

Following in the Footsteps of a “Neuroscience” Giant

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Isaac Newton famously said in his 1675 letter to Robert Hooke: “If I have seen further it is by standing on the shoulders of giants.” As I look forward to the prospect of becoming Dean of the Albert Einstein College of Medicine (AECOM) on June 1, 2006, it is not so much a question of standing on the shoulders, but rather attempting to fill the enormously large shoes of the giant who for the past 22 years has served as Dean of AECOM. Beginning with his publication, while still a medical student, of a series of papers on the electrical activity of single neurons, and continuing throughout his distinguished career as an investigator authoring landmark papers on the anatomy, development and physiology of the nervous system, Dominick Purpura virtually defined and founded the field of neuroscience.

As an endocrinologist, I cannot even claim to have discovered a new hormone, yet after some searching I did find a few strands that linked, tenuously to be sure, Dom’s illustrious career to mine. I too published my first paper as a medical student, studying the mechanism of action of the hormone glucagon. Like Dom, I graduated from Columbia College and Harvard Medical School (was this educational pedigree an unstated criterion of the AECOM Dean Search Committee?). In fact, in 1971 while Dom was investigating the excitatory action of the “second messenger,” cyclic AMP, on immature cerebral cortex, publishing the results in *Brain Research*, the Journal he edited for so many years, I was a medical student testing the effect of vasopressin on urinary excretion of cyclic AMP in humans (including myself as an experimental subject). In 1985, Dom wrote to Marshall Nirenberg, the Nobel Laureate who had cracked the genetic code at the National Institutes of Health, soliciting a contribution to the new section of his journal, *Molecular Brain Research*. It was my privilege to collaborate with Nirenberg at just that time, eventually publishing two papers with him on

the cloning of cDNAs encoding the G proteins, Gs and Gi, which transduce the signals for stimulation and inhibition, respectively, of cyclic AMP formation.

As impressive as his career in neuroscience is Dom’s career as an educator and as Dean. Of his record, longest tenure as a medical school Dean, Dom modestly stated: “The Faculty had a feeling of stability and constancy at the top.” Stability and constancy to be sure, but also superb leadership in breaking down barriers between disciplines both in research and in education. He was rigorous in demanding the highest standards of excellence and integrity from both faculty and students. I particularly liked his response to “hard-pressed” students: “Pressure makes diamonds!” Yet, he was always truly concerned about the best interests of those hard-pressed students, and generous in acknowledging his faculty colleagues. The legacy he leaves is extraordinary, and in the form of the Michael Price Center for Genetics and Translational Medicine currently under construction, it is tangible. In 1980, Dom coauthored a paper on the neuropathology of four retarded persons with autistic behavior. The abstract concluded: “Complete neuropathologic examination,...., failed to provide clues as to cause ... of autistic behavior in these cases.” What was impossible even for Dom in 1980, understanding the basis for a complex neurobehavioral disorder, may become possible through the types of studies to be conducted in the Price Center he helped create. A more profound understanding of complex disease pathogenesis will lead to improved methods of diagnosis, treatment and prevention, and our students must learn how to produce and apply this hard-won knowledge. In its simplest form, this is my vision for the future at AECOM, a vision made possible by building on the accomplishments of a giant, Dominick Purpura.