"Swagger"

*Henry IV Part 2, Act II, Scene IV*

**How it’s used:**
MISTRESS QUICKLY: If he swagger, let him not come here: no, by my faith; I must live among my neighbours; I’ll no swaggerers: I am in good name and fame with the very best: shut the door; there comes no swaggerers here: I have not lived all this while, to have swaggering now: shut the door, I pray you.

**MSND ?:**
PUCK: What hempen home-spuns have we swaggering here, So near the cradle of the fairy queen?
“We just smet and I feel like I know you already.”
SMET became STEM! STEM! STEM! Here signified by Betsy Devos and Ivanka Trump and someone in a spacesuit
How did we move from SMET to STEM? Old time hockey University of Vermont “Hockey Scandal!”
Rise and fall of Ramaley

• “University officials, who have been widely criticized for slowness to respond and secretiveness about the hazing allegations, issued a report about the incident Jan. 4. It acknowledged that recruits to the team had been coerced into drinking large amounts of alcohol, parading naked while holding one another's genitals and engaging in other degrading activities.”

• Leads to stint at NSF as “Assistant Director, Education and Human Resources Directorate.”

• After 34 years this Biologist qua Administrator became a STEM person
At any rate, STEM, not the play, is the thing. Verizon commercial
All’s Well that Ends Well in STEM cities
A proposed STEM Innovation Learning Center, to be located in the Science and Engineering Library building, has advanced to the planning phase following funding approval by the State of Michigan.

Earlier this year, the university submitted to the state its top priority Five Year Capital Outlay Plan, which included the renovation and repurposing of the vacant Science and Engineering Library building into an instructional learning environment for undergraduate STEM students. Wayne State was among 10 community colleges and universities approved to proceed with the planning phases of their projects.

“The STEM Innovation Learning Center will provide significant benefits to both the university and the State of Michigan,” said Wayne State President M. Roy Wilson. “Our students and faculty will use the renovated facility to pursue STEM education, research, and careers, while the state will benefit through their investment in workforce development to meet future talent demands that will keep Michigan competitive and growing.”

The state has committed $14.75 million toward the project, which is estimated to represent about 50 percent of the total completion costs. Wayne State will use philanthropic gifts or bond proceeds to fund the remainder of the project.

When completed, the project will transform 100,000 square feet of space into STEM learning facilities. The STEM Innovation Learning Center will include flexible classrooms, seminar spaces, offices and instructional labs that are technology-rich and support hands-on and project-based learning. The Center also will have maker-hacker labs that offer students interdisciplinary exposure to skill set development that is not possible in most instructional settings.

The project will provide undergraduate instructional laboratories and support spaces for the 25 foundational STEM courses in biology, chemistry, math, and physics, which will continue to undergo transformation through the efforts of a National Science Foundation grant titled Student Success Through Evidence-based Pedagogies.

Space will also be provided for courses in engineering, computer science, geology, nutrition and food science, psychology and anthropology, all of which demand more instructional laboratory capacity due to the growth in undergraduate student enrollment.

While new classrooms and labs for Wayne State students and faculty are a major purpose for the building, the project also offers opportunities to expose K-12 students from the Detroit area to hands-on, creative learning situations that can ignite their interest in science and technology and inspire them to pursue STEM-related technical careers or college preparation.

Currently, the STEM programs at the university take place in a number of venues spread across campus. The STEM Innovation Learning Center also will include space for an Office of STEM Pipeline Initiatives. This office would serve as a focal point for K-12 STEM pipeline programs and activities, and would facilitate the coordination and expansion of programs.

The projected completion date for the Center is expected by fall semester 2020.
“Gaunt” – The guy from *Epanodos*

**JOHN OF GAUNT** how that name befits my composition!
Old *Gaunt* indeed, and *gaunt* in being old:
Within me grief hath kept a tedious fast;
And who abstains from meat that is not *gaunt*?
For sleeping England long time have I watch’d;
Watching breeds leanness, leanness is all *gaunt*:
The pleasure that some fathers feed upon,
Is my strict fast; I mean, my children's looks;
And therein fasting, hast thou made me *gaunt*:
*Gaunt* am I for the grave, *gaunt* as a grave,
Whose hollow womb inherits nought but bones.

**KING RICHARD II** Can sick men play so nicely with their names?
**JOHN OF GAUNT** No, misery makes sport to mock itself:
Since thou dost seek to kill my name in me,
I mock my name, great king, to flatter thee.
Critique of this has been, well muted . . .

Andrew Hacker - *The Math Myth and Other STEM Delusions*

- I say of STEM what he says of Math specifically: I refer not to the disciplines but STEM as “ideology, even a secular religion” (4).

- “As recently as 1982, only 55 percent of high school graduates had a course in algebra, and 47 percent had taken geometry. Today, 88 percent who finish have had a geometry course, and 76 percent have had two years of algebra” (15).

- Estimates 10 billion dollars math tutoring (17).
Politicians frame as “butter v. guns” issue

• Governor Rick Scott, Fla.: “Is it a vital interest of the state to have more anthropologists? I don’t think so.”

• Governor Matt Bevin, Kentucky: “All the people in the world who want to study French literature can do so; they’re just not going to be subsidized by the taxpayers like engineers will be, for example.”

• Governor Patrick McCrory, NC: “If you want to take gender studies that’s fine, go to a private school and take it. But I don’t want to subsidize that if that’s not going to get someone a job.”

• Mitt Romney: “As an English major I can say this . . . Your options are, uh, you better go to graduate school, all right?”

• Senator Marco Rubio: "Welders make more money than philosophers. We need more welders and less philosophers"
But President Obama?

• “A lot of young people no longer see the trades and skilled manufacturing as a viable career. But I promise you, folks can make a lot more, potentially, with skilled manufacturing or the trades than they might with an art history degree. Now, nothing wrong with an art history degree – I love art history.”
“STEAM”
Don’t buy the “butter” v. “guns” bit – Symbiosis.

Things that have happened while people were studying Shakespeare

• A) 1952 – Jonas Salk polio vaccine
• B) Crick and Watson and DNA
• C) The moon
• D) 1996 – Dolly the cloned sheep
• E) 1998 – Accelerated expansion of the universe
• F) 2001 – Human Genome Project
• (Internet, IPAD, Iphone, Lasik surgery, etc., etc., etc.)
Things that DO correspond with rise of STEM

• 1) Trumpism
• 2) anti-immigration sentiments
• 3) anti-intellectualism
• 4) corporatization/privatization of K12-university
• 5) Militarization
• 6) Political divides
• 7) Breakdown of civil discourse
• 8) Breakdown of unions (STEM = skilled trades)
What K12 parents are imagining
What state reps and business groups are imagining

• Total # of jobs in 2012: 145,355,800
• Total # of jobs predicted in 10 years: 160,983,800
• Total increase: \textbf{10.8\% or 15,627,900}

OF THAT 10.8\% --

• Predicted need for chemists/material scientists: 5,400
• Predicted need for physicists: 2400
• Predicted need for mathematicians: 800

• \textbf{900 new spots each year for 10 years}
Do people with STEM degrees “do” STEM?

- According to the National Center for Science and Engineering Statistics, the US – whose universities are still the most sought after on the planet despite the supposed massive failure of public education – produced 17.2 million degrees (not counting PhDs, those that work in universities, some of them public, that both take and generate funds for public universities in part through public funding sources like the National Science Foundation and National Institute of Health -- stereotypically, these are the scientists most think of when they think of scientists) in math and science fields. This is in a country of some 314 million, give or take.

- Of those 17.2 million degrees in math and science – as of 2008 – 2.6 million were not in the labor force. That is, they weren’t out of work nor were they seeking work. For some perspective: at about 3 million, teachers constitute the largest labor force in the country (one reason they are so in need of management and reform). 4.8 million had jobs that related to their degree, among them a few teachers. Only 490,000 were unemployed. This is a remarkably low number, I should say, for those seeking a university major with an eye exclusively towards employment -- what Governor Snyder seems to like to call "career readiness," what many used to understand as "job training."

- But here is the interesting number for school reformers who are convinced our schools need to change completely, absolutely, entirely because of abysmal waste and mismanagement. 9.9 million of those with science and math degrees hold jobs not in their field. That is, they had careers doing something else under than the math and the science that is, presumably, according to our current understanding of school reform math, going to keep America great.

- I will provide a little shorthand here. Less than 40% of our math and science degree holders do (in any practical sense) math and science.
Fiction is what makes humans thrive

• Yuval Noah Harari, *Sapiens: A Brief History of Humankind,* reminds us that Homo Sapiens "won" their evolutionary battle -- staged really between 70,000 and 30,000 years ago -- mainly because of their ability to create compelling fictions, stories. Mere language wasn't enough (ask Homo Neanderthal and Homo Erectus). Neither was Algebra 2, which came a wee bit later.

• "How did Homo Sapiens manage to cross this critical threshold [social organizations bigger than 150], eventually founding cities comprising tens of thousands of inhabitants and empires ruling hundreds of millions? The secret was probably the appearance of fiction. Large numbers of strangers can cooperate successfully believing in common myths" (17).
Humanities majors

• Susan Wojcicki (CEO of YouTube) majored in history
• Reid Hoffman (founder of LinkedIn) majored in philosophy
• Stewart Butterfield (CEO of Slack) majored in philosophy
• Alexa Hirschfeld (cofounder of Paperless Post) majored in Classics
• Parker Harris (cofounder of Salesforce) majored in English Literature
• Jack Ma (cofounder of Alibaba) majored in English
Common myths or fictions that sustain humans

- 1) Religion
- 2) “Kingship”
- 3) Capitalism
- 4) Human rights
- 5) “Law”
Don’t confuse “Fiction” or “Myth” with a “lie” or something that is not “real.”

• Fictions or myths are things we believe and take seriously and that sustain us. We need to learn and understand how they are created and how they work and how to read them. We need to know, too, of course, how to create them ourselves lest we abandon the part of “us” that is most distinctly human. We have understood our power and capacity for fiction making for some time. Fiction making is real.

• “The truest poetry is the most feigning.” As You Like It

• Fiction making is our NATURE.
So what does the English major “do”?

“Hold as t’were the mirror up to nature, to show virtue her feature, scorn her own image, and the very age and body of the time his form and pressure.”
Humanism to the “humanities”