

## ALBERT EINSTEIN?

or



Robert Einstein?

## BIG-C CREATIVITY or tiny-c creativity?

#### The Question Gives the Answer

### Big-C Scientific Creativity

- The highly skewed distribution of total lifetime output
  - Lotka's Law
  - Price's Law
- The strong correlation between quantity and quality, where quality determines the magnitude of Big-C creativity
- □ Hence ...

### Big-C Scientific Creativity

# Landau — Lotka logarithmic scale of research accomplishment.

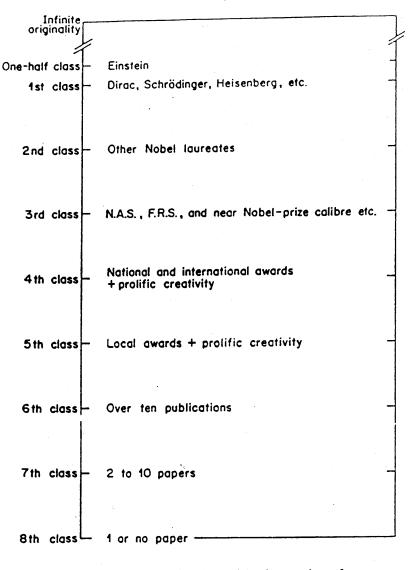
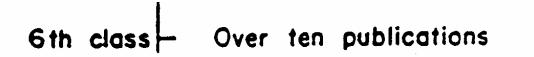




Fig. 2 The Landau-Lotka diagram depicting the logarithmic scale on which the widely varying extremes of scientific accomplishment (counting both the quality and the quantity of scientific papers) may be represented.

## 8th class 1 or no paper

## 7th class - 2 to 10 papers



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## 5th class - Local awards + prolific creativity

#### 4th class – National and international awards + prolific creativity

# 3rd class - N.A.S., F.R.S., and near Nobel-prize calibre etc. -

## 2nd class - Other Nobel laureates

#### 1st class – Dirac, Schrödinger, Heisenberg, etc.

### One-half class – Einstein

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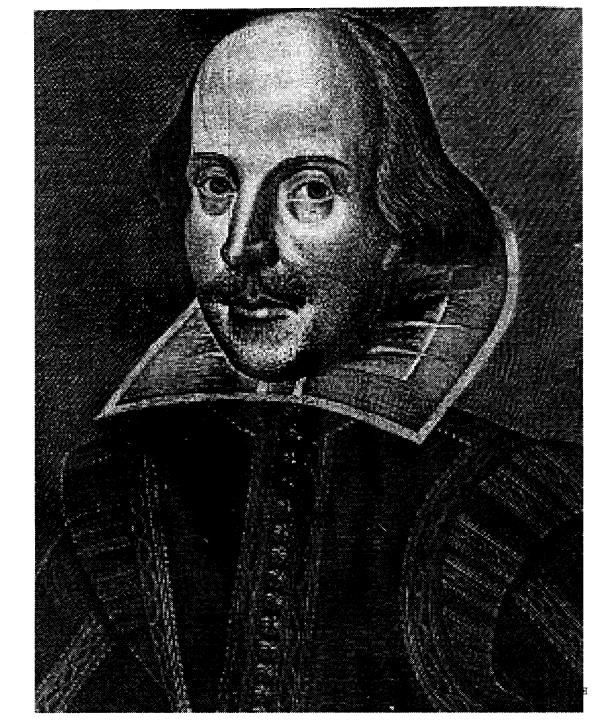


### Big-C Artistic Creativity

#### □ Who am I?

accessible, amazement, anchovy, assassination, baseless, birthplace, bloodstained, circumstantial, coldhearted, courtship, critical, day's work, dewdrop, distrustful, domineering, droplet, employment, epileptic, equivocal, exposure, eyeball, fashionable, foregone, hostile, inaudible, invitation, invulnerable, lament, leapfrog, love letter, majestic, monumental, ode, pageantry, paternal, pious, priceless, puppy-dog, on purpose, quarrelsome, reclusive, reliance, retirement, roadway, savagery, shooting, star, successful, tardiness, tranquil, transcendence, unmitigated, useless, vulnerable, watchdog, zany, etc., etc.

"in my mind's eye" "all the world's a stage," "full circle," "good riddance," "in my heart of hearts," "to thine own self be true," "heart on my sleeve," "hob nob," "an itching palm," "caviar to the general," "the dogs of war," "eaten me out of house and home," "a dish fit for the gods," "fair play," "for goodness' sake," "foregone conclusion," "household words," "a lean and hungry look," "the milk of human kindness," "one fell swoop," "to the manner born," "the primrose path," "short shrift," "too much of a good thing," "what the dickens," "neither rhyme nor reason," "neither a borrower nor a lender be," "more in sorrow than in anger," "brevity is the soul of wit," "brave new world," "bated breath," "uneasy lies the head that wears a crown," "what's past is prologue," "a tower of strength," "a spotless reputation," "it smells to heaven," "laugh oneself into stitches," "knock, knock! Who's there?," "something wicked this way comes," "strange bedfellows," "such stuff as dreams are made of," "pomp and circumstance," "wild-goose chase," "the better part of valor is discretion," "method in the madness," "breathe one's last," "budge an inch," "the crack of doom," "we have seen better days," "Lord, what fools these mortals be," "the world's mine oyster," "vaulting ambition," "a pair of star-crossed lovers," "if music be the food of love, play on," "to be, or not to be"



He was not of an age but for all time. – Ben Jonson, on William Shakespeare

Three hundred years have passed `twixt then and now, Yet all the world looks to that mountain's brow!

- Liu Boduan, early 20th century Chinese poet, in his Ode to Shakespeare



## Can you name the person behind the following words?

algorithm; amp; baud; Boolean algebra; braille; **Buddhism; Bunsen burner; Cartesian coordinates;** degrees Celsius; Colt; Copernican revolution; Coulomb's law, coulomb; curie, curium, Curie point; Cyrillic script; daguerreotype; daltonism; Darwinian; Davy lamp; decibel; diesel engine; **Doppler effect; dunce; einsteinium; Epicurean;** Erlenmeyer flask; Euclidian geometry; Eustachian tube; degrees Fahrenheit; Fallopian tube; faraday, farad; Fechner's law; Fermi statistics, fermium; Fourier analysis; Franklin stove; Freudian slip; Galilean telescope; galvanic, galvanize; Gatling gun; Gaussian curve; Geiger counter; gilbert; Graham crackers; Gresham's law; guillotine; Halley's comet;

#### **BIZARRO** by Dan Piraro



Hamiltonian; henry; Hippocratic oath; Homeric laughter; James-Lange theory; Joule's law, joule; Julian calendar, July; degrees Kelvin; Keynesian economics; Lamarckian; lambert; langley; lawrencium; leotard, leotards; lesbian; Liebig condenser; Linnaean system; Listerine; Lutheran; Lysenkoism; macadam; Mach number; Machiavellianism; Maclauren's series; magnolia; Malpighian; Malthusian; mansard; Marxism; mendelevium; Mendelian; Mercator's projection; mesmerize; Moho discontinuity; Mohs scale; Montessori system; Moog synthesizer; Morse code;

Newtonian mechanics; nicotine; Nobel prize, nobelium; Occam's razor; oersted; Ohm's law, ohm, mho; oslerize; Pap test; pasteurize; Pavlovian; Petrie dish; Platonic love, Platonism; Proustian; **Ptolomaic system; Pythagorean theorem; Rabelaisean; Remington rifle, typewriter;** Rorschach test; Rube Goldberg; sabin; Salk vaccine; saxophone; Schick test; Shakespearean sonnet; Shavian wit; shrapnel; Skinner box; Smithsonian Institution; Socratic irony, method; sousaphone; Stanislavski method; Taylor theorem; Thomist; tommygun; Trotskyism; Vernier; volts, voltage; Wagnerian; Wasserman test; watt, wattage, kilowatts; Weber's law; Wheatstone bridge; Winchester; Zeppelin.



Freudian slide

## tiny-c to BIG-C: The CAQ

#### Creative Achievement Questionnaire Shelley Carson Harvard University

I. Place a check mark beside the areas in which you feel you have more talent, ability, or training than the average person.

- visual arts (painting, sculpture)
- \_\_\_ music
- dance
- individual sports (tennis, golf)
- \_\_\_\_\_ team sports
- \_\_\_\_\_ architectural design
- \_\_\_\_\_ entrepreneurial ventures
- \_\_\_\_ creative writing
- \_\_\_ humor
- \_\_\_\_ inventions
- \_\_\_\_\_ scientific inquiry
- theater and film
- \_\_\_\_ culinary arts

 II. Place a check mark beside sentences that apply to you. Next to sentences with an asterisk (\*), write the number of times this sentence applies to you.
A. Visual Arts (painting, sculpture)

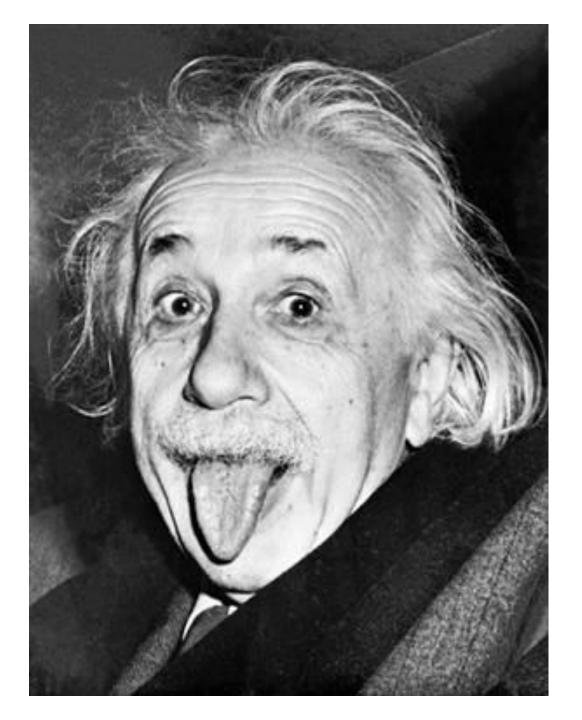
- \_\_\_0. I have no training or recognized talent in this area. (Skip to Music).
- I have taken lessons in this area.
- \_\_2. People have commented on my talent in this area.
- \_\_3. I have won a prize or prizes at a juried art show.
- \_\_4. I have had a showing of my work in a gallery.
- \_\_5. I have sold a piece of my work.
- \_\_6. My work has been critiqued in local publications.
- \*\_\_\_7. My work has been critiqued in national publications.

- H. Scientific Discovery
  - \_\_0. I do not have training or recognized ability in this field (Skip to Theater
  - 1. I often think about ways that scientific problems could be solved.
  - I have won a prize at a science fair or other local competition.
  - \_\_3. I have received a scholarship based on my work in science or medicine.
  - \_\_4. I have been author or coauthor of a study published in a scientific journal.
- \*\_\_\_5. I have won a national prize in the field of science or medicine.
- \*\_\_\_6. I have received a grant to pursue my work in science or medicine.
  - \_\_7. My work has been cited by other scientists in national publications.

\_\_\_\_ 8. I have been nominated for a Nobel Prize

\_\_\_\_9. I have been received a Nobel Prize

\_\_\_\_ 10. My name is Albert Einstein



## Q.E.D.