

## Presidential Address 2009 WNS

Members and guests of the Western Neurosurgical Society, I am honored and humbled to speak before you at the fifty fifth meeting of this wonderful organization.

At the very start I wish to thank my wonderful wife, Paula, for all the support she has given me over the years and my ever expanding family my three daughters, Jenna, Tammy and Nichole and son in laws Nick and Jimmy, who could not be here as it has been quite a busy summer for them with travel. They were at the meeting in Anchorage and many of you had an opportunity to meet them at that meeting.

I also wish to thank all the members of the executive committee who have put in a yeoman's effort to put this meeting together and make it the success I believe it is. You will hear more of this at the banquet, but I would especially like to thank Jeff and Pam Rush for their fabulous job in setting up this meeting and as most of you know Jeff is closing out his tenure as Secretary Treasurer and has done an outstanding job with the past three meetings. I look forward to Charlie and Debbie Nussbaum's reign. I also want to acknowledge Mark Linskey for putting together this stimulating scientific program and Mike and Paula Kendrick and Kim and Debbie Burchiel for planning all the local arrangements for this meeting

I initially attended the thirty first meeting in Napa at the Silverado Country Club as a young faculty member at Stanford, presenting a paper on our experience of surgically treating hemangioblastomas of the brain stem and spinal cord. I am indebted to my predecessor as President, Jerry Silverberg for inviting and encouraging me to become a member of the society which transpired in 1988 at the meeting at the Ritz Carlton in Laguna Niguel. Through my membership in this organization Paula and I have met some wonderful friends. This has been one of our favorite meetings to attend over the years. Since 1987, I believe we have only missed two meetings.

I wish to discuss the topic of Change with today's address. This has been quite a buzz word over the last couple of years. Barak Obama made this the theme of his Presidential campaign. We certainly have seen quite a bit of change in our country and the world recently.

The theme for my address is Change or "This is Not My Father's Neurosurgery"

I thought that I would begin with a few quotes regarding Change.

This first quote is for Don Prolo "Nothing endures but change" from Heraclitus, a Greek philosopher from around 500 BCE who is famous for his doctrine of change being central to the universe.

And finally there is this famous quote from Ramsey Clark, former Attorney General under Lyndon B. Johnson, "Turbulence is life force, it is opportunity. Let's love turbulence and use it for change.

I don't know how many of you are familiar with the book Who Moved My Cheese by Spencer Johnson, M.D. This is a book which uses a story about four imaginary characters and how they deal with change. The author Spencer Johnson has written a number of books which help people discover simple truths that they can use to lead healthier lives with more success and less stress. He takes complex subjects and presents simple solutions that work.

In this book there are four characters two mice, Sniff and Scurry; and two small human like characters, Hem and Haw.

The story begins with the mice and men finding a supply of cheese after searching through the maze. The mice enjoy their cheese, but are ever prepared to run through the maze again should the need arise. Hem and Haw become quite complacent and comfortable and believe they deserve this cheese. They even move their homes close to this cheese station and built their social lives around it. One of their decorations on their wall was this saying; "Having Cheese Makes You Happy."

This was the state of medicine when reimbursement was good. Physicians were well compensated for their services. We built lifestyles and expectations around being compensated at certain levels for our services.

Hem and Haw's confidence grew into the arrogance of success. Soon they became so comfortable that they did not notice what was happening.

Could this be like the situation when Medicare came into being and the government became increasingly involved in physician reimbursement? We did not foresee how the intrusion of government in medicine would impact reimbursement and our practice so greatly.

The mice continued on their routine, arriving early each morning and inspecting the area to see if there had been any changes from the day before. One morning they arrived to find that there was no cheese. They were not surprised in that they noted the supply had been getting smaller each day and they were prepared for what was to come and they knew instinctively what to do. They decided to look for a new supply of cheese. They did not overanalyze things.

Later that same day Hem and Haw arrived at Cheese Station C to find that there was no cheese. They had not been paying attention and took for granted that their Cheese would be there. Hem yelled 'What! No Cheese, who moved my Cheese, It's not fair!' Haw was shocked and was in a state of disbelief. They spent time looking around Cheese Station C looking to make sure the cheese was gone. So while Sniff and Scurry had moved on the little people continued to Hem and Haw. So before going home hungry that night they wrote on the wall; "The More Important Your Cheese Is To You The More You Want To Hold On To It."

The more important our lifestyles are to us, stature, reimbursements and patient volumes the more we want to hold on to them.

Over the ensuing days Hem and Haw continue to ruminate and look about Cheese Station C. They even made a hole in the wall of Cheese Station C, but still found nothing. Haw began to realize the difference between activity and productivity. Haw wanted to venture out and explore but Hem would talk him out of it rekindling fears of the unknown out in the maze. Hem felt that they were special and that this sort of thing should not happen to them and if it did they should be entitled to benefits. (Is there a lawyer who could help them out with this?)

During this time the two mice found Cheese Station N which was the largest store of cheese they had ever seen.

After several days the little people were becoming weak from hunger and stress. Haw one day stated that they were doing the same things over and over again and wondering why things didn't get any better. Haw decided that he needed to get out and look for Cheese. He realized what his fear was

doing to him. Eventually Haw realized that things change and sometimes are never the same again. He felt that this situation was one of those. Before leaving his colleague Haw wrote; "If You Do Not Change. You Can Become Extinct."

I believe that we all can think of examples of this. One only need think of the plight of the cardiac surgeons and how they only seemed to have one procedure. As the interventional cardiologists have developed their practice and the cardiac surgeons did not change they saw their demand go down and certainly they have lost their appeal for young trainees? Only recently have we seen any indication that they are trying to change things to improve the attractiveness of their profession.

Haw ventured out into the maze. He wondered why he had not gotten up and moved with the Cheese sooner. He knew that fear had been one of the big reasons for this. He wrote on the wall; "What Would You Do If You Weren't Afraid." He became concerned that perhaps he had lingered at Cheese Station C a bit long and that he was too weak to search, but he realized that it was good to get out of his comfort zone and that it was "Better late than never" to venture out. Haw also realized with time that he had not been observant that the cheese at Station c had been growing older and moldy and the amount had become smaller. He realized that change would not have taken him by surprise had he been watching what was happening and he had anticipated change. He wrote on the wall; 'Smell The Cheese Often So You know When It is Getting Old.'

I feel that for the most part Neurosurgery has been paying attention! We have actively followed and pursued socioeconomic issues that could potentially affect us and our care of patients. In California, C California Association of Neurologic Surgeons (CANS) has been a factor over time informing its membership and attempting to influence policy. This started with the malpractice crisis in the 1970's. Nationally, the American Association of Neurologic Surgeons (AANS) through the Washington Committee and the AANS Pac, have helped to keep neurosurgery at the table monitoring policy and helping us be more able to react to changing situations.

Haw continued to search, encountering old empty cheese stations on occasion. He often wondered if Hem had moved on from Station C. He wrote on the wall hoping it was a marking for his friend; 'Movement In A New Direction Helps You Find New Cheese.'

I look back on our recent history and think of how Neurosurgery has expanded finding new treatments for neurological disorders. The development of radiosurgery is prime example of a new treatment which has helped our field. One of my colleagues, John Adler, continues to push the envelope much in the way his mentor, Lars Leksell had in finding more diseases to treat with this powerful instrument. More change here is on the way.

Haw continued to move in new directions. He started to enjoy himself even though he had not found any cheese. Again he wrote; "When You Move Beyond Your Fear You Feel Free."

Haw kept thinking about what he could gain rather than what he was losing. He wondered why he had always feared that change would lead to something worse and now he realized that change could lead to something better. He raced through the maze with greater strength and agility and before long he spotted a Cheese Station with various types of Cheeses, some he had never seen before lying outside the door. He ate and was able to regain his strength. The station however was empty. He realized that had he moved sooner he would have found this cheese earlier. He put cheese in his pocket and decided

to go back and find Hem. Before he left he wrote; "The Quicker You Let Go Of Old Cheese The Sooner You Find New Cheese."

Certainly research and development into new treatments is not always completely successful. There can be setbacks and disappointments, but all of us would agree that making the effort to look for these new treatments often is rewarded in time. There can be serendipitous discoveries that lead to promising treatments.

Haw made his way back to Cheese Station C and found Hem. He offered his friend the cheese he had stowed in his pockets, but Hem refused. He stated that he did not think he would like the New Cheese and that it was not what he was used to. He wanted his old Cheese back. He was not going to change until he got what he wanted. Haw was disappointed, but decided to go back out on his own. He realized that it was just a matter of time until he found what he needed, he was not being held back by his fear. He wrote; "It Is Safer To Search In The Maze Than Remain In A Cheeseless Situation."

Perhaps, one of the best analogies here would be our efforts to find improved treatments for Glioblastoma and other primary brain tumors. I think of how in the past the diagnosis of glioblastoma meant no treatment, no hope and a rapid demise. Although he have not developed the cure as yet we certainly have made great advances with operative techniques and certain chemotherapeutic agents and efforts to continue to look for vaccines and molecular genetic solutions to this hold promise.

Haw realized that he used to believe that Cheese should never be moved and that change wasn't right. He now realized that it was natural for change to continually occur whether you expect it or not. Change could surprise you only if you didn't expect it and weren't looking for it. He wrote; "Old Beliefs Do Not Lead You To New Cheese."

I am reminded of how I was trained that chemotherapy was of no value for patients with brain tumors. Early on, we felt that all chemotherapy did was make people sick and did not improve survival. Holding on to those beliefs would not have allowed me to see the benefits of chemotherapy for oligodendroglial tumors with the 1p 19q chromosomal deletions or even the benefits we now see with certain agents for glioblastoma.

Haw raced through the maze and thought about what he had learned. He realized that his new beliefs were encouraging new behaviors. Searching was better than returning to the Cheeseless situation. He now knew that when you change what you believe you change what you do. You can believe that a change will harm you and resist it or you can believe that finding the New Cheese will help you and embrace the change. He wrote; "When You See That You Can Find And Enjoy New Cheese You Change Course."

An interesting analogy for this would be to look at the very recent history of interventional neuroradiologic techniques and the treatment of cerebrovascular diseases. Early on many neurosurgeons were quite skeptical of the embolic techniques to deal with cerebral aneurysms. All we need do is look at the work of our Cloward Award Winner, Nick Hopkins and how he has been advancing the field. We are now at a situation where many neurosurgical programs have faculty who are duly proficient as neurosurgeons and interventional neuroradiologic practioners.

Haw grew stronger and continued to venture into more unknown parts of the Maze. He knew that he would be in better shape had he dealt with change earlier. He continued to hope his friend Hem would

venture out and follow his writings on the wall. He wrote; “Noticing Small Changes Early Helps You Adapt To The Bigger Changes That Are To Come.”

In my lifetime I would say that spine surgery has been something that we as Neurosurgeons began to notice small changes early. I recall how Neurosurgeons early on were not well versed in spinal stabilization and instrumentation. We were in danger of losing this field to Orthopedic Spine Surgeons. Our leadership saw to it that we have become much more of a dominant force with the clinical and scientific interest in treating instability, deformity and trauma. I certainly can remember many programs where spine fusion was not even done by neurosurgeons. Now the senior society has mandated that programs expose trainees to complex spine surgery with instrumentation. Many programs now have very active spinal neurosurgeons who aggressively treat spine deformity and scoliosis, one of the domains that formerly belonged to orthopedists.

At this time Haw had let go of the past and was learning to adapt. He eventually came upon Cheese Station N with his friends the mice Sniff and Scurry. They had fat little bellies as they had been there for some time. Here was the largest cheese stash that Haw had ever seen. He learned something useful about moving on from the mice. They did not overanalyze or overcomplicate things. When the situation changed and the Cheese had been moved, they changed and moved with the Cheese.

He learned that you could learn to deal with change. You could be more aware of the need to keep things simple, be flexible and move quickly. You do not need to overcomplicate matters or confuse yourself with fearful beliefs. You can notice when the little changes begin so that you will be better prepared for the big change that may come. You need to adapt faster for if you do not adapt in time you might as well not adapt at all. The biggest inhibitor to change lies within yourself and nothing gets better until you change.

Haw realized that there is always New Cheese out there whether you recognize it at the time or not. You will be rewarded with it when you go past your fear and enjoy the adventure. Some fear should be respected as it can keep you out of real danger, but many fears are irrational and inhibit change when it needs to occur.

Haw wondered about his friend Hem. Had he ever entered the Maze or was he hemmed in because he would not change. Haw thought about going back again to Cheese Station C, however he realized that he had already tried to get him to change. Haw knew that he had left a trail for Hem and he could find his way if he only just read the Handwriting on the wall. And thus he wrote a summary of this.

Haw realized how far he had come since he decided to leave Station C. He knew it would be easy for him to slip back if he grew too comfortable. So he inspected Cheese Station N to see just what the situation was. He was going to try to avoid being surprised by unexpected change. Even though he had a great supply of cheese he often went into the maze to explore new areas. He decided not to isolate himself in his comfort zone.

At the end of this story Haw hears a noise and wonders if this is Hem finally able to turn the corner He wondered if Hem was finally able to move with the cheese and enjoy it!

I think that this story is illustrative of the fact that many are afraid of and resistant to change. We become comfortable with the status quo and are concerned that change may be detrimental to us. But I encourage you to look at where our specialty has been, where we are currently and where we are going.

Many of you know that I am one of several legacies in neurosurgery. My father, Bernard B. Shuer trained in New York with Davidoff and was in solo private practice in Toledo, Ohio for 35 years. I often think of how the practice of neurosurgery has changed so dramatically since my father began to practice in the late 1940's. This was pre MRI and even pre CT scanning! Diagnostic imaging consisted of plain skull radiographs looking for shift of the pineal gland, carotid angiography performed often by the neurosurgeon with direct carotid sticks and injection. Then there was the pneumoencephalogram or ventriculogram which were studies that were not easy somewhat invasive and quite difficult on the patient. The operating microscope had not been popularized as yet.

In the twenty five years of my practice I have seen dramatic change in our field of neurosurgery. CT scanning has evolved from the pixilated poor resolution early studies on the EMI machines. These early scanners had an aperture which would only accommodate a normal sized skull that had to sit inside a water bag around the head to improve the resolution of the study. I can remember as a resident how slow some of the early machines were. At our Veterans Hospital we had a Varian early generation model which took 45 minutes to process an image through the computer in order to view something after scanning. CT scanning now is quite portable and fast with units that are only slightly bigger than fluoroscopy units and that can produce quite good quality images very rapidly so that this technology can be taken to the operating room and ICU's rather than having the patient go to the machine in the radiology department.

Many of the present marvels of our field would have the great founders of our field in awe and wonderment. Think of what Cushing, Dandy or Horsely would think of endovascular procedures for AVM's and aneurysms, Stereotactic navigation for surgical procedures, Stereotactic Radiosurgery and minimally invasive spine surgery. Would Cushing have adopted the endoscopic transnasal approach to pituitary tumors? Would Dandy ever send patients of his with tic doulereaux for stereotactic radiosurgery? Would either of them ever think about treating a patient with an acoustic neuroma with stereotactic radiosurgery?

Along with the change in diagnostic imaging and the technical advances for or surgical therapy we have been seeing changes in how Neurosurgeons are trained. Over my 25 years of Neurosurgical practice I have had the opportunity and privilege to work at Stanford University and be associated with our residency training program. Change in the training of our future Neurosurgeons comes from individual training programs and how they are set up, recommendations and regulations that come from the Society of Neurological Surgeons (aka the Senior Society) and also are greatly influenced by the Accreditation Council for Graduate Medical Education (aka ACGME) and the Residency Review Committee for Neurological Surgery. Regulation in the world of resident education has become increasingly intrusive over time. One can argue whether this is a good thing or a bad thing. Clearly there needs to be some standardization of the training of residents so that we know that they have a basic level of exposure to the field and competency. However, we have seen regulations promulgated to limit work hours which in some instances impact negatively on the training of residents. Many of these rules have been put forth in the name of patient safety; however, some have inadvertently negatively impacted patient safety as evidenced by reports of "handoff errors". We went from no regulations concerning work hours for residents in my time to having the "80 hour" work week where residents can't be on duty longer than 80 hours per week averaged over a 4 week period. They must have one day in seven free from all educational and clinical responsibilities averaged over a 4 week period inclusive of call. Adequate time for rest and personal activities must be provided. They should have 10 hours off between all daily duty periods and after in-house call. On call cannot occur more

frequently than every third night averaged over a four week period. Continuous on-site duty including in house call cannot exceed 24 hours. Residents can remain on duty for up to six additional hours to participate in didactic activities, transfer care of patients or to conduct outpatient clinics and maintain continuity of medical and surgical care, but no new patients may be accepted after 24 hours of continuous duty. At home call is not subject to the every third night or 24+6 limitation, however it cannot occur so frequently as to preclude rest and reasonable personal time for each resident. Any time residents are called in that counts toward the 80 hour limit.

There have been some trial balloons sent up suggesting that the work hour's regulations should be even more stringent. These have largely come from the Institute of Medicine (aka IOM). There were proposals that the duty hour limit be changed to 16 hours or mandating that a rest period of 6 hours be included within a 24 hour on period. Organized Neurosurgery came out with a white paper which nicely presented the argument for not further restricting resident work hours at the end of last year. Fortunately, other disciplines have joined the fight, however, we must continue to be ever vigilant as in the United Kingdom trainees hours have been limited to 58 hours and there is talk about changing that to 48 hours.

Undoubtedly these have been dramatic changes since the days of when my father trained or let alone any one here who is farther out then 5 years from their training.

I believe that change in Neurosurgery as far as the technical advances in how we diagnose and treat patients had been clearly all for the better. Certainly neurosurgery has "expanded the field" in terms of what we now consider under the purview or domain of what we treat.

As we see so much change in our world the one constant I have been impressed with is the high quality of trainees that we continue to attract to our field.

So with all this change I as someone who usually lives or consistency and stability I have become interested in change and how we deal with it.

We cannot behave like the ostrich burying our head in the sand or else we risk becoming extinct!

I would like to leave you with this quote: "Change has a considerable psychological impact on the human mind. To the fearful it is threatening because it means that things may get worse. To the hopeful it is encouraging because things may get better. To the confident it is inspiring because the challenge exists to make things better." This is by King Whitney, Jr., president of Personnel Laboratory, Inc.

I thank you for your attention.