

## **GSSM Convocation Address – Sept. 7, 2017**

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Salvete Omnes! That's how the medieval clerics I study said "Howdy y'all!". Six years ago, I was sitting where you are now. There are many things I wish I had known then. If only I had known that early is on time at the Governors School, on time is late, and late is simply unacceptable. So be early for Dr. Jones-Cooper's class, Juniors! Seniors going into English with Dr. Flanagan, monger symbols at your own risk. Sometimes the curtains are blue simply because they're blue. And Juniors and Seniors alike, Dr Allison's office is a wonderful place in times of stress, especially when she has made butter gooey cake.

When I attended my own Convocation, I had scarcely an inkling of what was in store for me. I was excited, intimidated, even felt like an impostor, surrounded suddenly by such brilliant peers. I remember how arcane and elegant the teachers' regalia seemed as they entered to a triumphant march. Now, wearing the stuff, I realize that it's feels less elegant than you'd think and is in fact very hot. Medieval clerics' robes intended for the frigid north of Europe don't translate well to South Carolina. But I suppose they're still fashionable.

Speaking of my regalia, you'll notice I'm wearing two tassels--one gold and one silver. One for the Sciences and the other for the Humanities. The Arts, more properly. I'm a bit of a black sheep, the Historian spawned from the Governor's School for Science and Mathematics. That's how I viewed myself on graduating and heading off to the University of South Carolina as a history major.

But that's not how I view myself now. The more I've studied and learned about, well, learning, the more I've realized how artificial and flawed the barriers we've erected between disciplines actually are. Humanities and Sciences, Archaeology and History, Chemistry and Physics--distinctions and categories are how we make sense of our world. Like semicolons and fire drills, they're useful. But they can be harmful, if misunderstood and misrepresented. A fire drill at two in the morning before an exam being a prime example! As John Donne wrote, "No man is an island, entire of itself." So also are disciplines, subjects, scholars. The unique ways in which two disciplines intersect are just as important as the ways in which they differ.

The ancient peoples of Mesopotamia combined copper and tin, and made bronze--stronger than either of the two alone. Their intersection inaugurated a new age--or so archaeologists are wont to say. Thus also are disciplines. Today's frontiers -- where lies the unknown knowledge we all seek -- are often inaccessible to one discipline alone. Only working together, through interdisciplinary projects and research, can we roll the ball of progress forward in the twenty first century.

As you embark on your GSSM journey, I want each and every one of you to keep your eyes open and your horizons broad. Don't feel limited to your favorite subject--branch out, from Physics to Chemistry, English to Computer Science, Mathematics to History. You'll find the fruits that grow there rare and delectable.

It's certainly been my own experience. In my Freshman year at USC, a seemingly unsolvable question confronted me: the library possessed a pocket bible from the Middle Ages with a secret--an erased inscription of ownership, which would have told us who owned and used

the book seven hundred years ago, if only we could read it. As an historian, I was stumped. Palaeography, comparative reading, hours of intense study--the historian's traditional craft couldn't crack the problem. But Physics could, a fact I recalled from my GSSM summer research on laser speckle imaging at Furman. My mentors and I directed high energy x rays from Stanford's Synchrotron at the inscription. From analyzing the energy emitted by individual elements as they were hit with X-rays, we were able to construct an elemental map revealing only the iron and zinc present in the inscription. In other words, due to the chemical composition of medieval ink, the remnants of the inscription, revealed clear as on the day it was written. The book was owned by Franciscan Friars in England, a rare survival thanks to good old Henry VIII. The University had possessed a treasure it didn't know it had--only thanks to the intersection of physics and history were we able to unlock the past.

Not everything is so flashy. Sometimes, one discipline just has a better hammer for smashing than another. I've always enjoyed Computer Science. As late as the second semester of my senior year at GSSM, I was still contemplating a Computer Science major in College. Imagine my delight at learning about the field of digital history, where historians craft programs to read vast bodies of sources "from a distance" as it were. Using traditional methods--skimming books for hours on end--it would have taken me weeks to track the use of the word "king" and whether people often spoke of kings without an attached country (simply "King Henry" rather than always "King Henry of England"). Using a program I wrote in python, I was able to answer that question and others in less than an afternoon.

It isn't just "sciences" that help "humanities" however. Exchanges go every direction on the frontiers of knowledge. With fears of an antibiotic apocalypse--where resistance to drugs of last resort threatens to unleash unstoppable "super bugs" on the world--it has come as a surprise to many that salvation might lie in the past. Not every medieval medicine worked. Ingesting ground emeralds has a way of wrecking ones digestive system. Then again, not all of our medicines work today. But those that did seem to have worked better than we often give them credit. An Anglo-Saxon eye salve formulated a thousand years ago recently proved effective at killing antibiotic resistant bacteria in a lab in Britain. At Columbia, I'm going to be working on a Renaissance manuscript containing many medicines. In laboratory, we will be preparing their recipes for a variety of purposes, from making paints to treating a wound with dragon's blood. Yes. That's a real thing. Who knows what I will find--perhaps nothing. But finding nothing on the way to finding something is the duty of every scientist.

And there we have it--I may be an historian, but I still consider myself a scientist. That the two are mutually exclusive categories is, to me, a deep fallacy. Science--Scientia--is merely the Latin word for Knowledge. If its meaning has become more nuanced, reflecting inductive Methodology, then so has history expanded its horizons from philosophizing over Livy and Herodotus, and the study of literature come to analyze comic books alongside Chaucer. We are all scientists, because we all pursue knowledge. And as we are all Govies, our passion for it is without limits. You have a wondrous opportunity before you. GSSM is filled with brilliant scholars who will lead you down the paths of knowledge, each of you to your own unique destination. The word student, from Latin Studere, originally meant "one who devotes oneself" If you are true students, devote yourselves to learning, refuse to be bounded by imagined barriers, and step outside your comfort zones, you can go anywhere you've dreamed of--and places you didn't know existed. As the Foundation says, "Get here, get anywhere!" Thus have I gone from laboratory to monastery and back again. And thus has my dear friend and fellow graduate, Alex Golden, gone from marking mousey migrations to studying old plant remains

to find out what the Mayans ate.

When I declared my intention to study history as a senior, my teachers at GSSM might have expressed shock, tried to talk me out of it. But they didn't. They embraced it and helped guide me down the path I had chosen. To my old teachers here who tested my ability and strengthened my resolve, to Dr Hendrick especially, who first helped me realize my passion for human history, and to everyone in the GSSM community who truly helped me "get anywhere", I offer my deepest thanks, with all my heart. To all of you Govies, juniors and seniors, buckle up: you're in for a wild but wondrous ride. Take courses beyond your comfort zone while at GSSM. Take advantage of the myriad of classes available to you. Juniors, be creative in exploring research topics--if an idea grips you, take it to your teachers and find out what you can do to pursue it. Seniors, be adventuresome both in where you decide to apply for college, and also in how you present yourself. Remember always what makes you unique, what you yourself will contribute to a University--to the world--because you're you. I'll end with a good Latin imperative: Carpe Diem! Seize this day, and make it your own! I expect great things from all of you.