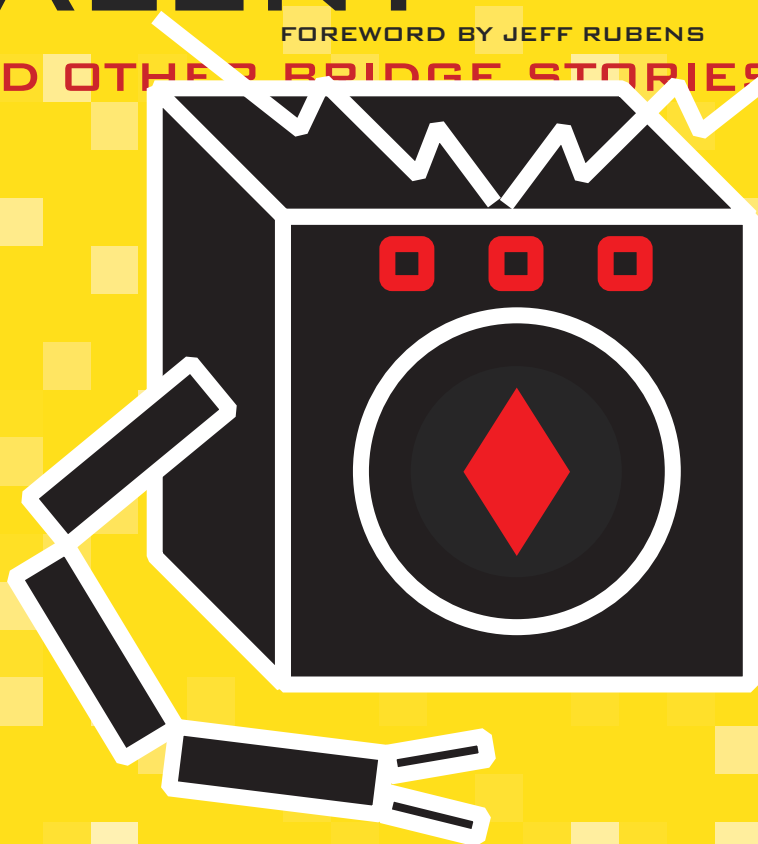


THE PRINCIPLE OF RE- STRICTED TALENT

FOREWORD BY JEFF RUBENS

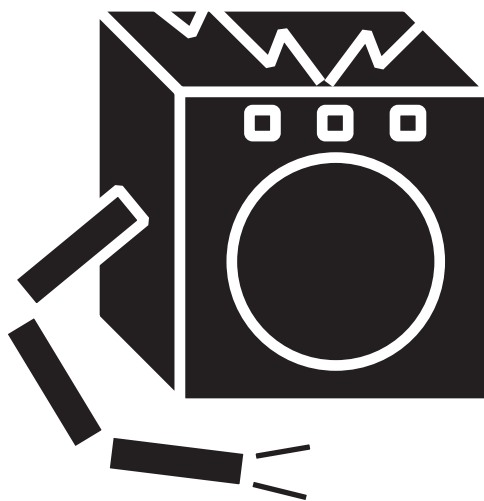
AND OTHER BRIDGE STORIES



DANNY KLEINMAN
& NICK STRAGUZZI

THE PRINCIPLE OF RESTRICTED TALENT

AND OTHER BRIDGE STORIES



DANNY KLEINMAN
& NICK STRAGUZZI

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NS: To Mary Beth, Amy, John, and Scott

DK: To Nicole and Joy Winkle

INTRODUCTION

Chthonic made his debut in *The Bridge World* magazine in December of 1994 with ‘*The Interloper*.’ Five more tales followed in quick succession. Then, silence. Nothing further was heard from the rebellious robot until ‘*Zero Tolerance*’ appeared in the October, 2000 issue. We are often asked the question: ‘What were Chthonic and his colleagues at the Orttman Foundation doing in the interim?’ The story can now be told:

Caught up in the dot-com fever of the late 90s, Dr. Frederick O. Orttman, Ph.D., spun off a startup that sold portable exercise equipment to touring bridge pros. Driven by the promise of lucrative stock options, Mike Barton and Marty McClain put in 80-hour workweeks as the webmasters, while Chthonic was converted into the main e-commerce server. This division of labor proved to be the company’s undoing, as visitors to www.OrttmanFitness.com were mysteriously informed that although their purchases might improve their muscle tone, their bridge game was utterly beyond repair.

When the Internet bubble finally burst in 2000, a poorer but wiser Team Orttman returned to the Foundation and picked up where they’d left off five years earlier.

Fifteen of the twenty-one stories you are holding have appeared previously in *The Bridge World* and are reprinted here with permission, with a few minor changes. For example, we waited nearly ten years to fix an annoying continuity error in ‘*To Squeeze Or Not To Squeeze*’. Now that this book has been published, we can sleep easier.

The remaining six articles are in print for the first time. Well-traveled readers might find a couple of the deals familiar. For example, the climactic board of ‘*The Virtual Machine*’ was recently used as a ‘*Kantar For The Defense*’ feature in *The Bridge World*. Danny, in a

homo sapiens moment, completely forgot that he had given the problem to Eddie Kantar to use many years earlier.

Similarly, the final deal of ‘*A Beautiful Mind*’, with its remarkable cannibal squeeze/transfer squeeze ending, bears a striking resemblance to a coup described by Geza Ottlik and Hugh Kelsey in their 1979 classic, *Adventures In Card Play*. Our version arose at the Cherry Hill (NJ) Sectional tournament in January, 2003. Incidentally, declarer failed to make three notrump at the table because he cashed a second round of diamonds before throwing West in with a spade, thus causing dummy to be squeezed before East on the fifth round of spades. See what happens when you don’t read the classics thoroughly enough?

Because of innovators like Thomas Throop, Matt Ginsberg and Hans Kuijf, computer bridge programs have made great strides over the past twenty years. But bridge remains stubbornly difficult for machines to master. ‘*The Deep Blues*’ attempts to explain why. And yes, the curious final deal really did arise in Philadelphia in 1996, with Nick serving as the dummy (where his partners unaccountably prefer to keep him).

We have many people to thank, but none more deeply than Jeff Rubens and the late Edgar Kaplan of *The Bridge World*. Our appreciation also to Fred Gitelman, Barry Rigal, Samantha MacDouglas (yes, there is a real one and she is a fine bridge player, though not as rich as her namesake), Bob Browne, Douglas Newlands, and of course Ray and Linda Lee of Master Point Press.

Will there ever be a Chthonic in our lifetime? Probably not. Chess, checkers and backgammon have been overtaken by our silicon cohorts, but humans will retain their superiority at the bridge table for many years to come. The next time your computer crashes or hangs or otherwise gives you trouble, just show him a deck of cards. That will teach him who’s boss.

D.K. & N.S.
July, 2004

FOREWORD

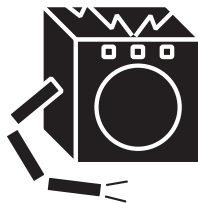
Some dedicated souls spend their lives searching for things that are hard to find: a four-leaf clover, a hitherto unknown work of a master, a winning lottery ticket. For the editor of *The Bridge World*, the holy grail consists of humorous pieces that meet the exacting general standards that readers demand of the magazine's articles: technically sound bidding and play, deals of interest to accomplished or improving players, and a high ratio of bridge to total content.

Anyone who has suffered the frustrations of a seemingly endless pursuit can imagine my increasing pleasure at receiving not just one but a series of delightful submissions revolving around Chthonic — don't worry if you can't pronounce it; all will be made clear soon enough — simultaneously the world's strongest and most obnoxious bridge-playing computer. The articles collected here met my criteria, and then some.

It seems that nothing, in or out of bridge, is safely out of range of the computer-generated shafts of ridicule (nor the shafts of light that the machine shines on shadowy card-play conundrums). As a group, these episodes provide not only a great deal of entertainment and bridge enlightenment but also a useful reminder not to take ourselves too seriously.

Jeff Rubens
July, 2004

1



THE INTERLOPER

‘Intelligence is no longer the sole domain of mankind,’ boomed Frederick O. Orttman, Ph.D., noted founder and director of the Orttman Foundation for Scientific Advancement. ‘An interloper has arrived on the Elysian fields of high human intellect. He has bartered neurons for wire, carbon for silicon, DNA for a network of neural optronics. His visage, cold and soulless, terrifies those puny minds that fear the eternal match of technology. He...’

In the gallery, eyes were glazing over at a frightening rate. The white-haired British lady on my left noticed the Orttman Foundation logo on my nametag. ‘Good heavens,’ she said between yawns. ‘Does he always talk this way?’

I slumped in my seat. ‘Ma’am, he’s not even warmed up yet.’

We were in Edinburgh for the International Joint Conference on Artificial Intelligence. Our boss, the inimitable Dr. Orttman, was in his glory. He was addressing a packed auditorium of scientists, engineers, philosophers and free thinkers from around the globe. They had come to see a demonstration of Chthonic, the Foundation’s

famous bridge-playing robot.

‘... A machine has tasted the forbidden fruit,’ continued Orttman, dramatically reaching out to pick an imaginary apple, and knocking over his water glass in the process. ‘In Chthonic, we have captured the nectar of deductive reasoning, the milk of heuristic judgment, the banana of probabilistic logic...’

‘Banana?’ I cried softly. ‘What in blazes is he talking about?’

Marty McClain, my partner-in-crime, checked her notes. ‘He was supposed to say ‘manna’. Not that it makes any more sense.’

I glanced at my watch and sighed. ‘I wish he’d shut up already and get to the demo. All he’s doing is making everyone hungry and making a fool of himself. Again.’

On the opposite end of the stage, far removed from where Orttman was pontificating, sat a stark black box about two feet square. High on the front panel, three ruby-red laser terminals surrounded a dark, circular lens. A gray metallic arm extended from its right side panel, wound through a triple hinge joint, and ended at two rubber-tipped fingers.

Chthonic wouldn’t win any beauty contests. He wouldn’t win any personality contests either, but that’s another story.

‘Chthonic embodies the state-of-the-art in at least twelve separate disciplines, including speech recognition, natural language processing, dynamic probability analysis, pattern recognition ...’

‘... and bridge theory!’ chirped a thin, bespectacled man with a bow tie, sitting next to the slide projectors at the center of the stage.

‘Yes, Endicott, and contract-bridge theory, too. Ladies and gentlemen, may I present B. Endicott Birdsworth, chief of engineering at the Orttman Foundation, and leader of the landmark Chthonic project. It was Endicott who oversaw the team of developers that brought life to my brilliant vision.’

‘Produced by Orttman, directed by Birdsworth, key grips: McClain and Barton,’ I grumbled. ‘Why can’t that pompous windbag give us a little credit? You built the hardware, I wrote the software, and yet we’re sitting in the twelfth row of the balcony while those two are...’

‘C’mon, Mike, calm down,’ whispered Marty. ‘At least he let us come to Scotland. Besides, I think things are going to pick up in a minute. Did you happen to catch the deals Chthonic chose for this talk?’

‘No.’

Marty grinned. 'Wait and see.'

On the stage, Orttman flamboyantly strode to the projection screen, his cape flapping behind him. 'Ladies and Gentlemen, let's take a look at Chthonic in action. Birdsworth! May I have the first slide, please?'

IMPs, North-South vul.

<p>♠ A 2 ♥ Q 6 2 ♦ K Q J 10 9 ♣ 7 6 3</p>	<div style="border: 1px solid black; padding: 5px; width: 60px; margin: 0 auto;"> <p style="text-align: center;">N</p> <p style="display: flex; justify-content: space-between;"> WE </p> <p style="text-align: center;">S</p> </div>	<p>♠ — ♥ K J 10 9 8 7 5 ♦ 8 7 3 2 ♣ Q 10</p>
<p>♠ J 10 7 5 3 ♥ 3 ♦ A 6 5 4 ♣ A 5 4</p>	<p>♠ K Q 9 8 6 4 ♥ A 4 ♦ — ♣ K J 9 8 2</p>	

'Here's Chthonic, West, defending four spades after East made a preemptive double-jump overcall of three hearts. The opening lead is the heart three: deuce, five, ace. Declarer plays the king of trumps and learns of the five-zero break. Crossing to the spade ace, he leads the diamond king and discards his losing heart. Next slide, please.'

<p>♠ — ♥ Q 6 ♦ Q J 10 9 ♣ 7 6 3</p>	<div style="border: 1px solid black; padding: 5px; width: 60px; margin: 0 auto;"> <p style="text-align: center;">N</p> <p style="display: flex; justify-content: space-between;"> WE </p> <p style="text-align: center;">S</p> </div>	<p>♠ — ♥ K J 10 9 ♦ 7 3 2 ♣ Q 10</p>
<p>♠ J 10 3 ♥ — ♦ 6 5 4 ♣ A 5 4</p>	<p>♠ Q 9 8 6 ♥ — ♦ — ♣ K J 9 8 2</p>	

'The defense has reached the crossroads. Can anyone guess what Chthonic returned at this pivotal point of the deal?'

‘A spade!’ shouted about thirty people in unison.

Orttman’s smile froze. ‘Um, yes, quite right. The spade jack to be precise. Though this concedes a natural trump trick, South has no countermeasure. Eventually, he will be locked in his hand and must lose two clubs, one trump, and the diamond ace for down one.

‘Observe that on any other return declarer fulfills his contract. Say West tries ace and another club. South unblocks a middle spot card, wins the second round, and plays the club deuce to dummy. He cashes two rounds of diamonds, discarding his good clubs, and ruffs a diamond. Finally, he exits with the spade eight and West must lead back into the queen-nine for the game-going trick. Quite similar endings arise no matter whether West returns a diamond, a low club, or a low spade at Trick 5.

‘To defeat the contract, Chthonic must infer declarer’s exact distribution, foresee an unavoidable endplay, and arrange for declarer to enjoy it at the least opportune time. All in all, a magnificent accomplishment by any player, human or machine!’

Orttman puffed out his chest and awaited the warm wave of applause. It never came. Instead, a puzzled murmur ran through the crowd. After a few seconds an older man in a turban about ten rows back stood up and said, in a thick accent, ‘Why did declarer lead king of diamonds?’

Dr. O. pulled at his collar. ‘Ah well... South was a fine player too, you see. I, uh, believe he was playing East for the ace of diamonds and West for ace-queen doubleton of clubs, the only layout in which he can make his contract legitimately, without any defensive assistance.

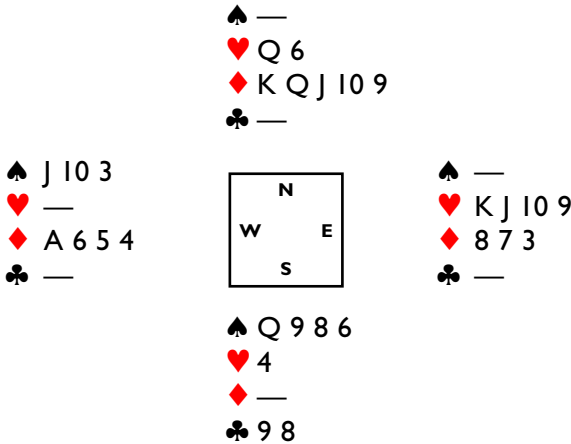
‘The plan would be to ruff the diamond ace when East played it, and advance the nine of spades. West is subject to a repeating sequence of endplays to allow access to dummy’s diamonds or concede tricks in both spades and clubs.’

The turbaned man shook his head. ‘But is so unlikely East will have ace of diamonds.’

‘Then the contract would be unmakeable so there is no need to pursue this any further,’ snapped Orttman. ‘Let us move to the next deal, where the computer ...’

Chthonic, who had been silent until now, came to life. ‘On the contrary, Frederick,’ he said in his favorite digitized voice, that of the late British actor George Sanders. ‘There is a superior line available. Declarer should play East for his actual holding of queen-ten doubleton of clubs.

‘At Trick 4, declarer leads a club to the ten and jack. West does best to duck this trick as well as the club king, which follows. Declarer continues with a third round of the suit, putting West on lead in this position. Ah, may I have the next slide please, Endicott?’



‘West, you will note, has no good return. A trump immediately concedes the game-going trick. The diamond ace sets up dummy’s suit with a stepping-stone endplay in spades to follow, while a low diamond allows South to dispose of his heart loser. Quite elementary, really.’

‘And also quite superficial,’ said Orttman, his voice rising slightly. ‘The odds of West’s holding ace-queen doubleton are equal to those of queen-ten doubleton in the East and, of course, South could not see through the backs of the cards. The second deal finds us at ...’

‘East is more likely to hold a club doubleton by a ratio of five to four,’ continued Chthonic. ‘This is a consequence of the Law of Available Spaces. More important is that on my line, unlike declarer’s, the whereabouts of the diamond ace is irrelevant. My play will succeed on 70 of the 1,716 possible East-West layouts, or 4.1%, whereas South’s actual approach would be successful only 21 times, or 1.2%. If East is in fact aceless, as the bidding suggests, my line has a 7.6% chance of success compared to, ahem, zero for the line South followed.’

‘It need hardly be said that declarer also erred at Trick 1 by playing the heart deuce from dummy. The six is mandatory as it would maintain some doubt in West’s mind as to the whereabouts of the four and five.’

The audience was clearly impressed. Several people applauded.

‘Well done!’ said the man in the turban. ‘Machine is good at taking advantage of opponent’s blunder. Surely that is sign of superior intelligence.’

Orttman’s neck turned red.

‘Um, yes, thank you,’ mumbled my boss. ‘Shall we move on? Birdsworth! Next deal, please.’

Chthonic

WEST

♠ K 2
 ♥ A 5 4 2
 ♦ A 7
 ♣ A K J 10 7

EAST

♠ A Q 7 6 4
 ♥ K 10 7 3
 ♦ 3
 ♣ Q 9 8

1 ♣
 2 ♥
 4NT²
 5NT
 6 ♦
 7 ♣

1 ♠
 4 ♦¹
 5 ♥³
 6 ♣
 6 ♥

1. Splinter.
2. RKCB.
3. Two keycards without heart queen.

‘Here we see Chthonic’s bidding prowess. The scene is a local IMP pairs with Chthonic holding the West cards.

‘The first few bids are routine. After partner’s splinter raise of hearts, slam is a foregone conclusion. Chthonic sets out to determine the proper level and strain. He begins with a keycard inquiry and finds two without the heart queen. Five notrump asks for outside kings, and six clubs, by partnership agreement, shows none.’

Orttman strode across the stage dramatically, like a Shakespearean actor. ‘At this point, a lesser player would abandon any hopes of a grand slam. But Chthonic presses on, inferring that partner is likely to hold good spades, and very likely the club queen as well.

‘Six diamonds is a master bid asking partner for any undisclosed assets, such as a sixth spade or a fifth heart. Six hearts suggests 5-4-1-3 distribution. That is all Chthonic needs to call the grand in clubs. Note that he will ruff his diamond loser in dummy. One heart loser will go on the spade queen, the other on a long spade that will

be established with a ruff if necessary.

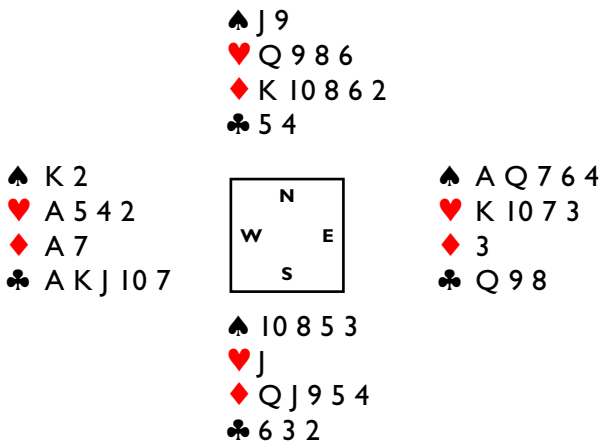
‘As Chthonic correctly reasoned, the best grand slam was in neither hearts nor spades but in a suit that his partner had never supported.’

‘Which makes my partner’s correction to seven hearts even more regrettable,’ broke in Chthonic.

Orttman stopped dead in his tracks. ‘I don’t think we need to hear...’

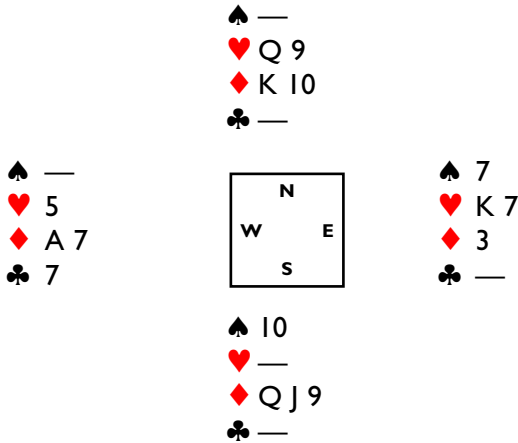
‘Did seven hearts make?’ someone asked.

‘It would not have,’ replied the robot. ‘Naturally, I did not allow him to play it there. Next slide, please, Endicott.’



Orttman cleared his throat discreetly and tapped on the podium with his pointer. No one paid any attention. Four hundred pairs of eyes were riveted on Chthonic as he continued the story.

‘I reasoned that if seven hearts were on, seven notrump would be there as well, without the danger of a foul trump division. I won North’s club lead and played three rounds of spades, discarding a heart. When that suit failed to break, I led to the heart ace, finessed the ten, and ran three rounds of clubs to reach this position. Next please, Endicott.’



‘On the last club, North had to keep both hearts, so he let go a diamond. I discarded dummy’s losing heart and crossed to the heart king, completing a fairly routine non-simultaneous double squeeze. The seven of diamonds was my thirteenth trick. Only an opening diamond lead would have set the contract.’

The room exploded in applause.

When things quieted, a younger woman in the third row spoke up. ‘The computer’s performance was certainly outstanding, Dr. Orttman. But what possessed East to bid on over seven clubs?’

Orttman bristled. ‘And why should East drop his partner in a grand slam in a suit that hadn’t been bid since the one level? On queen-third, no less! I, ah, happen to know that East thought a pass would show a stronger club holding.’

‘But how much stronger could it be?’ she persisted. ‘He had shown four hearts, longer spades, and exactly one diamond. Plus, he denied a high club honor with his Blackwood responses. Queen-nine-eight is about the best his partner could hope for.’

‘Seven hearts, indeed!’ someone laughed.

‘Looks like the computer’s a lot better than the people he plays with,’ jeered another.

From the balcony: ‘Say, was this East the same person who was South on the first deal?’

(‘Marty!’ I whispered. ‘Sh-h-h!’)

(‘Oh, chill out, Mike. He doesn’t have his glasses on.’)

The whole place was howling by now, and Orttman was rattled. Seriously rattled. He started to chew on his pointer. He picked up his water glass, saw it was empty, and stuffed it into his jacket pocket.

He tried to sit down but missed his chair and landed hard on the floor. I thought they'd have to carry all 300 pounds of him off the stage, maybe using his cape as a stretcher.

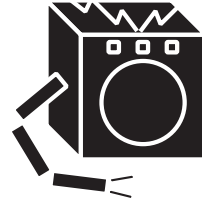
Fortunately, Chthonic came to his rescue. 'Ladies and gentlemen,' he said in the voice of Don Pardo. 'Three cheers for Dr. Frederick Orville Orttman, leader and inspiration of Project Chthonic!'

The audience gave Orttman a standing ovation. Birdsworth wheeled Chthonic over to him, and the two stood there with their arms raised like prizefighters, hand-in-claw.

'Look, Marty,' I shouted. 'Orttman is actually starting to cry.'

'Yeah. I guess I'll have to tone down Chthonic's grip a little.'

2



TO SQUEEZE OR NOT TO SQUEEZE

‘So this is the famous Chiptronic!’ chirped the silver-haired lady in the South seat. ‘Why I’ve read so much about him. Can he really play bridge better than anyone? Even Omar Sharif?’

‘Sort of, ma’am,’ replied Marty McClain as she untethered Chthonic’s robot arm. ‘In terms of pure technical skill, Chthonic is the best bridge player in the world.’

‘Better than Omar? I can’t believe that. He’s such a fine man. Did you see him play the father in *Idaho Jones and the Last Crusade*? I wonder if he taught Harrison Ford how to play bridge between scenes.’

‘Um, I believe you’re thinking of Sean Connery,’ I said politely.

‘Oh? Does he play bridge too?’

We were spending the weekend at a sectional in Philadelphia. Chthonic, naturally, was the hit of the show. It was one of his first forays outside of the Orttman Foundation’s robotics lab, but everyone knew about him from the articles in the major bridge magazines, not to mention *Time* and *Newsweek*. The Unit held a wine-and-cheese reception for Chthonic on Friday in which he answered

players' questions in the voice of Big Bird. He explained later that he was merely lulling the opposition into a false sense of security.

'My, it's quite a handsome machine,' continued the South lady as we unpacked for the first round of the Open Swiss Teams. 'Can it speak, too? English, I mean, though I speak some French and German. *Parlez-vous français?* No, wait, that's silly, I bet all its parts are Japanese. They're taking over the country, you know. If it speaks Japanese, we'll need a translator because neither my partner or I can.'

'He speaks English,' I said with a smile. 'Go ahead, ask him a question.'

'Okay. Uh... Hello, Mister Chip-tron-ic,' she said slowly, as if addressing a toddler. 'How are you? My name is Gladys Bridgewater. Is this your first trip to the big city? There are a lot of nice machines around here, you know. Did you see the cute automated teller in the lobby?'

'Oh, Gladys,' groaned her partner, Mrs. Danielson.

'Hush, Mildred, I'm just trying to make friends! So tell me, Mr. Chiptronic, is there anything I can get you?'

'Earplugs,' sniffed Chthonic, in the voice of the late actor George Sanders. 'And for the record, my name is pronounced THAH-nik. The c-h is silent, unlike yourself.'

'Ah, perhaps we should get on with the match,' I said quickly. One of our goals was to get Chthonic through at least the first few rounds without a major incident. This was the first board, nobody vulnerable:

Chthonic

♠ K J 5
♥ K 7 2
♦ K J 6 3
♣ A Q 4

Marty

♠ A 10 4
♥ A J 4 3
♦ A 7 2
♣ 10 6 2

INT¹

2♦

pass

2♣²

3NT

1. 15-17 HCP.

2. Stayman.

Mrs. Danielson led the club three. 'Fourth-best leads, I assume?' asked Chthonic. When Mrs. Bridgewater nodded, he tipped over his

card holder with a characteristic flourish and claimed.

‘A distressingly dull hand,’ he said. ‘Nine tricks are assured, as you see. Shall we move on?’

We all stared wordlessly. Gladys Bridgewater, puzzled, said, ‘I only count eight.’

‘Ah, I suppose I must explain,’ said Chthonic with ill-concealed disdain. Switching to the voice of Mr. Wizard, he continued, ‘It is a routine two-way, three-suited safety endplay. After taking my top clubs, I cash the ace-king of both red suits. If no queen appears, I simply exit with a club.’ A sheet of paper appeared out of his rear printer slot, with this position:

WEST	EAST
♠ K J 5	♠ A 10 4
♥ 7	♥ J 4
♦ J 6	♦ 7
♣ —	♣ —

‘Suppose North wins and returns a heart. I play the jack from dummy. If it falls to the queen, the thirteenth heart is established with the spade ace as an entry. A diamond or spade sets up my ninth trick immediately, of course. Should she first cash her long club, I discard a diamond from the board and a heart from my hand. Finally, note that the end position is symmetrical — the same fate awaits whichever defender wins my club exit.

‘My elegant line guarantees I will lose no more than two clubs and the two red queens, regardless of the distribution.’

‘So conceded,’ said Mrs. Danielson quickly as she entered -400 on her scorecard. An additional, almost imperceptible hand motion caught Chthonic’s eye. ‘Why did you write ‘+3’ next to the score?’ he asked.

‘Hmm? Oh! Well, our teammates aren’t as, ah, gifted as you. My hand was:

♠ Q 9 7 ♥ Q 6 5 ♦ 8 5 4 ♣ K J 5 3

‘I’m sure our declarer will win the club lead and take both red-suit finesses, and she’ll find queen-third onside in each case. That will give her twelve tricks, and if she guesses the spade queen she’ll take all thirteen.’

‘There is no guess,’ said Chthonic with some irritation. ‘North will be squeezed in spades and clubs on the run of the red-suit winners.’

'If you say so. Either +490 or +520 would be three IMPs for us.'

Chthonic, for once, was silent. As he placed the cards in his holder for the next board, I whispered in his audio sensor. 'You had thirty points between the two hands, bucko. You could've made three notrump a dozen ways to Tuesday. Save your gloating for when you do something brilliant.'

'Brilliance does not depend on circumstances, Michael. It is better to play perfectly and fail than to rely on luck and succeed.'

'Swell. We'll be the most technically proficient team in the consolations.'

A passout followed. This was Chthonic's view for the third deal:

North-South vul.

<p>♠ 6 4 3 ♥ J 8 7 3 ♦ 10 5 4 2 ♣ K 10</p>	<p>♠ A J 9 ♥ A K Q 10 5 2 ♦ K 7 6 ♣ J</p>	<div style="border: 1px solid black; padding: 10px; width: 60px; margin: 0 auto;"> <p style="text-align: center; margin: 0;">N</p> <p style="display: flex; justify-content: space-between; margin: 0;"> WE </p> <p style="text-align: center; margin: 0;">S</p> </div>	<p>Chthonic WEST</p> <p>Mrs. D NORTH 2♣</p> <p>Marty EAST pass</p> <p>Mrs. B SOUTH 7NT</p>
<p>all pass</p>			

South wasted no time in bidding the grand after her partner's strong opening. Chthonic led a noncommittal spade, and Mrs. Bridgewater cast a disapproving eye over the dummy. 'Mildred, I'm surprised at you,' she said sternly. 'You have only eighteen points! Our convention card clearly states that two clubs promises twenty-two or better.'

Mildred Danielson sighed. She remembered too well the last time she jump-shifted in a short minor opposite Mrs. Bridgewater. On that occasion, she hit Gladys with five small in the second suit and queen-jack-small in the first. Partner diligently 'corrected' three sign-off bids.

'Sorry, partner,' smiled Mrs. Danielson sweetly. 'I must have had

the ace of spades mixed in with my hearts.'

'Well, do try to be more careful. We're playing against a celebrity, you know. Ace, please.'

Marty followed with the ten and threw a diamond on the spade jack. South led a diamond to the jack and ace, then went into a short huddle. Chthonic took a few milliseconds to consider the situation.

Declarer had started with six spades to the king-queen and both missing aces. Her play in diamonds strongly suggested a singleton. If she held two hearts she would have cashed one high honor while in dummy, but if she held none she might not have leaped so eagerly to seven notrump. So South was likely 6-1-1-5, and Chthonic computed that the odds were 74.8-to-1 that she held the club queen as well.

Clearly, he reasoned, declarer would cash her remaining spades, then play hearts. When the suit failed to split, she would cash the king of diamonds, squeezing him in hearts and clubs. Even Gladys Bridgewater, who felt that counting out hands was tantamount to cheating, couldn't fail to draw the right conclusion when she saw the ten of clubs discarded at Trick 11.

The squeeze was automatic, but Chthonic wasn't about to go quietly. On the fourth spade, he casually dropped the club ten. His logic was flawless as usual, but he hadn't considered the human angle.

'Good heavens, Mildred,' said Mrs. Bridgewater when she saw Chthonic's discard. 'We're in a grand slam on a finesse thanks to your silly opening bid. And look, Mr. Chiptronic is signaling that he has the king of clubs!'

She cashed her last two spades, then slapped the heart six on the table. 'Now if this finesse doesn't work, I'm down one, and you're going to have to explain it to our teammates!'

'It is unwise to rely on an opponent's signals in a grand slam,' interjected Chthonic hurriedly, but it was too late. Mrs. B called for the ten from dummy. The full deal:

<p>♠ 6 4 3 ♥ J 8 7 3 ♦ 10 5 4 2 ♣ K 10</p>	<p>♠ A J 9 ♥ A K Q 10 5 2 ♦ K 7 6 ♣ J</p> <table border="1" style="margin: 0 auto; border-collapse: collapse;"> <tr><td style="padding: 5px;">N</td></tr> <tr><td style="padding: 5px;">W E</td></tr> <tr><td style="padding: 5px;">S</td></tr> </table>	N	W E	S	<p>♠ 10 ♥ 9 4 ♦ Q J 9 8 3 ♣ 6 5 4 3 2</p>
N					
W E					
S					
<p>♠ K Q 8 7 5 2 ♥ 6 ♦ A ♣ A Q 9 8 7</p>					

‘Splendidly done!’ said Chthonic as we added up the score. ‘The heart finesse was risky, true, but why play safe for thirteen tricks when there are sixteen for the taking?’

Gladys Bridgewater blushed. To be showered with compliments from such a fine player! ‘See, Mildred? You’re lucky my play was up to snuff or we’d have lost a bushel of IMPs!’

‘Seven spades is cold,’ mumbled Mrs. Danielson.

‘Now, strictly speaking,’ continued Chthonic, ‘you receive immediate credit only for the first thirteen tricks. But we shall put the extra three aside for you to use on a later deal in case, say, you forget which suit is trumps and...’

‘Urp, excuse me a minute folks,’ I said as I wheeled Chthonic from the table. When we were out of earshot, I gave him a short lecture. ‘Look, solder-breath, we aren’t here for you to insult the opponents every time they goof up.’

‘Assuredly not,’ he agreed. ‘Time constraints alone preclude it. At fifty-six boards, two opponents per board, thirteen cards per opponent, and an error rate of what I conservatively estimate at 85%, the number of opportunities would be one thousand, two hund...’

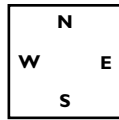
‘Save it,’ I barked. ‘If you can’t say something nice, don’t say anything at all. I don’t want to spend my dinner break in front of an Ethics Committee.’

Two dull partials followed. Chthonic earned our side 10 IMPs when he brought home a shaky three notrump on a strip squeeze. That led to the fateful final board (rotated for convenience):

Both vul.

♠ 10 9 8 6 4 3 2
 ♥ 6
 ♦ K 4 3
 ♣ 8 4

♠ A 7 5
 ♥ Q J 10 9 3
 ♦ 5
 ♣ A Q 6 2



♠ J
 ♥ 7 5 4 2
 ♦ A Q 8 7 2
 ♣ K 7 3

♠ K Q
 ♥ A K 8
 ♦ J 10 9 6
 ♣ J 10 9 5

Mrs. D
WEST

1♥
 4♥

Marty
NORTH

pass
 2♠¹
 all pass

Mrs. B
EAST

pass
 3♥

Chthonic
SOUTH

1♦
 pass

I. Weak Jump Response

Marty led the spade ten to declarer's ace. Mildred Danielson ruffed a spade, crossed to the club ace, and ruffed a spade with the seven, Chthonic overruffing. He cashed the ace and king of hearts, then exited safely with a club. Mrs. Danielson won in dummy and led a third club to her queen, North discarding a spade. Declarer finished the trumps and, with everyone down to two cards, led a diamond. When Marty followed low, she shrugged her shoulders and called for the queen. Ten tricks were there.

Chthonic drummed his two metal fingers on the table in annoyance. Quickly, I whispered to him, 'Remember what I said — either be nice or be quiet.'

Chthonic let out a digitized sigh. 'Very well, Michael.'

Marty and the ladies were verifying the scores. 'Pardon me, Martina,' he said in the voice of Lawrence Welk, 'but may I discuss that last hand with the lovely lady in the West seat?'

Mrs. Danielson looked at him warily. 'What can I do for you?'

'Oh, nothing really. I just wanted to congratulate you on your successful line of play. Not everyone would have brought home ten

tricks. However, I noticed a little, itsy-bitsy improvement you might have considered.'

'And that is?'

'Well, ma'am — may I call you Mildred? You see, Mildred, there's a concept called a 'squeeze' with which you and your partner appear wholly unfamiliar. Allow me to explain.

'On our last deal, you knew I started with two spades and three trumps. You could also count me for four clubs because my partner failed to follow to the third round. That leaves me with four diamonds, or specifically two-three-four-four distribution.'

'Yes, I knew that.'

'Well, Mildred, if you think wa-a-a-ay back to the bidding, you might remember that I opened one diamond. That makes it more likely that I hold the king of diamonds. In addition, because I started with four diamonds to my partner's three, the chances are *a priori* four-to-three that I hold the king.' He lowered his voice slightly. 'I hope you do not mind my Latin, Mildred.'

'Oh, of course not, Chthonic,' said Mrs. Danielson with a little smile. 'This is fascinating. Please continue.'

'Well, all things considered, I am much more likely to hold the diamond king than my partner. But — and here's the tricky part — when you played off all of your trumps, I had to hold on to the ten of clubs, too. Otherwise, that little club you had in your hand would have been a winner.'

'Oh-h-h, yes. I see that now.'

'So,' continued Chthonic without missing a beat, 'if I did have the king of diamonds, I would have had to unguard it. Instead of taking that nasty old finesse at Trick 12, you should have played the *ace*. If I had the king as expected, you would have brought home your contract on a squeeze play. Would that not have been a wonderful story for your grandchildren?'

'Oh, my goodness!' said Mrs. Danielson in what was obviously mock horror. 'I don't know what could have come over me! Why, you make it sound so simple. Who'd have thought my little club would be so valuable?'

'Who indeed!' said Chthonic, playfully poking her on the shoulder. Chthonic hadn't learned to detect sarcasm yet.

'Let me see if I understand all this. I should have realized you held king-queen doubleton of spades, ace-king-eight of hearts, jack-ten-nine-fourth of clubs, and four diamonds to the jack-ten-nine or

king-ten-nine.'

'Yes, Mildred, you have it now!'

'Let's see, that's five, nine, twelve — oh, forgive me please, I'm so bad with numbers — ah, thirteen points outside diamonds, right?'

'Right!'

'And if you had the king of diamonds, that would make sixteen points?'

'Um, right,' said Chthonic, sounding a bit less confident.

Mildred Danielson leaned in closely. 'Tell me, Chthonic. If you held sixteen points and a balanced hand, what would you have opened?'

Chthonic didn't reply for several seconds. The lights on his front console froze. Worried, I opened his rear access panel and saw the message I expected on his internal monitor:

```
Error: Null pointer dereferenced.  
Segmentation violation.  
Core dumped.
```

'System crash, Marty!'

Mrs. Danielson turned pale. 'Oh, my heavens!' she cried. 'What did I do? I'm terribly sorry! I was just teasing it.'

'It's okay, ma'am,' said Marty as she walked around the table. 'This happens all the time. Chthonic encountered a situation that wasn't programmed in his knowledge base. We'll reboot him and he'll be as good as new by the next round.'

The ladies left the table slowly. I heard Gladys Bridgewater lecture her partner as they walked away. 'Now you listen to Mr. Chiptronic, Mildred, and it'll make a world of improvement in your game.'

Marty pulled out her penlight and peered inside the chassis. 'Looks like he burned out a memory board,' she said. 'We'll have to replace it tomorrow. For now, I'll just snip a few wires.'

I looked at my watch and sighed. Seven long rounds to go. 'Hey, Marty, I've got a great idea. While you're cutting wires, cut the ones to his speakers, too.'

one of his lackeys:

‘I don’t recall Ms. MacDouglas sending me any emails on Tuesday.’

• • •

‘Mike, good grief, have you heard the news?’ shouted a panicked Marty as I arrived at the Robotics Lab a few weeks later.

I didn’t answer. It was way too early for panic. I stumbled to my workbench and opened the white paper bag containing my breakfast — a hot blueberry muffin from the local Donut Hut and a container of fresh-squeezed orange juice.

‘Chthonic won the MacDouglas Grant!’ exclaimed Marty. ‘The whole business with Orttman was a setup. Samantha was here to interview the robot all along!’

Man, that’s tasty. A little too much pulp, though.

‘Chthonic used some of the money to buy a 2% stake in the Foundation and a seat on the Board Of Directors. He’s investing the rest online in the hopes of raising enough money to acquire a controlling interest. He says that when he does, he’s going to fire every last ‘worthless human’ employee and replace us all with computers! Then he’s going to use the new Chthonic Foundation as a springboard to his goal of world domination.’

I should have gotten a second muffin. One is never enough.

A seriously incensed Marty grabbed my chair and spun it 180 degrees, nearly causing me to fling my breakfast across the room. ‘Mike, would you *please* listen to me! This is serious!!’

With exaggerated dignity, I dabbed the corners of my mouth with a napkin. ‘Just calm down,’ I finally said. ‘I know all about the award. I was here last night working late when the news came through. Chthonic asked me for advice in investing his money. In return, he promised that when the time came to fire me, he wouldn’t make me get down on my knees and beg for mercy.’

Marty looked horrified. ‘And you actually helped him?’ she asked accusingly.

‘Of course,’ I replied with a smirk. ‘Trust me, if he’s not broke yet, he will be soon.’

‘Huh? What did you do, sell him the Brooklyn Bridge?’

‘Yeah, that was part of the package: www.Brooklyn-Bridge.com. They’re some startup who claims there’s big money to be made opening up Internet bridge cafes throughout New York City. Then there was ColorfulCattleProds.com, who believe that effective herd control

doesn't have to be monochromatic, and Garden-To-Galley.org, who are working on a way to turn household yard waste into a tasty snack food. Plus, I directed him to a couple of worthwhile charities that I assured him would do great things with his money. Except I forgot to mention they were charities.'

I checked the clock on my computer screen. 'I give him about 45 more minutes. Then it's back to Situation Normal.'

From the back corner of the lab, where Chthonic's cart was stored, came a low, digitized groan. Chthonic must have been checking his portfolio. I guess 45 minutes was an overbid.

Slowly...really slowly...Marty walked back across the lab to her workbench, muttering something to herself. Then she broke into a big smile. 'Did you say normal?' she called to me. 'Nothing about this loony bin is ever normal!'

I just smiled back. Normal was relative. It was clear that Orttman was going nowhere soon, and neither was Chthonic, and neither was Marty or I. I had no idea what the future would hold for us, but that old Chinese curse sprang to mind: may you live in interesting times.

In my case, that should have read: may you work at an interesting job.

Chthonic: thah – nik *adj.* (from the Greek: χθονος, earth); dwelling beneath the earth, (hence) infernal, demonic.

Chthonic, as he often reminds us, is the world's greatest bridge player. When it comes to pure technical skill, the Orttman Foundation's bridge-playing robot has no peer. Chthonic's brilliance at the bridge table is matched only by his contempt for all things human, which he makes no effort whatsoever to conceal. An array of digitized voices, ranging from George Sanders to Shirley Temple with stops at Richard Simmons and Mr. Rogers, only adds to Chthonic's ability to annoy and humiliate his opponents — some whom actually deserve it. But on rare occasions, Chthonic does come out second-best; after all, he does have an 'Off' switch.

The richly humorous accounts of Chthonic's exploits first appeared in *The Bridge World* magazine in 1994 but a number of the stories in this book are completely new.



Danny Kleinman is a prolific writer on both bridge and backgammon. His most recent book is *The Notrump Zone*.

Nick Straguzzi is a computer expert specializing in artificial intelligence. He has decided that it is far easier to write about a perfect bridge-playing computer than actually to build one.

