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How I Remember Bill

To the Editor:

When I met William L. Johnston, DO, in 1973, it was as a student in pain. His fingers scanned my structure as if x-ray beams were feeding information to his central command, which was then processed and relayed to his proximal motors. This allowed him to guide the body into that optimal three-dimensional sweet spot that essentially dials in a proprioceptive unlock code, leading to the release of somatic dysfunction. Such was Bill's functional version of Sutherland's principles, impressive because of its subtlety, yet appearing simple to the observer. However, there was nothing simple about Bill Johnston or his osteopathic mind.

I was intrigued by the treatment I received and had to learn more from this osteopathic magician. I immediately expressed my desire to understand what Bill was doing, and doors began to open, which led to a position as Bill's graduate research assistant in osteopathic manipulation (1974 to 1976).

Bill's assigned reading often involved studying articles he had written in the 1960s

and early 1970s for the *Journal of the American Osteopathic Association*. Many were only two or three pages, yet took hours to comprehend. Each paragraph had to be read over and over, slower, then faster, then slower again, to be sure nothing was missed. The assignments described basic concepts that Bill lived and breathed, but to the novice 10-finger boy, it was a struggle to keep up. Bill often laughed at me. "Still struggling?" he would prod. Yet, he seemed to feed off the inquisitive new students who were trying to understand. He was so excited about teaching.

In 1991, I borrowed Bill's concepts for a presentation about myofascial pain before an audience of 500 in Washington, DC. In preparing for my lecture, I struggled with how to convey the principles of osteopathic release of somatic (and myofascial) dysfunction to a large group of primarily allopathic physicians. That is when I envisioned the proprioceptive unlock code concept of Bill's work. I decided to use the old Chinese finger trap device to allow a hands-on experience. Hundreds of these traps were passed out to the audience to walk them through the 3-D positioning necessary to release one's fingers from the trap, relating

that to the dialing-in experience that Bill would use to release somatic dysfunction with his functional technique. It worked.

Bill frowned on using the "ugly" word *position* to describe how we should obtain a release and believed that students who simply found their position and waited "wouldn't have a clue" how to proceed. Instead, Bill taught us how to base positioning or orientation of the body on "responses (palpated) to directions of motion (introduced)." Semantics perhaps, but intensely important to Bill, nonetheless.

Bill was not fond of the simple application of a technique, which he saw as "only a means of testing the hypothesis," though he recognized that "any successful technique in medicine seems to become the end-all of professional practice." He was excited when I wrote him in 1985, "It's amazing how I'm not just feeling and moving better, but actually comprehending the whole process." He replied, "It's true. More important even than the technique is the diagnostic tool that, once found to be the link to a successful result, immediately becomes your new source of information about the process of how the body functions—palpable information about the reflexive control of posture and movement, and the basic disturbances of that control function. I'm suggesting that you're in for an exciting trip, with increasing discoveries regarding the clinical aspects of spinal reflex mechanisms. I've continued to ask more questions in the past 5 years...the excitement won't go away."

In the early 1990s, I was encouraged by Bill to further explore and develop my approach to palpatory diagnosis of carpal tunnel syndrome. I had been caught up in the success of applying treatment techniques and initially minimized the value of palpatory findings. Bill's prodding led me to subsequent research and publications. I discovered the beauty of diagnosing with light palpatory assessment to identify areas to precisely target with vigorous manipulative technique. I was taken aback during my own blinded clinical studies to find that osteopathic palpatory diagnosis had a sensitivity for detecting carpal tunnel syndrome that approached the gold standard of nerve-conduction studies.

I was awestruck by Bill's tenacity for publishing over the decades. Articles written after he retired were equally enlightening and impressive. I wrote him in May 2001 following publication of his article on segmental definition, coauthored by William J. Golden, DO, "Segmental definition—Part IV. Updating the differential for somatic and visceral inputs" (*J Am Osteopath Assoc.* 2001;101:278-283), commenting on how he "pulled together" concepts that I had been exposed to as a student 27 years before.

He further surprised me with his article "A myoelectric model for thoracic spinal motion dynamics during clinical rotation tests: Part 1. Ipsilateral regional motor performance" (*J Am Osteopath Assoc.* 2003;103:1887-193) and "A myoelectric model for thoracic spinal motion dynamics during clinical rotation tests: Part 2. Bilateral segmental motor behaviors" (*J Am Osteopath Assoc.* 2003;103:232-238). I still have a note from Bill (1987) commenting about processing that data with Joseph Vorro, PhD, coauthor of the article. Bill never let go of a concept until it was fully examined, and I am sure he had several projects in process.

In the same note from 1987, Bill said, "One of these years I'm going to have to think about retiring, but it's still too much fun to give serious consideration." After he retired, I received a letter from him (1990) in which he quipped, "Retirement is being wonderfully busy with work you love." Retirement allowed Bill the time to synthesize his quest for understanding of somatic dysfunction and to convey to us, his captive audience of osteopathic physicians, that understanding.

When I questioned his use of some confusing terminology, he responded, "I really am guilty of liking new terms if they are needed to convey special meaning." Bill used *central segment* to describe the dysfunctional 3-segment complex he wrote about so often, and *linkage* to describe the correlation of identical motor behaviors in the costal areas with a central vertebral segment.

For Bill, some of the linkage phenomena were the most intriguing aspects of motor organization (ie, observing viscerosomatic linkage behaviors selectively involving the lower extremities while primary rib dysfunctions involved only upper extremities). I think he was waiting for neurophysiolo-

gists to figure this out as they investigated spinal pathways.

I believe that most in the osteopathic medical profession had no clue as to what Bill was up to. How could they? It required hours of intensive reading to digest his simplest reports. I would marvel at my own struggle to follow Bill's thinking, after having spent years working so close to him. How could an osteopathic student or physician outside this circle come close to understanding Bill's complex train of thought?

The application of his methods for treatment was even more challenging. I often came close to applying the palpatory skill for diagnosis (we did publish interexaminer reliability studies), but it was easy to become lost in the treatment procedure or release of the somatic dysfunction. Bill's precision and skill in guiding the patient as he unwound the restriction was remarkable and has yet to be duplicated, to my knowledge.

I last saw Bill at the American Osteopathic Association annual convention in October 2002, passing each other among a multitude of submeetings. I veered off course long enough to grab and hug him, gaze into his eyes, and smile as we instantly connected on some cosmic (palpatory) level that only decades of osteopathic kinship can comprehend. That was enough for us both, and I was off.

When I last heard from Bill, it was through my office manager and wife, Eugenia. I was out of town, and she responded to his message from our temporary office in Scottsdale, Arizona. That was late May 2003, and Bill was inquiring about my publications and whether they were gathered into one listing for some new work he was pursuing. We learned he had died on June 9, the first day in our new office.

My hat is off to this icon of osteopathic medicine. To the very end, Bill was a true believer in the application of osteopathic principles. He dedicated his life to exploring these principles, often through teaching, to further understand somatic dysfunction.

Palpatory diagnosis begins with developing palpatory skills. Bill's article "Manipulative Skills" (*J Am Osteopath Assoc.* 1966;66:389-407) revealed his passion for this practice when he said, "It is in this 'mountain' of response at the fingertips, during motion, that the tangible element of manipulative skill becomes apparent, tangible, that is, in terms of the teaching-

learning situation. To identify this experience in terms of 'response to motion,' and to focus attention on the tissues of the lesioned area as the indicator of this response, translating it as a specific response to a specific motion; this is the kind of clueing at the fingertips which gives substance to the 'touch' which becomes the sine qua non in manipulative skill."

Farewell, dear friend!

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Principles From Evolutionary Biology and Psychology Will Further Strengthen Tenets and Profession

To the Editor:

It is sad that many students emerge from our medical education system with a complete disregard for the contribution that A.T. Still, DO, MD, made to American medicine. Even hopeful students leave disappointed in our system's inability to present osteopathic medicine with language most recognize as scientific.

If Still's philosophy of health was correct, we should find independent confirmation of his conclusions in the basic sciences. A Darwinian approach to human health and psychology accomplishes this.

The following suggestions for tenets contain evolution-based language highlighting that health and survival result from a historic dynamic interaction between genes, organism, and environment. From this foundation, osteopathic medicine attains even greater scientific authority.

■ **Tenet 1:** A person is the product of the natural history of the species and current dynamic interactions between genes and environment. In ideal circumstances, these interactions result in a unique being capable of movement, awareness, thought, learning, growth, communication, love, and cooperation—the prerequisites of health.

■ **Tenet 2:** The human body, mind, and spirit possess genetically endowed abilities to resist and respond to dysfunction and disease.

■ Tenet 3: A person's unique environmental history influences the probability and severity of dysfunction and disease.

■ Tenet 4: The musculoskeletal system, having (1) extensive central nervous system connections, (2) anatomic proximity to other organ systems, and (3) considerable response to noninvasive, manual therapeutic intervention, significantly influences a person's ability to express emotion, maintain health and resist dysfunction and disease.

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Reflections of a Third-Year Medical Student

To the Editor:

The field of medicine is ever changing, with new advances every day and a population that is living longer than ever. Many aspects of medicine are not changing for the better. Issues of time, cutbacks, and lawsuits haunt physicians daily.

With another day of my psychiatry clerkship ahead of me, I walked into a small room occupied by the attending, a nurse, two case workers, and three medical students. Patients came in to tell their stories.

The first was an 18-year-old single mother who had overdosed on acetaminophen (Tylenol). Jane sat without saying a word. As this was the physician's only chance to see Jane because of the long list of waiting patients, she asked me to try to talk with Jane later.

As I entered Jane's room, she appeared timid and told me that she was not comfortable talking about her problems in a room with so many people. When I mentioned this later to Jane's psychiatrist, she said that Jane had "to talk to all of us or to none of us." I was silent, but thought that if I were Jane I would also prefer not to share my life with eight others. I decided to see Jane by myself.

Jane opened up and shared her thoughts, which was helpful, as she had no one to talk to and kept feelings inside. Talking things through helped Jane realize that she had more to live for than she thought. She quickly improved and was discharged. But where would Jane be now if there had been no medical student to provide needed attention?

This same psychiatrist has to cut patients off daily as they spill their thoughts so that she has the time to see other patients booked that day. To keep up with her schedule, the physician learned to quickly decide which medication would help each patient and send him or her on their way. Patients have to be discharged early from the hospital because insurance companies only allow them to stay for a short time. The psychiatrist is not a bad caregiver, but one who has to see as many patients as quickly as possible due to the current health care environment.

A family practice physician I worked with was similarly affected by managed care. When he began practicing 20 years ago, he was able to see as many patients as he chose. He had time to perform deliveries, minor surgeries, and ophthalmologic examinations. With the rise of managed care, he is now forced to see 75 patients per day and has been forced to discontinue implementing these procedures.

Time is not the only issue confronting physicians. Circumstances often prevent physicians from providing patients with the best care. Jane's psychiatrist remarked that she often finds that only one medication will help her patients function in society. The problem is that that one medication is not covered by most patients' insurance. Consequently, patients are forced to decide between relieving their hallucinations and buying groceries.

Psychiatric hospitals were once safe havens for those with mental illness. I was told of a hospital that routinely took patients on outings to help them learn to navigate the world. Patients ate gourmet meals from real china and had people who would play music for them and who taught them to draw. This hospital still exists, but now that insurance companies are running the show, it has had to initiate cutbacks. Staff was laid off and activities stopped. China turned to paper and music to silence.

During another rotation, I learned of a hospital closing its trauma center, though hospitals are supposed to be places people can go to for help. How strange to live next to a hospital that you cannot use! And how frustrating for an emergency room physician to hear over the radio that someone was shot outside the hospital and unable to get help.

George came to the hospital because he heard voices telling him to hurt himself. Until the age of 16 years, George was a normally functioning individual. A car accident left him mentally challenged. Since then, he has been in and out of hospitals. He has trouble getting the help he needs because he is unable to navigate the application process for social security insurance. The hospitals want to help him, but are too understaffed to do so. Each time he leaves a hospital, George returns to his world where he helps drug dealers, rather than being sent to a home that can help him. All because George does not have the insurance.

The census is down at many psychiatric hospitals, as patients are unable to afford to stay and insurance companies refuse to cover hospital visits. The bigger picture is being missed. Patients are being sent away before they should be. When patients are sent away without all the care they should receive, they end up back in the hospital and cost insurance companies even more.

Money is an issue for hospitals, as well as for physicians. Malpractice insurance rates are skyrocketing. Many physicians in the field of obstetrics and gynecology have stopped practicing the obstetric part of their practice, which is particularly prone to spiked malpractice insurance rate hikes. Many of my classmates want to practice obstetrics and gynecology, but they are afraid to try. They have heard too many horror stories of high-priced malpractice insurance and lawsuits. They are pushing aside their dream to play it safe.

I once considered entering physical medicine and rehabilitation because it seemed to be the only field where I could avoid malpractice suits. I decided instead to enter emergency medicine where, I am told, smiling and saying the right things will prevent having an attorney showing up at your door.

Training in the northeastern part of the United States, I have witnessed firsthand

how physicians struggle with malpractice insurance rates. A cardiologist kept losing partner physicians because they moved to nearby states with cheaper malpractice insurance rates. The cardiologist had such difficulty finding anyone to fill the position that he was forced to take care of both his own patients and his partners'. This resulted in time away from his family and a loss of personal time. He was seeing so many patients that appointments had to be rushed. Meanwhile, local radio commercials encouraged people to call their physicians and beg them to remain in the state. Many patients were forced to lose a lifelong trusted physician.

And trust is hard to find. As an undergraduate medical student, I worked in a physician's office. Inspired by a class, I gave the patients a survey regarding managed care. The outcome revealed that those without managed care trusted their physician more than those with managed care. Trust is essential in the physician-patient relationship.

A trusting physician could become even harder to find, as applications to medical schools are down. Perhaps it is a good thing. Maybe those applying are doing so because they really want to become physicians. On the other hand, perhaps some who would have been our future's best talent will not apply. Many are listening to physicians who discourage others from entering medical school. Several times before my admission to medical school, a physician tried to talk me out of going.

It is sad that people enter health care to help others only to find that they have a hard time helping themselves. I want to see a world where physicians say, "Hey, you should become a physician. It is the best career decision I ever made." Clearly the medical profession is not perfect. There are so many problems that it can seem overwhelming. Call me ignorant, call me naive, but it is because of, not in spite of, these problems that I am excited to be a physician. However, attention should be given to current challenges that are perceived as insurmountable by incoming students.

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Are We Allowing the Mature Development of Competency in Medical Students and Residents?

To the Editor:

An esteemed group of career educators, physicians, and researchers took a probative look at medicine and its practitioners. All of the competencies the group decided that a physician should possess fell conveniently into six categories (seven for osteopathic physicians). Mastery of all the competencies, a feat embodied in Hippocrates himself, was now the summit each physician would aspire to throughout a dedicated career, although those possessing the humility to reach full competence would never admit to such accomplishment.

To comply with the new competencies derived from the meeting of the Accreditation Council of Graduate Medical Education (ACGME) and the American Osteopathic Association, program directors, faculty, education committees, and others charged with curriculum development worked arduously to incorporate objectives regarding general competencies into training syllabi. Training and assessment have taken many iterations and continue to be published in widely distributed periodicals and posted on Web sites.

The ACGME, from whom the competencies were issued, has made assessment feasible through application of a standardized tool. This presumes, however, that competencies can be directly taught, accurately measured, and fully achieved as part of an organized graduate medical education effort. Is this presumption flawed? Furthermore, was this the intent of the Outcome Project Advisory Committee when the document was presented to the medical community?

To a greater or lesser extent, the general competencies are embodied in all people and are not the exclusive domain of health care providers. Skill in communicating, conducting interpersonal relationships, maintaining ethical conduct, and other descriptors that are included in the competency document can be found in all societies. That the practice of medicine deems these behaviors desirable is by no

means unique. One can find similar language in the mission statements, constitutions, by-laws, and rules and regulations of the societies, fraternal organizations, licensing authorities, and unions that service all professions and public interests. There is no argument that possession of these attributes by those to whom we trust the well-being of our population is more than just desirable. That such attributes can be acquired through formal training and measured with standardized tools is the question that is consuming considerable and otherwise scarce educational resources.

The University of North Texas Health Science Center at Fort Worth-Texas College of Osteopathic Medicine impaneled a task force to explore the application of the core competencies to the undergraduate medical education curriculum. Those clerkship directors, residency trainers, and professional educators reported that achievement of the general competencies is a product of lifelong learning. To some degree, applicants to osteopathic medical schools already possess competence in many such areas or they would not be expected to navigate the curriculum successfully. Rather than seeing the general competencies as elements of a curriculum of instruction, they are features of a culture acquired through patterning, inquiry, and exploration.

We believe we can enhance an understanding by students and residents of their capability; however, it is the experience they accumulate through the continuum of undergraduate medical education, graduate medical education training, and professional practice that will allow them to approach the summit of competence in medicine.

It is unclear whether the ACGME mandate has been lost in the scramble to produce a measurable outcome in response to public demand for quality health care. In truth, competency training fails to appreciate that competence has been fostered over time through the medical school selection process, residency training requirements, certification and recertification standards, and licensure laws in place.

The extent to which this initiative will result in substantive change in the quality of health care is not likely to be measurable. Manuscripts that describe anecdotal accom-

plishments are already coming forward, but the focus, as expected, has been on process (“we did what we set out to do”). That a culture has been impacted cannot as yet be determined. As much as we may seek to force-feed this culture, its integrity has been shaped through the mature development that accompanies professional growth.

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Questions Raised Regarding Fund Reporting

To the Editor:

I appreciated the article by V. James Guillory, DO, MPH, and Glynda Sharp, MHA, “Research at US Colleges of Osteopathic Medicine: A Decade of Growth” (*J Am Osteopath Assoc.* 2003;103:176-181). This is the first time I recall encountering an article that attempts to profile research funding at colleges of osteopathic medicine using a research database provided by the American Association of Colleges of Osteopathic Medicine (AACOM).

When I reviewed the figures provided in the article, I was greatly disappointed to see the poor showing of Midwestern University’s Chicago College of Osteopathic Medicine (CCOM), Downers Grove, Illinois. Particularly disconcerting is the fact that I witnessed a steady increase in research funding—especially from the National Institutes of Health (NIH) to CCOM—during the same 10-year period that is the basis for the report.

I worked with the Business Affairs Office at Midwestern University to review data for the years reported in the article and discovered that neither the fiscal year (FY) 1989 nor the FY 1999 funding we reported to AACOM were correct. The 1989 figure (\$813,956) reported by our business office was high due to the inclusion of \$500,000 in projected revenue from clinical trials sponsored by pharmaceutical companies. These studies often recruit fewer patients than originally projected; actual revenues for FY 1989 were closer to

\$200,000. We estimate the total for all research awards reported to the AACOM in 1989—including 8 active NIH R15 AREA or RO1 awards totaling \$314,114—to be approximately \$514,000.

For the 1999 data, submitted through the Office of Research and Sponsored Programs, Midwestern University, I responded to the query “please provide the data requested in the table below on each research grant, contract, or fellowship awarded to your school or pending in 1998–1999” by reporting only new awards granted during FY 1999, which totaled \$155,027. I did not report on multiple-year NIH awards made in previous years, as most of these awards were NIH AREA awards with a single award notice.

The American Association of Colleges of Osteopathic Medicine has modified its reporting mechanism and now uses a more thorough Web-based format that collects complete data on the total amount for new awards and the amount for the current fiscal year. In the future, data collected by AACOM should allow for a more valid comparison of funding over time for the colleges collectively and for each individual institution.

Our audited financial reports for new and continuing awards in FY 1999 indicate that the actual funding for research at CCOM in FY 1999 was \$597,342, which includes \$497,729 from 12 NIH R15 AREA or RO1 awards—one award each from the American Heart Association, the American Diabetes Association, and the Arthritis Foundation, and \$99,613 in actual revenues from pharmaceutical trials. I am pleased to note that our NIH and foundation funding (\$497,729 in FY 1999 vs. \$314,114 in FY 1989), which provides for faculty and technician salaries and leads to publications in the primary literature, has increased almost 60% in 10 years.

In the future, we will be submitting figures to AACOM for basic biomedical and clinical research using the actual research expenditures that we report to the National Science Foundation from our audited financial reports at the close of each fiscal year. These figures will replace figures taken from award notices from sponsors or the projected revenues from clinical trials. As many NIH awards are extended by a delayed start or through no-cost extensions, it is more valid to report the actual

expenditures than the amount of funding on the initial award notice.

Midwestern University’s Arizona College of Osteopathic Medicine (AZCOM), founded in 1996, had only two new awards for FY 1999, totaling \$37,600, as research programs on the Glendale campus were still in development. There were no continuing awards at AZCOM in FY 1999 from previous years.

In regard to data reported for other institutions, I am surprised at the rather large figures from several of the private osteopathic colleges for 1999. These institutions reported figures of nearly \$1 million, yet a search of the NIH CRISP database suggests that these institutions have few, if any, NIH grants at all. Although it is possible that these institutions may have substantial funding from other private foundations or organizations, such as the American Heart Association or the American Diabetes Association, I sincerely doubt that this is the case.

Are these institutions reporting Health Resources and Services Administration (HRSA) grants as “research” grants when they are actually training grants to support educational programs that may involve some exposure to research training? Could some institutions be reporting funding from their own foundations as extramural funding, rather than intramural funding, which is a more appropriate recognition of this type of support? Are NIH awards to other institutions being reported in their entirety, rather than the actual subcontracted amounts to a particular osteopathic college? Any of these possibilities could explain the limited number of awards to these colleges in the NIH CRISP database that led to an overstatement of actual “research” funding to AACOM. If we reported training grants from HRSA for CCOM and AZCOM in FY 1999, our figures would have been substantially higher due to three active HRSA awards totaling \$425,477 to our family medicine programs. Our HRSA-supported Area Health Education Center program would have added another \$733,086 in FY 1999, though clearly not in support of our research programs.

In closing, I provide one final thought on the percent change noted in Table 2 of the article comparing funding in 1999 vs. the base year of 1989. Although Dr Guillory

defines percent change as “current year minus prior year divided by current year,” it is my opinion that this is not a typical method of reporting a percent change over time. If the NIH, whose budget was increased by Congress from \$13.8 billion in 1998 to approximately \$27.2 billion in 2003, was to have used Dr Guillory’s method of comparison, the percent change would have been only 50%, rather than the doubling or 100% increase signed into law by the current President of the United States.

Using the total funding at all osteopathic institutions reported by Dr Guillory in his article, I conclude that the colleges have achieved approximately 60% greater research funding in 1999 (\$26,484,783) than in 1989 (\$16,557,463), an increase that Dr Guillory reports as a modest 37% change. Although this represents a significant growth in research at osteopathic medical institutions, it is substantially less than the near-100% increase in the NIH budget (from \$7.6 billion in FY 1989 to \$15 billion in FY 1999) over the same period and is concentrated in the basic biomedical sciences.

As noted by Dr Guillory in his closing remarks, we must work harder to develop programs to train and support clinical

investigators so that the osteopathic medical profession can also contribute to advances in medicine through clinical research.

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Response

The authors thank Dr Suarez for his thoughtful remarks regarding our article. We agree that the reporting of research grants is a significant source of error in this study. If improved reporting and tracking of research grants results from this article, the authors will be satisfied that we have indeed accomplished something significant by conducting the research.

Additionally, the obvious error in our method of calculating the percent change has been noted, and a correction will follow. [These corrections will appear in the October issue.—Ed] Despite numerous internal and

external reviews, this error was noted only after publication.

We apologize for any confusion this error may have created and hope that publishing a correction will rectify our mistake in the reader’s mind.

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