in the Transactions as a Short Paper ... and we know what that meant.

**Michel:** Oh no! No auto-biography!

**Bob:** Too right mate. So nobody has ever heard of Goodwin, Ramadge or Caines ever again.

**Michel:** That's not true, Bob. I know them really well. Actually I have met them many times thereafter. In fact, I met Peter Rampage just yesterday.

**Bob:** The story continued in adaptive control with the appearance of a Young Turk, roarin' Charlie Rohrs and the MIT triads led by Mike Athans, Gunther Stein and Lena Valavani. At the CDC in 1981 in San Diego, at every adaptive control paper, one of the four would harangue the speaker and ask "What does this say about unmodeled high-frequency dynamics?" They attacked all the speakers this way.

As luck would have it, Charlie's own paper was in the last session on the last day, Friday. The big guns were out looking for trouble; Kokotovic, Anderson, Narendra, Pearson had their sidearms with the safety off. Women and children were off the street as Charlie approached the overhead projector - this was the days before PowerPoint you understand.

The pointed questions flew thick and fast:

**Michel:** That's an example, not a counterexample!

**Bob:** Don't you understand the passivity condition?

**Michel:** What about leakage and projection?

**Bob:** What's love got to do, got to do with it? [Tina Turner was there too.]

**Michel:** What a mess! At least Karl Åström came forward two years later in San Antonio and set us on the path to averaging.

**Bob:** Yes, what a contribution that was. We published the 8-author book three years later.

**Michel:** Yes, those were the days. I remember that CDC in 1981: "I went to a fight last night and an Adaptive Control session broke out!"

But this was just the calm before the storm, wasn't it Bob?

**Bob:** Indeed. Mike's shadow was long. He continued to have a significant influence over the IDC deliberations for decades. I remember coming onto IDC in 1984 with people like (MIT guy) Al Willsky. The fallout from the Goodwin-Ramadge-Caines debate and the Rohrs-Athans-Valavani-Stein brouhaha was still coming down when The Athans Reforms were delivered.

An extra layer of Editors-at-large (I am certain that Mike modeled this title on himself) was created to assist the more junior Associate Editors to reach an informed and intelligent opinion. With minor variations, this is what we still have today and was, itself, a transplantation of the Automatica system. I started on IDC and finished on the Transactions Editorial Board.

The trouble is that, just as this major structural realignment took place, two things happened:

– Adaptive Control went quiet,

– and the workload of the editors increased.

So the time available for picking fights and egging people on from the sidelines had decreased.

As a person who survived the process, it all seemed revolutionary and reactionary at the same time. Plus ça change,

Michel ...

**Michel:** Plus ça reste le même, pauvre connard.

I know of another battle in the Transactions editorial land connected with some kid called John Doyle's first ever Transactions paper. It had to deal with *Guaranteed margins for LQG regulators* and the editors had no end of intrusive desire to fiddle with the abstract.

**Bob:** The initial version was "No?"

**Michel:** A one-word abstract was unacceptable.

**Bob:** Then "Fuck no."

**Michel:** There is no need to be coarse.

**Bob:** Then "Ain't none."

**Michel:** Poor grammar.

**Bob:** Then "There are none." as published. What a damp squib of an abstract.

Those editorial bastards at IEEE do not understand the economy of language that is poetry, bloody mongrels.

**Michel:** Lack of culture, Bob, lack of culture. No taste for the sublime, but no reluctance towards bad taste either. Remember, in 1984 they organized a CDC in Las Vegas, sin city as the Pope would have called it.

**Bob:** That would have been Pope John Francis XXIV, wouldn't it?

## 1984 CDC in Vegas

**Bob:** Ah, CDC in Las Vegas.

**Michel:** There were very many low-rolling hucksters in the Control Systems Society who seemed hell-bent on having CDC in Las Vegas; Disneyland for grown-ups. By 1984 they had succeeded and the CDC was held in a giant Hilton Hotel in Downtown Vegas, a code word for the part of town well off the strip. It took us an hour to check in; the line was dominated by just regular folks and not Control people, at least this early in the week before the movers and shakers arrived.

This venue was huge with a tower block of hotel rooms and the catacombs of technical session rooms separated by a football field of gaming tables and slot machines.

**Bob:** Yes, you are right. I traversed that long walk between hotel room and technical session many times during the week. To occupy my time I conducted an experiment in Stochastic Control.

Since I was walking past so many slot machines, I decided to look at every screen of every machine which was not being actively played to see whether the machine had a winning combination. That would mean that someone who had been playing the machine had won and then left immediately with their winnings but without taking an extra turn to lose before departing.

In the whole week – remember this was my first IDC meeting – I saw that winning combination on an unoccupied machine only once. That was when I did it. I hit a winning score and then left with my money.

I was explaining this to Boyd Pearson, the CSS President at the time, and he said: "Bob that is just really bad manners to leave a machine like that. You bring shame and dishonor on Control Systems Society."

**Michel:** I thought that he would have known that you were working in the name of Science.

**Bob:** Me too. The thing that not so many people know, including the author Brian Anderson, is that two of his papers in CDC 1984 contained quotes from Hunter S. Thompson's *Fear and Loathing in Las Vegas*.

**Michel:** Oh come on Bob. Brian would never read Hunter Thompson.

**Bob:** No, go check: at the bottom of page 997 of the proceedings.

*If Charlie Manson checked into the Sahara tomorrow morning, nobody would hassle him as long as he tipped big.*

Then at the end of page 1291 it says  
*We're right in the middle of a fucking reptile zoo! And somebody is giving booze to these fucking things. It won't be long until they tear us to shreds.*

**Michel:** Now that really does sound like an Adaptive Control session at CDC in 1984. And you say Brian wrote this?

**Bob:** Actually, it was Rick Johnson and me. I was on sabbatical in Cornell and explained to Rick that there was no way I would share a room with him at the Vegas CDC until he had read Hunter Thompson. He would not understand nor appreciate the place.

So we went to the Cornell Bookstore to look for a copy. No luck. Then we got into the car and drove to Pyramid Mall where there was a Waldenbooks store. We strode up to the Fiction section and looked under T. Nothing. Eventually, the sales clerk came over and offered to help:

"We are looking for *Fear and Loathing in Las Vegas* by Hunter S. Thompson and can't find it."

"Oh," he says "of course not. That's in Sociology."

**Michel:** : You know Hunter Thompson made a request in his will for his ashes to be fired out of a cannon at his funeral and that Johnny Depp paid for this and John Kerry attended the firing of the ashes. Don't you think that, at this age, the Control Systems Society should be thinking about its will?

## DÉNOUEMENT

**Bob:** Jesus mate, they're still too young for that. But I reckon on the whole the IEEE Control Systems Society has been doing all right for sixty years old. When I turned 60, the bastard medical profession made me go and have a colonoscopy. I think you had the same bitter experience, didn't you?

**Michel:** Yes, the worst part of turning sixty was the colonoscopy.

I reckon that at sixty years of age the CSS needs a colonoscopy too.

**Bob:** No mate, that would not really be feasible.

**Michel:** Why do you say that?

*A moment passes.*

: *Bob raises his finger then after one second.*

**Michel and Bob together:** Too many assholes!