

Technophobia IX Round 11

Caltech
Jordan

November 6, 2004

1 Caltech Tossups, Round 11

1. The ratio of additional potential from mass redistribution by a deforming potential, the ratio of horizontal displacement to equilibrium fluid tide, and the height of a body tide to the static marine tide are called his numbers and show the multipole moments of a perturbed magnetic fields. This London Mathematical Society President wrote *A Treatise on the Mathematical Theory of Elasticity* and discovered a purely distortional surface wave in heterogeneous media. For ten points, identify this scientist for whom are named short waveleth waves whose velocity — unlike Raleigh waves — depends upon wavelenth.

Answer: Augustus Edward Hough Love

2. Memorabilia from this event drew people into the bathroom of George Patey's *Banjo Palace* in Vancouver; the event itself was planned by Jack McGurn and took place at 2122 N. Clark Street. A load of stolen whisky was to be fenced to Bugs Moran's gang as a pretense for getting them in a deserted building. For ten points, identify this plot by Jack McGurn to wipe out Al Capone's rivals on February 14, 1929.

Answer: St. Valentine's Day Massacre

3. Footage borrowed from *King Kong* or *Son of Kong* sets the stage for a scene in the Everglades, where a singer croons "it can't be love." There, the protagonist's wife claims that he never gave her anything he cared about and that there's no difference between giving her a bracelet or "giving somebody else a hundred thousand dollars for a statue ... [he'll] never even look at." One of the few material possessions the protagonist does care about it a snowglobe he saw when he first met Susan Alexander and cluched as he uttered his last word, "Rosebud." For ten points, name this Orson Well's film about the titular newspaper mogul.

Answer: Citizen Kane (accept Charles Foster Kane)

4. After leaving his family in Milan, he fell in love with Marie Winteler [MAHR-eeh VEHN-tehl-ayr], whose family he lived with while attending Aarau Canton School. Later, while attending ETH in Zürich, his attentions forced Mileva Maric to withdraw without finishing her degree. Jon Bjerknes claimed that he also used her ideas in several papers published in 1905 in addition to copying ideas from Lorentz, Hilbert, and Poincaré. For ten points, name this winner of the 1921 physics Nobel for his explanation of photoelectric effect but is perhaps better known for explaining relativity.

Answer: Albert Einstein

5. She kidnapped Cephalus, Clitus, and Tithonus to turn them into love slaves, and bore Memnon, Zephyrus, Notus, Boreas, and Hesperus to other beaus. Apollodorus recounts that her nymphomania was a curse by Aphrodite, a punishment for her affair with Aries, which explains her unrequited love for Orion. Homer calls her "rosy-fingered," and she opened the heavens for her brother Helios' daily trip across the sky. For ten points, name this Greek goddess of the dawn, the counterpart to Aurora.

Answer: Eos, prompt on "Aurora" until "Aphrodite"

6. Von Bruchhausen suggested its synthesis via a Diels-Alder cycloaddition reaction between furan and dimethylmaleic anhydride, but this only effectively works at 15 kbar, as demonstrated by Dauben in 1976. Similar to the chiral palasonin, which is only found in Himilayan tree bark, it is extracted from the male *Lytta vesicatoria* beetle. Commercially available as cantharone, it is used as a blistering agent to remove warts. Taken orally, it causes inflammation of the ureter and

inhibits metabolism of glycogen, although it can cause priapism because of the increased flow of blood to the genitals. For ten points, name this banned aphrodisiac extracted from a South American insect.

Answer: Spanish Fly or Cantharidin or

3-dimethyl-7-oxabicyclo[2, 2, 1]heptane-2, 3-dicarboxylic anhydrid

7. His widow, Li Xin, in 1995 interview, called him a man “who desperately needed my love” after fifteen years in Russian and Chinese prisons. Yet she hardly appears in his autobiography, *The previous half of my life*. A fix-it man at a botanical garden, he was pardoned by Mao in 1959 for his role as K’ang-te, the president and emperor of Manchoukuo. For ten points, name this last emperor of China’s Qing dynasty.

Answer: Aisijero “Henry” Pu Yi or Hsüan-t’ung

8. Only Liu, the faithful slave of the king of the Tartars, knows the true name of the male protagonist of this opera. Calaf’s real name, however, is announced not by Liu, who loves him, but by the princess whose murderous past is put behind her once she’s rechristened her suitor “Amour.” For ten points, name this Puchinni opera about a Chinese princess who kills those who don’t give her the right answers.

Answer: Turandot

9. In this animal, a mutation of Fru caused males to court other males but suddenly become confused when copulating. Other amusing gene names include *ultrabithorax*, *gooseberry*, and *small mothers against death*. Moreover, this organism was the first where *Sonic Hedgehog* was found, because it made embryos look spiky, and an apocryphal story tells of a mad search for a white-eyed female one of these. For ten points, name this insect beloved by Morgan.

Answer: Fruit Fly or Drosophila melanogaster

10. He commissioned Vincent of Beauvais to compose the *Speculum majus*, an early encyclopedia. His *enseignements* instructed his son to love the poor, the church, and his family; these instructions were especially useful since he, upon the advice of his brother Charles of Anjou, invaded Tunisia and caught plague in 1270, leaving the throne to his son, Phillip III. Given his earlier misfortune of being captured and ransomed in the seventh crusade, he probably should have just stayed in Paris. For ten points, name this French king, the canonized successor to Louis VIII.

Answer: Saint Louis or Louis IX Capet

11. Ubertino of Casale asks the narrator of this work, “what is love” while looking at the breasts of a statue of the Virgin. The same description is used by the narrator as he is seduced by a girl brought by the misshapen Salvatore for Remigio. The girl Adso loves and Salvatore are later accused of witchcraft and held responsible by Bernard of Gui for the murders in the abbey. For ten points, William of Baskerville searches for the real killers in what Umberto Eco work?

Answer: The Name of the Rose or Il Nome della Rosa

12. It’s largest party is TIM, which literally means “I love this country,” and came to power in 2002 under Toamasina Ravalomanana, but was opposed by supporters of the former president, Didier Ratsiraka, who blockaded Antananarivo until fleeing to France, the former colonial power of the Malagasy republic. For ten points, identify this large island nation separated by the Mozambique Channel from Africa.

Answer: Republic of Madagascar or

Malagasy Madagasikara or Repoblikan’i Madagasikara

13. He's not Dan Savage, but he did write a play called *Savage Love*. He won the 1974 Pulitzer for *Buried Child*, but he's better known as an actor. Afraid of flying, he appropriately played the title character in *Homo Faber*, and he appears in the movies *Crimes of the Heart* and *Don't Come Knockin'* with his common-law wife, Jessica Lange. For ten points, name this actor who played Chuck Yeager in *The Right Stuff*.

Answer: Sam Shepard or Samuel Shepard Rogers

14. Her sister Arsinoe was paraded through the streets of Rome before the battle of Munda and a golden statue of her was placed in Venus Genetrix's temple. She sailed up the Cydnus River to meet her lover at Tarsus before he left for a campaign in Parthia, and after the campaign that lover's will was removed from the temple of the vestal virgins to insense Rome against the gift of Roman lands to her. Defeated at the battle of Actium, this is, for ten points each, what Queen of Egypt, the lover of Caesar and Marc Antony?

Answer: Cleopatra VII Thea Philopator

15. In his *God's Warning to the World*, Sun Myung Moon calls all of creation one, Iris Murdoch won the Whitbread prize for her "Sacred and Profane" one, and it's the title of a Jacqueline Susann novel about Robin Stone's hedonistic life in show business. TRS-80 has an album titled a "Manhattan" one, while Morning Musume, Girls Aloud, and The Miracles all have had hit songs with this title. For ten points, give the two world appellation who "works for nobody but you."

Answer: Love Machine

16. After she heard the story of a man who killed his lover after giving her "just a few nips," she painted a picture of the same name. Her own husband is depicted as a naked cherubic Buddha in *Love Embrace of the Universe, the Earth, Me, and Senor Xolotl*; she called her husband her life's other accident, the other being a streetcar accident that left her in constant pain. For ten points, name this Mexican painter, the wife of Diego Rivera.

Answer: Frida Kahlo

17. In his *Science of Right*, he argued that committed, loving monogamy was the only workable relationship between sexes. His only lasting relationship, however, was with his servant Lampe [LAHM-pah] for whom he went so far as to reinstate God in his *Critique of the Power of Judgement*. While there is nothing to prove God's existence, he felt it was our duty to believe in God and act only if we would wish our actions to be universal law, a principle he called his categorical imperative. For ten points, name this author of *Critique of Practical Reason*.

Answer: Immanuel Kant

18. Unlucky in love, his abrasive personality made him go through three wives who all divorced him: Siri von Essen, Frieda Uhl, and Harriet Bosse. His mysoginism was also directed against Sofia Kovalevskaya, whose professorship he considered a "shameful appointment of a monster in a land where we have enough male professors." His *Miss Julie* depicts a "half woman" whose base desires ruin her, and *Red Room* concerns a meeting place for Stockholm's bachelors. For ten points, name this Swedish dramatist and novelist, the author of *Inferno* and *The Ghost Sonata*.

Answer: August Johan Strindberg

19. Medvedenko loves Masha, but Masha loves Treplev. Treplev doesn't love Masha; he loves Nina. Nina loves Treplev briefly but then falls madly in love with Trigorin. Treplev concludes that Nina stopped loving him because his play failed; this happens after she coolly receives a gift of the

titular creature shot “for her honour” on a hunting trip. For ten points, name this avian-titled play by Anton Chekhov.

Answer: Seagull or Chayka

20. In 1989 this city hosted a “House Music Demonstration for Tolerance, Respect, and Understanding between Nations” organized by DJ Dr. Motte which became known as *Love Parade*, initially at Kurfürstendamm but moved to the city’s Tiergarten in 1996. Last year, a two day marathon lecture by mathematicians from Humboldt University, Free University, and the Technical University protested pay cuts on Potsdamer Platz. For ten points, name this city home to Gendarmenmarkt, the Reichstag, and the Brandenburg gate, the capital of Germany.

Answer: Berlin

21. In *The Woodsman*, Kevin Bacon plays one, as does John Diehl in *Glitz*. In the Simpsons episode that begins with “Love Day,” we learn that Mayor Quimby, Patty, Selma, and Moe are. Actor Jeffrey Jones, if he loses his court battle, would become one. For ten points, name this legal designation that forced John Turturro’s Jesus [HAY-zoohs] Quintana to go door to door in *The Big Lebowski*

Answer: registered sex offender

Prompt on convict, pedophile, etc.

22. He paid more attention to his parrot than to his two children, and his death has been anticipated fifty-one years, nine months, and four days. At his funeral, Florentino declares his love for Fermina, who finally is free from the clutches of this adulterous, spineless man. Despite his affair with Barbara Lynch, he is the City of the Viceroy’s most respected and educated doctor. For ten points, name this character from Gabriel Garcia Márquez’ *Love in the Time of Cholera*.

Answer: Juvenal Urbino

2 Caltech Bonuses, Round 11

1. In terms of Love numbers, this property of a planet is given by $\frac{1}{2}h_2q$, where q is the frequency of rotation squared times the radius divided by g . For ten points each. . .
 - (a) Name this measure of how much the equator bulges outward due to rotation.
Answer: oblateness (accept word forms)
 - (b) This is the most oblate of the planets in our solar system; its meridian and equator differ by 10.8/
Answer: Saturn
 - (c) Vega, Deneb, and this star in Aquila with 14% oblateness form the "Summer Triangle."
Answer: Altair
2. For ten points each. . . answer the following questions about a theorem from graph theory.
 - (a) This theorem states that a set W of women can be successfully paired off with men if every subset of women of size k loves at least k men.
Answer: Hall's marriage theorem
 - (b) It is equivalent to giving conditions for a saturation of a subset of this type of two-colorable graph where all cycles are of even length.
Answer: bipartite
 - (c) For a final ten points, this is the only Platonic solid that is bipartite.
Answer: cube
3. Answer the following about the painting *Sacred and Profane Love* for ten points each.
 - (a) Who painted it?
Answer: Titian or Tiziano Vecellio
 - (b) Two Roman Gods are depicted next to the young maiden on the left. Name them, all or nothing.
Answer: Cupid and Venus
 - (c) In 1899, the Rothschilds offered to buy the painting for more than the estimated value of this museum where the painting is housed.
Answer: Galleria Borghese in Rome
4. Given some details from a mythological figure's love life, identify the diety for ten points each.
 - (a) He was seduced by Tezcatlipoca and was so disgusted that he immolated himself; after his death, he became the morning star.
Answer: Quetzalcoatl
 - (b) Pwyll stole her from Gwawl the court of Hefeydd the Old, her father, and she bore him Pryderi, who disappeared and was raised by Teyrnnon.
Answer: Rhiannon
 - (c) Her name literally means "she who is black," and her relationship with her husband is an usual one; this killer of Raktabija is usually depicted dancing on Shiva's body.
Answer: Kali

5. Identify these lovers of Catherine the Great for ten points each.

- (a) Perhaps a “lover” in a loose interpretation of the word, this weak Tsar ruled Russia briefly after Elisabeth’s death and before Catherine’s coup.

Answer: Peter III Romanov or Karl Ulrich von Holstein-Gottorp

- (b) She installed this lover as the last King of Poland in 1764.

Answer: Stanislaw II August Poniatowski

- (c) He planned the annexation of the Crimea from the Turks in 1783, built up the Black Sea Fleet, and, during Catherine’s tour of the newly annexed lands, built several of his “villages.”

Answer: Grigory Aleksandrovich Potemkin, Prince Tavrishesky

6. Give the missing proper names from Elliot’s *The Lovesong of J. Alfred Prufrock* for ten points each.

- (a) I am not Prince _____, nor was meant to be

Answer: Hamlet

- (b) I am _____, come from the dead

Answer: Lazarus

- (c) In the room the women come and go talking of _____

Answer: Michelangelo

7. He was in love with Sarah Lennox, a descendent of Charles II. Had he married her, it would have restored the Stuart line to the British monarchy. However, he was persuaded to marry Charlotte of Mecklenberg-Strelitz. For ten points each:

- (a) Name this longest reigning British king.

Answer: George III

- (b) George III’s was straightjacketed and covered with Spanish Fly to draw the evil humors out during the Revolutionary war and locked up in Windsor Castle during his later years due to this ailment.

Answer: porphyria

- (c) George III went through multiple assassination attempts, but didn’t seem to mind. However, his reign did see the only successful assassination of a British Prime Minister was assassinated. Name the victim.

Answer: Spencer Perceval

8. Identify the religious thinker on a 30-20-10 basis.

30 The 1121 Council of Soissons condemned his *Theologica*, and as punishment was locked up at Saint-Médard.

20 His best known work was a collection of inconsistencies in Christian doctrine that seemed to say “yes” and “no” at the same time.

10 In addition to *Sic et Non*, he is also known for his passionate love for Héloïse, which got him castrated by her uncle, Canon Fulbert.

Answer: Petrus Abaelardus or Pierre Abélard

9. The only original member left is Mike Love. For ten points each...

- (a) Name this sufer band whose *Pet Songs* record included “Wouldn’t it be Nice” and “Sloop John B.”

Answer: Beach Boys

- (b) This former Beach Boy was the subject of a Barenaked Ladies’ song concerning his mental illness and later covered the song.

Answer: Brian Wilson

We’ll be nice and not prompt

- (c) The friction between Love and Wilson ended in the scrapping of this album, finished in 2004 by Wilson with lyricist Van Dyke Parks’ help.

Answer: Smile

10. They are guarded by a cook in the castle of Creonte and contain beautiful, thirsty princesses. For ten points each. . .

- (a) Name these titular fruit.

Answer: Three Oranges or tre melarance or trois oranges
from *Love of Three Oranges*

- (b) The opera *The Love for Three Oranges* was written by what composer?

Answer: Sergei Prokofiev

- (c) What was the title of prince’s father?

Answer: King of Clubs or Le roi de trèfle

11. We all know that Virginia is for lovers, so answer these questions about the geography of it and its neighboring states for ten points each.

- (a) This body of water divides the state, seperating the bulk of Virginia from its Eastern Shore.

Answer: Chesapeake Bay

- (b) The Eastern Shore lies on what penninsula, a portmanteau of the states that have land there?

Answer: Delmarva Penninsula

- (c) This state capital lies on the Delmarva Penninsula.

Answer: Dover

12. Most people think marriage is a partnership; UCLA economist David Friedman sees it as a two party firm. Identify the following things about love and money for ten points each.

- (a) Even if Alice is a better carpenter and cook than Bob, if Bob is a horrible cook, it makes sense for them to trade so as to maximize this, a concept first described by Ricardo in *The Principles of Political Economy and Taxation*.

Answer: Comparative Advantage

- (b) Men and women, like unions and employers exhibit this kind of monopoly where both sides have a complementary monopoly on resources (in this case, gametes) needed for production.

Answer: bilateral monopoly

- (c) Friedman considers “cold feet” to be a last-minute revaluation of this, the benefit of the most valuable forgone alternative.
Answer: opportunity cost
13. Its namesake dreamed of linking Lake Erie and Lake Ontario with a waterway that would generate hydroelectric power for a model community. For ten points each, name :
- (a) This site of contaminated by Hooker Chemicals and Plastics.
Answer: Love Canal
- (b) That company sold the land to this nearby town.
Answer: Niagra Falls
- (c) The company that assumed the the responsibility for the cleanup in a 1994 settlement.
Answer: Occidental Chemical Corporation
14. *Women in Love* extends the story begun in this work. For ten points each. . .
- (a) What is this novel concerning the Brangwen family, which was banned for its explicit depiction of Ursula’s affair with Anton Skrebensky?
Answer: The Rainbow
- (b) *Sons and Lovers* was written by this author.
Answer: David Herbert Lawrence
- (c) After Ursula’s miscarriage, she is left alone and wandering, much like the autobiographical Paul Morel at then end of this other D.H. Lawrence work.
Answer: Sons and Lovers
15. Sometimes it takes a miracle for people to get together in movies. Given such a miracle, name the movie for ten points each.
- (a) Billy Mack, a washed-up rocker, provides the catalyst via the song *Christams is all Around* necessary for elementary kids, a Prime Minister, and linguistically challenged writer to find love.
Answer: Love Actually
- (b) A newspaper editor and a secretary learn that their spouses are cheating on them but resolve not to sink to their level in this Wong Kar Wai film.
Answer: In the Mood for Love or Fa yeung nin wa
- (c) Meg Ryan and Matthew Broderick play two jilted lovers who are so intent on breaking up their exes that they can’t seem to fall in love with each other.
Answer: Addicted to Love
16. He annexed Ahmadnagar in 1636, took Qandahar two years later, and built the Moti Masjid and Jami’ Masjid at Agra. For the stated number of points:
- 10 For ten, name this Mughal emperor.
Answer: Shah Jahan or Khurram
- 5 For five, after the death of his favorite wife, he ordered the construction of masoleum at Agra to commemorate their love.
Answer: Taj Mahal

- 15 For five points a piece, name any three of the four sons of Shah Jahan who fought for control of the empire after he became ill in 1657.

Answer: Aurangzeb, Dara Shikoh, Murad Bakhsh, and Shah Shuja'

17. Given a case of forbidden love, name the book from which it comes for ten points each.

- (a) Just about all the love in this play is forbidden when the King of Navarre outlaws all consorting with women.

Answer: Love's Labour's Lost

- (b) Shimamura, a rich playboy, pursues the unattainable geisha Yoko while spurning Komako in this Kawabata work.

Answer: Snow Country or Yukiguni

- (c) This Hawthorne novel tells of Hester Prynne's forbidden affair with Arthur Dimsdale.

Answer: The Scarlet Letter

18. AEH Love edited *On Fermat's Numbers*, describing a class of numbers parameterized by b and k that are rarely prime. For ten points each, ...

- (a) The set of C^- of 2 comma k corresponds to numbers of the form $2^k - 1$, which are named after this French mathematician.

Answer: Marin Mersenne

- (b) The set of C^+ of two comma two to the m corresponds to numbers of the form two to the two to the m , which are named after this mathematician whose "last theorem" was proved by Andrew Wiles.

Answer: Pierre de Fermat

- (c) The general class of numbers is given this name for a 20th century British mathematician.

Answer: Cunningham numbers

19. "Body of a Woman," "Your Breast is Enough," and "Ah Vastness of Pines" are some of the poems found in this collection. For ten points each, name ...

- (a) This 1924 collection by a nineteen-year-old author.

Answer: Twenty Love Poems and a Song of Despair or Viente Poemas de Amor y Una Cancion Desesperada

- (b) The Chilean author of *Twenty Love Poems and a Song of Despair*, the winner of the 1971 Nobel prize in literature.

Answer: Pablo Neruda or Neftalé Ricardo Reyes Basoalto

- (c) The poem inspired by a trip to Peru that foreshadows the Latin nationalism later seen *Canto General*.

Answer: Heights of Macchu Picchu or Alturas de Macchu Picchu

20. The greek word "philein" means "to love," so identify these "-philes" from chemistry for the stated number of points.

- 10 For ten, Grinard reagents are examples of these substances which are attracted to areas of positive charge. Because they donate electrons, they are by definition Lewis bases.

Answer: nucleophile

- 5 For five, Many signalling molecules cannot pass through the membrane layer because they are electrically polarized and capable of H-bonding, unlike hydrophobic substances.

Answer: hydrophile

- 15 For fifteen, this word derived from the Greek word for "iron" applies to substances often found with iron and nickel.

Answer: Siderophile

21. Sure, the "Summer of Love" is cool, but some people actually got something accomplished during the warmer months of 1967. For ten points each...

- (a) Israel defeated a coalition of Arabs in this very short war.

Answer: six-day war

- (b) This Igbos-majority region broke away from Nigeria, led by Chukumeke Odumegwu Ojukwu.

Answer: Biafra

- (c) He performed the first successful heart transplant operation, extending Louis Washkansky's life.

Answer: Christiaan Neethling Barnard

22. Answer the following questions about the trailblazer Oliver Loving for ten points each.

- (a) With a former Texas Ranger, he blazed this trail from Texas northward.

Answer: Goodnight-Loving Trail

- (b) Loving was the first to bring Texas cattle to market in this future state capital, where he was arrested for being a union sympathizer in 1861.

Answer: Denver, Colorado

- (c) He was only freed with the help of this federal Indian agent for Northern New Mexico for whom another state capital is named.

Answer: Kit Carson