

passing the costs on to our children. I hope he will take pride in the role he played during his twelve years in the Senate in turning record deficits into a record surplus.

He displayed that same political courage on the Armed Services Committee. Representing a state with numerous military installations, Senator ROBB has nevertheless joined with Senator McCain and me in our efforts to allow the Defense Department to close excess military bases, because he knows it is the sensible thing to do. In his four years as the Ranking Minority Member on the Readiness Subcommittee he has also been a strong advocate of our committee's policy of only funding those military construction projects that have the highest priority in the military's plans, even though that required him sometimes to say "no" to his colleagues.

I shall miss CHUCK ROBB more than these words will be able to express. He has personally inspired and supported me as ranking member on the Senate Armed Services Committee. He's the kind of man you entrust your children to, or in combat would want to be in a fox hole with.

The Senate and the Nation have benefitted from the example of public service he has set. He now has the chance to spend more time with his truly remarkable wife Lynda and their beloved children. We know how much that will mean to him as he takes on the next challenge in his remarkable career of public service.

ADDITIONAL STATEMENTS

MEMORY

● Mr. HATCH. Mr. President, as the Roman statesman, Cicero said "Memory is the treasury and guardian of all things." I believe we as humans often take our ability to remember for granted. Throughout the past century, we have been blessed with many scientific innovations and discoveries. Large strides have been made in the medical area that have helped to improve the quality of life for all the people of the world. Memory is an essential function of our human experience. The loss of memory is certainly a tragedy. Thankfully, there are those who are conducting research who endeavor to understand the memory process and seek to solve memory disorders and loss. For instance, last year Congress appropriated \$17.7 billion to the National Institutes of Health to fund scientific research. A portion of that funding is used for studies working to gain a better understanding of memory.

I have recently read an essay entitled "Musings on Memory" by Dr. Morris Martin and was intrigued by the author's insights on memory. This essay was read before the Literary Club of Tucson, Arizona, on November 20, 2000. Dr. Martin is a professor of history having taught at Princeton University.

He received his degrees from Oxford in England. His essay explores the many aspects of memory and the importance it has played throughout the history of the world. I would like to share his wisdom with my colleagues in the Senate and ask that the article be printed in the RECORD.

The article follows.

MUSINGS ON MEMORY

(By Morris Marton)

Elephants, they say, never forget, and maybe amoebas remember in some amoebic fashion. But that, is beyond my scope. Human history, personality, our rich individuality, all derive in some measure from memory. The Greeks, as usual, got it right. Certainly by the time of Hesiod around 700 B.C. with that instinct for clarification that distinguishes them, the Greeks had drawn up the family tree of Memory. Mnemosyne, Memory, was the wife of Zeus and the mother of the Muses—Poetry, Literature, Music, Dance, Tragedy, Comedy etc. all nine of them, which of course, makes Memory the mother of Culture. Being the wife of Zeus also made her respectable, an Olympian goddess. But her origins go further back beyond the Olympians, to her brother Kronos, the chief of the disreputable Titans, whose very shady origins lie somewhere among the very unGreek Hittites of Asia Minor. Her father was Uranos (Heaven) and her mother was Gaia (Earth) and further back than that no one can go. It was the Greek way of saying what today's scientists say that Memory derives from the neural connections that pass from the primitive limbic area to the hippocampus via the amygdala. They use Greek words, but the Greeks said the same thing more simply and much more picturesquely.

Memory for them went back to the Earth Mother and was the womb of Culture. It is the original collector and transmitter of experience. Before writing culture depended on tremendous memories. We know of the Bards who traveled from village to village rewriting those tales of valor or of wondrous events, which became the Iliad and the Odyssey. Milman Parry, the American scholar, threw light on this when in the Thirties he discovered the practice still alive in the Balkans among the Serbian Muslims. Memory is still the backbone of tradition among the Indian Brahmins who memorize tens of thousands of lines of the Bhagavad Gita or the Ramayana, or of rabbis who memorize the Torah.

Memory was Queen until Writing was invented. Again the Greeks with uncanny precision traced writing back to Egypt, though the Chaldeans of Ur anticipated the Egyptians in making scratches on baked tablets. Plato in the person of Socrates tells how Thoth, the Egyptian god who invented writing, was reproached by Thamus, the king of Egypt, "This discovery of yours will create forgetfulness in the learners' souls, because they will not use their memories; they will trust to the external written characters and not remember of themselves. . . . They will be tiresome company, having the show of wisdom without the reality."

So fast forward to our own day. The written or printed word has taken the place of memory for a majority of our needs. The computer has added a further layer of incompetence to our thinking. "It's on the net, I don't have to remember it." That is the mantra today of too often. It was the written word that started mankind on the downward slope to Lethe or Forgetfulness.

PERSONAL MEMORY; ITS LENGTH AND VALIDITY

In terms of personal historical memory, how far back can we moderns remember? We

all have examples of this on which you might ponder. For instance my father on his 90th birthday in 1962 gathered his four sons and their wives around him in his much-loved garden in Kent and reminisced about his father and grandfather. We were transported back to the Battle of Waterloo in 1815, the funeral of the Duke of Wellington in 1851, tales of London life and family anecdotes which would have perished with him a few years later, but for Cadmus' invention and my wife's shorthand. Those memories are now recorded and can be passed on to future generations. How far back can such memories go? I remember meeting a delightful old lady in the Forties who told me proudly that as a baby she had been held in the arms of President Lincoln. Search your own minds for the earliest event, which you can remember in this way, personally or anecdotally. And remember that Roy Drachman lunched with Wyatt Earp!

However, I think I can cap anything you may come up with. In February of this year 2000 the London Times recorded the following. It described a man now living who as a child made a disparaging remark about Oliver Cromwell. A lady present said firmly, "Never speak ill of that great man. My husband's first wife's first husband knew Oliver Cromwell and liked him well." At the dawn of this new century someone living today can recall a single matrimonial generation linked directly with the mid-17th century. How can that be? The remark was made in 1923 by a lady born in 1832. At the age of 16 (i.e. in 1848) she had married an 80-year old man named Henry. Sixty-four years earlier in 1784 young Henry had married for reasons, which remain obscure, an 82-year old woman. Her first marriage, in 1720 was to an 80-year-old who had served Cromwell before his death in 1658. We have a memory going back 342 years from the present day. It should be a warning to us not to disregard oral traditions, which can stretch over what appear to be impossibly long generations.

GROUP MEMORY

Communal or tribal memories can be even longer. Our common law reflects a time when memory was the official legal linkage of the centuries. Blackstone in his Commentaries dealing with land tenure says that some claims can go post hominum memoriam. Or "Time whereof the memory of man runneth not to the contrary." Tribal memories run very deep. They became tradition. Then they can illuminate or bedevil the present. They can make Fourth of July picnics or they can raise the Confederate Flag. Irish Protestants refight the Battle of the Boyne of 1690 each marching season to the dismay of those who would build a new future for Ireland. Serbs fight for Kosovo, recalling the battle in 1389 which was actually a defeat but which has been transformed into a victory in national memory. Six hundred years later this memory gave the emotional surge to the Serbian claim to the Province of Kosovo which involved twenty nations in contesting it. Sentiment in the heart often transforms memory in the head. This year the British celebrated the 60th anniversary of the "Miracle of Dunkirk" while the French looked on with a jaundiced eye, as being in their memory the betrayed of France by a retreating ally.

Now let us turn to the relation of Memory to the writing of History.

History and historical writing begin as Memory plus editorial slant. The good historian will do his best to be aware of his bias. Herodotus is known as a father of History since he collected the stories told him by all and sundry, but often added a skeptical comment or two here and there to the effect "I find this hard to believe." Thucydides was

the first scientific historian to evaluate memory. He wrote, "I have described nothing but what I either saw myself, or learned from others of whom I made the most careful and particular inquiry. The task was a laborious one as eyewitnesses gave different accounts of the same occurrence, as they remembered or were interested in the actions of one side or another." Many centuries later the German historian Ranke decided to write history "wie es eigentlich geschah." (As it actually happened). It turned out to have a very Prussian tinge.

Judges know the unreliability of witnesses to the same event. Each sees something; no one sees everything. Time edits memory to fit bias. Selected past memories shape our present thought and behavior. The generation of the Depression in the Thirties switches off electric lights, keeps its credit cards in balance, thinks waste is wicked—I can hear my mother saying it—spends cautiously and generally disapproves of the openhanded expenditure of today. And believes it the one true way of life, so strong is the imprinted record of the past on memory and behavior.

When historians turned from personal memory to contemporary written records they felt they moved a large step nearer to authenticity. I spent much time examining Greek inscriptions, gravestones, temple financial records on almost illegible pieces of marble, with the feeling that I was in touch with historical facts. But I found they also needed a lot of interpretation! In this connection and to show what original and unusual truths we learn from ancient records, may I recall, as I remember it, the earliest Egyptian papyrus. It is said to read "The times are very evil. Children no longer obey their parents. And the price of wheat is outrageous." Plus ça change, plus c'est la meme chose!

MEMORY AND THE SENSES

On the personal level the senses are often the emotional adhesive that enables us to retain past events in our consciousness. Our first paycheck. Our first baby. I remember my first girl friend, though I cannot recall our first kiss. Whenever I hear Bach's Mass in B Minor I experience again the shiver of excitement that was mine when I first heard the Sanctus in the old Queen's Hall in London. "Music when soft voices die, Vibrates in the memory", says Shelley. "Odours, when sweet violets sicken. Live within the sense they quicken." The smell of fresh bread recalls the French-Swiss bakery where I bought our breakfast "brotchen" when I was living in Bern. The smell of garbage brings back a picture of the vast dump outside New York City as I passed it frequently on the Turnpike driving in from Princeton. In the intricate mechanism of memory all the senses play their part as glue and as signals of familiarity. You will supply examples from your own experience.

PHOTOGRAPHIC MEMORY

Have you ever met anyone with a really photographic memory? Thomas Babington Lord Macaulay, the Victorian historian, was said to be able to read a page of print and to recall it perfectly from one reading. Saint Augustine writes with admiration of a friend who could recite the whole text of Vergil—backwards! Not a very enlightening party trick. There is a recent example in the story of The Professor and the Madman. You remember Sir James Murray, the first editor and father of the Oxford English Dictionary had a brilliant reader who supplied him with examples of literary usage. It was years before they met. Only then did Sir James find that the reader was confined to a mental Hospital as a hopeless schizophrenic but with a remarkable almost photographic memory.

Such ability may well be a disadvantage. The capacity to forget is almost as impor-

tant as to remember. Otherwise we would be cluttered with useless facts and unable to distinguish significant from worthless. Simonides offered to teach the statesman Themistocles the art of Memory, Themistocles refused, "Teach me not the art of remembering but the art of forgetting" was his reply. "For I remember things I do not wish to remember, but I cannot forget things I wish to forget." William James, in more modern times said, "In the practical use of our intellect, forgetting is as important a function as remembering."

HOW TO IMPROVE MEMORY

For those of us with lesser capacity, there have been throughout history methods of strengthening and supporting memory. Myself when young, and probably all of us, learnt our multiplication tables by rote. I was also introduced to English history by memorizing the Kings and Queens of England in a rhyme:

"William the Conqueror from Normandy came,
His son William Rufus while hunting was slain,
Henry the First was for wisdom renowned,
Stephen instead of Matilda was crowned
* * *

The Magna Charta was signed by John,
Which Henry the Second put his seal upon
etc. etc.

You I trust were brought up on

"In 14 hundred and 92

Columbus sailed the ocean blue * * *.

I learnt my Greek irregular verbs by reciting them in chorus with all the rest of the class at my London school. Saturday mornings (we went to school on Saturdays in those good old days) we were called on to recite a piece of great verse which we had learnt the previous night and declaim it in the almost empty Great Hall to our class mates. It was a valuable lesson and I have portions of it still tucked away on the dusty shelves of my memory.

Learning by rote has fallen out of favor as a pedagogic tool in our sophisticated West, but not everywhere in the world. On the island of Lamu off the coast of Kenya, I heard a murmur of voices coming from a building and looked in to find a school of very young boys chanting passages from the Koran, which they had had to memorize. Memories of Greek verbs came back and I wished them well.

In my youth I remember a card game called "Pelmanism" which by memorizing and reidentifying like cards with like was said to be highly effective. Association of the less familiar with the more familiar is a method we all use. Politicians have their tricks for remembering names and winning votes. Cicero for the very practical purpose of being a public orator considered Memory one of the five parts of rhetoric, which was his profession. He embellished the "architectural" art of memory invented by Quintillian. Think of a large building with many rooms. Take each point of your speech and connect it with an object—a spear, an anchor, a picture—and put each mentally in a different room. Then as you speak, mentally walk from room to room, the object you have placed in each will recall the next point of your speech. This system, refined, is still in use in training memory. We all create mental pegs upon which to hang data. B.F. Skinner, the psychologist, as a very old man did this not metaphorically but literally. He would listen to the weather forecast on the radio and should it be for rain, he would immediately rise and hang his umbrella on the door handle. The older we get, the more we need such association. I find I frequently go through several steps of association to recall

names. I can forget John Schafer's name but as he approaches, I look in the memory box named "University". Smaller box labeled "President." I mentally take out Koffler, No, Harvil, No, Pacheco, No, Likens, No." There is only one name left in the box. Of course that process, accompanied by a blank look which changes to recognition, used to be completed in an invisible flash. Now it takes two, three or four flashes. Bear with me.

Nowadays, of course, a pill is recommended for strengthening the memory. I received a pharmaceutical suggestion of this sort this week, extensively illustrated and expensively produced. I am skeptical of its potency.

MEMORY AND THE FUTURE

Memory we naturally assume deals only with the past. Lewis Carroll's White Queen in Alice in Wonderland felt this was a very limited idea. "There's one great advantage to living backwards, one's memory works both ways," she remarks.

"I'm sure mine only works one way," says Alice. "I can't remember things before they happen."

"It's a poor sort of memory that only works backwards," the Queen remarked.

"What sort of things do you remember best", asked Alice.

"Oh, things that happened the week after next," said the Queen.

Here, of course, Lewis Carroll is playing with the concept of Time, as in "Jam yesterday, jam tomorrow, but never jam today."

But there is something, which we might describe as a form of memory of the future. We call it imagination, which projects past data instead of merely collecting and organizing it as does the memory.

Art draws on both imagination and memory. Think of the combination of memorizing and recreating a great play that goes into an actor's performance. Daniel Barenboim at the age of seven began to memorize all Mozart's works. At eighteen he had mastered the whole corpus. Constant practice fixes the memory in the muscles. A wellknown pianist was suddenly called on to play a certain concerto. He declined saying, "I have it in my head, but not yet in my fingers." When it is in the fingers there is no effort to remember; the music can be fully endowed with the feeling the artist desires.

Shakespeare asked the question "Tell me where is fancy bred? Or in the heart or in the head? How begot? How nourished? Reply. Reply" He replied "It is engendered in the eyes." He did not say "In the hippocampus or the amygdala?" The mystery of artistic imagination and its relation to memory still resists a mechanistic interpretation.

THE FUTURE OF MEMORY

As far as information goes, so the experts inform me, before long we shall all be able to have the Encyclopedia on a chip along with the corpus of English literature, all the mathematical formulae required to do advanced physics and all the telephone numbers in the world. Anything you want can be provided on a chip. All you have to do is click on and scroll down. Since the amount of information is limited only by the capacity of the chip—which I am told, will increase a thousandfold or more in the next six months—it is likely it can be carried in a wristwatch slightly smaller than a Rolex, or, in time, implanted in the hippocampus or the amygdala or any vacant spot in the brain. And Memory will have become a vermillion appendix to the computer. I do not look forward to that day. Princeton, I am distressed to learn has just spent two million dollars on an MRI which they have enthroned in a new Center for the Study of Brain, Mind and Behavior allied, alas, to the Department of Humanities. The first area of

research, according to the New York Times, is to be the brain wave that normal people call "Love". Our world is convinced that when we know the "how" of our psyche, we shall know the "what" and the "why". I am not convinced. I hope and trust that should the day come when we understand all mechanisms, measure all wave-lengths, and plot all emotional outcomes, we as individuals will still be the masters that issue the commands that set in motion the neurological synapses which capture memory, enlighten meaning and in general make life human. May we continue to remember as much as is necessary of what we need to remember and forget that which is forgettable, and be kind to those whose advancing years rob them, from time to time of your name, and even of their own.

And may music still vibrate in the memory and William the Conqueror still come from Normandy and Columbus in 1492 still sail the ocean blue, and Greek verbs still be memorable and may computers fail to find out how to be masters of our consciousness.

We have had a pleasant half-hour wandering, somewhat disjointedly, through the groves of Memory. Let me close with a poem on the subject by a neglected Twentieth century poet. It is appropriately called "Memory."

Wind, west wind, of an evening
Whispering through the tall trees,
Tell me tales I used to hear told
By the vagabond Sussex breeze,
Lifting the layers of silence,
And letting them softly lie,
Passing into the stillness that comes
When whispers softly die.
And I'll see the woods where we wandered
And wake with a lonely heart
As the wind of memory passes through
The tall trees of my heart.

RECOGNIZING MICHAEL O'CONNOR

• Mr. JOHNSON. Mr. President, I rise today to commend an individual who has provided immeasurable service to the family farmers and ranchers in my home state of South Dakota over the past eight years. Mr. Michael O'Connor has been the South Dakota State Executive Director for the Farm Service Agency, FSA, of United States Department of Agriculture, USDA. He was originally named the South Dakota State Executive Director of the Agricultural Stabilization and Conservation Service of USDA by President Clinton in 1993. His current responsibilities include supervising activity in 60 county FSA field offices across the state.

As this Administration draws to a close, we sadly must say goodbye to some experienced, tireless, and talented people who have dedicated their professional careers to public service. Mike is one of those public servants, and so on behalf of the citizens of South Dakota, it is my honor to express our sincere gratitude to Mike O'Connor for his countless contributions and achievements.

Throughout his career Mike has aggressively served the agricultural community in South Dakota through positions of leadership in the South Dakota Farmers Union, the Clay-Union Electric Board of Directors, the South Dakota Corn Utilization Council Board of

Directors, and the Union County Pork Producers. He also served in as a representative in South Dakota Legislature from 1987-1993.

Moreover, Mike, his wife Janelle, and their family have devoted their lives to production agriculture, operating a diversified grain and livestock farm for over 30 years near Alcester, South Dakota.

Mike has been a valuable resource for me and a determined advocate of family farmers as we developed and implemented farm programs. He is constantly trying to improve the delivery system with the interests of family farmers close to his heart, always searching for ways to implement programs that are fair and equitable to all. Mike exhibits the courage to take on the status quo, and demonstrates a will to ensure integrity in program delivery for agricultural producers.

Mike has guided innumerable disaster and assistance programs from the federal level to local disbursement in South Dakota. He and his top-notch staff have been asked to implement these ad hoc disaster programs in addition to the day-to-day administrative requirements of current farm and conservation programs. From marketing loans and loan deficiency payments to production flexibility contract payments and market loss payments, to loan and conservation programs, to crop loss disaster payments, Mike has seen it all. He has worked with his statewide staff to administer these programs and distribute payments in an effective, timely fashion to South Dakota farmers. In this last fiscal year alone, the South Dakota FSA, under Mike's direction, has delivered over \$750 million to farm program participants in South Dakota. Mere words cannot describe everything that Mike has done to serve the farmers and ranchers in South Dakota through such an awful period of economic distress. Mike is as respected in Washington, D.C. as he is in South Dakota, and his working knowledge of the intricacies of farm bill will be missed.

Therefore, it is with a sense of pride and yet, regret, that I wish Mike well in his future endeavors.

Mr. President, I thank you and wish Mike, Janelle, and their family success in their future plans. I know that we will continue to work together, as Mike will continue to provide a respected opinion that I will seek out during the upcoming Congressional farm bill debate. On behalf of the people of South Dakota, I want to thank Mike for being a true public servant who has helped improve the quality of life for farmers and ranchers all across South Dakota. •

A TRIBUTE TO DANIEL GREELEY III

• Mr. SMITH of New Hampshire. Mr. President, I rise today to pay tribute to Daniel Greeley III, of Peterborough, New Hampshire. A Navy Petty Officer

3rd Class Division who was serving on the U.S.S. *Cole* when it was attacked on October 12th, 2000. Daniel is in his 1st year of a six-year enlistment, after having served three years in the United States Coast Guard.

Daniel was one of the engine room mechanics on shift when the attack happened. Even though he was on the other side of the ship, the blast waves hit him hard. He suffered cuts and bruises, but nothing nearly as serious as his friends and shipmates. Four of Daniel Greeley's closest friends were killed by the blast. Even after the blast had left a hole measuring 40 feet wide, and 40 feet high, Daniel as well as the other sailors of the U.S.S. *Cole* pushed on.

After the blast, the sailors worked frantically to keep the ship afloat until it could be brought to safety. As one of the engine room mechanics, Daniel was forced to push on through the crisis to keep generators running and the boat from going under. He had the lives of more than 200 sailors depending on his skills as an engine room mechanic. Daniel persevered well through the night and into the early morning, facing adversity head on and pushing through.

Daniel's actions and bravery speak volumes of his character. Not only has he elected to serve our country, but has done so in a noble manner. He is a true inspiration to the people of New Hampshire. He can hold his head high, knowing he has done his wife Mary, and 14-month-old daughter Angelina proud. As Daniel continues his service, I wish him continued success. He will begin his ACNR schooling in January, an undoubtedly will continue to serve his country with honor and grace. As a fellow sailor, I salute Daniel Greeley III. It is an honor to represent him in the United States Senate. •

TRIBUTE TO BRIAN KUEHL

• Mr. BAUCUS. Mr. President, I rise today to bid farewell to a key member of my staff, Brian Kuehl. I will deeply miss Brian, both professionally and personally.

Brian has worked for me for four years, most recently as my Legislative Director, and before that as Acting Chief of Staff and as a senior Legislative Assistant. He gave his heart and soul to me, to his colleagues, and, most importantly, to the people of Montana. During this time, he has proven himself to be a consensus builder—a tireless professional who brings together people with diverse points of view and who solves problems in innovative ways. He is fair-minded, balanced, creative, and a leader in every sense of the word.

Wallace Stegner defined himself as a citizen of the West. Brian fits that mold. Brian came to me from Bozeman, Montana. He attended law school in Colorado and has family roots in Utah and throughout the northwest. His wife is a fifth generation Wyoming native