

11/4/02  
4/21/05

**Beaver Bonspiel IX Round 9**  
Packet by Harvard (Dan Suzman)

**Tossups**

1. At his entrance examination for the Ecole Polytechnique, which took place just after the death of his father, he was failed after supposedly throwing an eraser at his examiner, and his submission for the Grand Prize in Mathematics was never considered because Fourier died before being able to read it. A letter to Auguste Chevalier contains his discoveries concerning the relation between the solubility of a polynomial equation and that of its associated group and was hastily composed the night before his death. FTP, identify this namesake of a large chunk of abstract algebra, who died in a duel at age 20.

Answer: Evariste Galois

2. Closing his eyes and listing such blessings as the fact that he was not seriously punished for staying in his bunk in the morning; that he and his gang of prisoners were allowed to remain at the power plant; that Tyurin has gotten extra rations for them for the next five days and, finally, that he has survived another twenty-fours in the forced labor camp, the title character thinks to himself as this work ends. Name, FTP, this work containing characters like Kilgas, Caesar and Alyosha and written by Aleksandr Solzenitsyn.

Answer: One Day in the Life of Ivan Denisovich (*Odin den iz zhizni Ivana Denisovicha*)

3. Its principles were described in an Avant-Garde periodical of the same name, which appeared from 1917 to 1931. It influenced the Bauhaus and was associated with such architectural works as the Schroder House and the Workers' Housing Estate, designed respectively by Gerrit Rietveld and Jacobus Oud. It reduces artistic elements to basic forms, such as the cube, rectangle, primary colors, and non-colors, and was exemplified by works such as Theo van Doesburg's *Card Players*. For ten points, name this Dutch art movement most associated with *Broadway Boogie Woogie* painter Piet Mondrian.

Answer: De Stijl (don't accept neoplasticism, since that's not the name of a periodical)

4. This thinker's theoretical construction of homo faber or "man the tool maker" results from the distinction between labor and work. Such a distinction is the necessary prerequisite to a conceptualization of an individual's action on the world and runs through such books as *The Human Condition*. FTP, name this philosopher who is perhaps better known for her defense of Martin Heidegger after World War II and her more politically tinged explorations of the limits of "action" in the world, such as *The Origins of Totalitarianism* and *Eichmann in Jerusalem*.

Answer: Hannah Arendt

5. In 1881, the French company Couvreux and Hersent began its construction. That project was soon abandoned and was forgotten for nearly twenty years, until a revolution and some American "big stick" foreign policy got the US rights to continue the operation. It took 50,000 laborers and 350 million dollars to complete this 50.72 mile long structure. Often said to be Theodore Roosevelt's greatest achievement, name, for 10 points, this passage which connects two oceans.

Answer: Panama Canal

6. He first made his appearance in print in the *All Story Weekly*, in a five-part series by pulp writer Johnston McCulley entitled "The Curse of Capistrano," beginning August 19, 1919. Douglas Fairbanks and Mary Pickford selected it to become the inaugural picture for their new studio, United Artists, thus beginning the cinematic tradition that lasted through a 1998 remake starring Antonio Banderas. FTP, Don Diego de la Vega, a mild-mannered caballero at night, donned the black cape and hood and made his mark against evildoers using what alter ego?

Answer: Zorro

7. Though it seems to be an utterly disjointed play, especially in the second act which wraps up the loose ends with 24 separate "revelations" in just 455 lines, Harold Bloom defends its composition as being the result of an attempt to adapt a theme from the *Decameron* to create a new genre of theater with elements of both comedy and tragedy. The plot centers on the titular king's new queen who schemes for her son Cloten to be married to the princess Imogen, who despises the buffoon and wants to run off with her secret

husband Posthumus. FTP, name this late Shakespeare play featuring an aging king of Britain.

Answer: Cymbeline

8. The practice is based on a law found in the books of Exodus, Leviticus, and Deuteronomy, although a textual basis can be found as far back as the epic of Gilgamesh. Since the Middle East seasonal climate pattern was not dependable for growing crops, the population relied on cycles such as this. After seven of these, the jubilee year followed. For ten points, name this seven-year cycle, during which the Jews were allowed to let their crops lie fallow for twelve months, which now refers to an academic vacation.

Answer: Sabbatical

9. Although they were first used by Max Delbruck and his colleagues, it was Seymour Benzer who used them in one of biology's greatest experiments. Benzer used them to determine extremely low recombination frequencies by determining whether three mutations, "rI, rII, and rIII," were in the same complementation group in terms of their ability to infect certain strains of *E. coli*. For ten points, name this virus, a type of bacteriophage.

Answer: T4 phage (accept bacteriophage before it is mentioned)

10. On March 18 resistance broke out in response to an attempt to remove the cannons of the guard overlooking the city. The new government was made up of three factions: the Jacobins; the Proudhonists, socialists who supported a nationwide federation of the namesake organization; and the Blanquistes, socialists who demanded violent action. For ten points name this insurrection which took place after the defeat of France in the Franco-Prussian war and the collapse of Napoleon III's Second Empire.

Answer: Paris Commune

11. They are portrayed in a famous painting in which three women are weeping in the background. Their battle was intended to determine whether Rome or Alba Longa was supreme. Only one of them emerged from the combat, after finishing off all three of the wounded Curatii. FTP, name these three brothers, subjects of a Jacques-Louis David work.

Answer: The Horatii

12. The name's the same. One is named after the man regarded as a founder of the French school of violin playing who composed the opera *Lodoiska*. He met Beethoven, who dedicated this work, also called the *Sonata in A Major for Piano and Violin*, to him, but he did not appreciate it and never played it. The second is a dark novella, written in 1891, about a man who murders his wife. For ten points, name these identically titled works, the sonata by Beethoven and the novella by Leo Tolstoy.

Answer: The Kreutzer Sonata

13. "It was evening, and the smooth active badgers were scratching and boring holes in the hillside; the parrots were unhappy; and the grave turtles squeaked out." According to notes later written by the author, this is the normal-English translation of a verse of seeming nonsense. It first appears backwards near the beginning of a book based on a very unlikely chess game and it goes on to tell the story of the defeat of a huge dragon-like beast. FTP, name this poem written by Charles Dodgson.

Answer: "Jabberwocky"

14. Born in Wantage in southern England, he was the youngest of the five sons of King Ethelwulf. He nevertheless became king himself and a successful military leader, leading his troops to victory against the invaders and capturing such important strongholds and Edington and London. For 10 points, name this English king, the first to be recognized as king of all of Anglo-Saxon England, famous for leading his people to victory over the Danes in the late 9<sup>th</sup> century

Answer: Alfred the Great

15. This phenomenon occurred with unanticipated strength in 1962 when the United States conducted a high-altitude test in the South Pacific. About 1,000 miles away, in Hawaii, radio transmissions were interrupted, telephones didn't work, and streetlights went out. To produce it, a nuclear device must be detonated in the upper atmosphere. For ten points, name this phenomenon, in which gamma rays interact

with molecules found lower in the atmosphere, causing a cascade of reactions that result in an extraordinarily intense, microsecond burst of energy delivered to earth.

Answer: Electromagnetic Pulse or EMP

16. His prose works include the stories "The Lovers" and "The Imaginary Jew" and a 1950 biography of Stephen Crane. His poetry collections include a volume of eponymous sonnets as well as *The Dispossessed* and *His Toy, His Dream, His Rest*. FTP, name this American known for 77 *Dream Songs* and 1956's *Homage to Mistress Bradstreet*, whose career ended with his 1972 swan-dive off of the Washington Avenue Bridge.

Answer: John Berryman

17. He first became prominent about 600 BC by publicly reciting a poem that made the issue of the war with Megara for Salamis a matter of national honour. He was elected Archon around 590 BC and carried out many reforms, including a redistribution of land, in order to mediate between the rich and poor. His most radical reform was establishing courts, called Heliadae, administered by all citizens. For ten points, name this Athenian statesman, whose name is now synonymous with just rule and who reformed the tyranny of Draco.

Answer: Solon

18. Desaulx advanced the first good explanation of this phenomenon in 1877, and in 1889 G.L. Gouy found that it was more rapid for smaller particles. F.M. Exner undertook the first quantitative studies of it, measuring how it depended on temperature and particle size, while Smoluchowski and Einstein independently developed quantitative theories of it in 1905. For ten points, identify this type of motion first observed by its namesake English botanist in 1827.

Answer: Brownian movement or motion

19. He expounded the medicinal virtues of tar-water in *Siris*, which also describes a "chain of being" connecting the world of sense to that of God, and his 1734 work *The Analyst* made objections to the use of infinitesimals in calculus that were only successfully addressed in the mid-19th century. He disputed the distinction between primary and secondary qualities on the grounds that both are sense data that exist merely "without the mind." FTP, name this empiricist bishop of Cloyne, noted for the statement that "To be is to be perceived."

Answer: George Berkeley (BARK-ly)

20. One character in this novel drinks throughout his trip to the Middle East with Mr. Samgrass and then goes to Morocco, where he takes up with future suicidal SA stormtrooper Kurt, but finally ends up in a Carthaginian monastery. His sister Julia marries Rex Mottram but falls in love with the protagonist, an architectural painter who narrates the story as an army captain encamped at the titular location. FTP, name this novel whose principal characters are Sebastian Flyte and Charles Ryder, written by Evelyn Waugh.

Answer: Brideshead Revisited

21. This 54 year old has gained undue notoriety because of his position in the months since his group met in Dallas, although he has been on the vanguard of reform ever since the early 1990s when he was in charge of the Diocese of Belleville, IL when an earlier abuse scandal broke. FTP, name this cleric, who unlike Cardinal Law actually removed priests rather than reassigning them, and who is currently head of the US Council of Catholic Bishops--the first African-American ever elected to that position.

Answer: Bishop Wilton Gregory

22. Aristotle tells us that this playwright was the first to increase to two the number of actors in a play, curtail the role of the chorus, and make the dialogue the leading part of the play. Yet, for all his creativity this member of the Holy Trinity of Greek drama did not see drama as a conflict between forces but rather between a solitary hero, such as Agamemnon, Orestes, or Electra, and his fate. FTP, name this father of Greek tragedy and playwright of the *Oresteia*.

Answer: Aeschylus

23. This man lost more games in his career than any other pitcher. Yet somehow, he was still inducted into

the Hall of Fame in 1937. Considered a successful pitcher because despite his 315 career losses, he still managed a winning percentage of .619 over his 22-year career with 906 games played and 511 career wins. FTP, name this pitcher whose eponymous trophy is given to the best pitcher in the league.

Answer: Cy Young

### **Bonus Questions**

1. Industrial design visual bonus: You will be given a sheet with pictures of 5 chairs--each of which is a seminal example of 20th century design. FTP each, name any three of the chairs or their designers

Answers: Ludwig Mies van der Rohe (Barcelona chair), Charles and Ray Eames (Eames Chair), Marcel Breuer (Wassily chair), Don Chadwick and/or Bill Stumpf (Aeron chair), Phillipe Starck (Dr. No chair)

2. For ten points each, answer these related questions about molecular biology.

a) The hammerhead is a type of these structures composed of RNA, discovered by Tom Cech, some of which can self-cleave and others of which can manufacture new strands of RNA.

Answer: Ribozyme(prompt on "RNA enzyme" or "RNA catalyst")

b) Like other enzymes, ribozymes function as these, which lower a reaction's activation energy and are regenerated by the end of the reaction.

Answer: Catalysts

c) Peptidyl transferase, a ribozyme found within this organelle, has been found to be responsible for peptide bond formation

Answer: Ribosome

3. Name these dams, for ten points each:

a) This principal dam along the Columbia River was finished in 1941 and created Franklin D. Roosevelt Lake.

Answer: Grand Coulee Dam

b) The Chinese government has attracted controversy over plans to relocate between one and two million people for the building of this dam, which upon completion will be the largest hydroelectric dam on earth.

Answer: Three Gorges (or Sanxia) Dam

c) Name the 643 foot hollow gravity dam on the Upper Parana River at the Brazil-Paraguay border

Answer: Itaipu Dam

4. For ten points each, name these lovers or objects of affection from Greco-Roman mythology:

a) The daughter of King Pandion of Athens, she wove a tapestry to alert her sister, Procne, to her rape by Tereus of Thrace, who had cut her tongue out.

Answer: Philomela

b) Each night, the goddess of the moon, Selene, kisses and caresses this shepherd boy in his perpetual slumber.

Answer: Endymion

c) This huntress flees from Apollo, only to be turned into a laurel tree by her father Peneus, a river-god.

Answer: Daphne

5. FTPE, name these prominent figures of the Crusades.

a) The pope who started the 1<sup>st</sup> Crusade in 1096.

Answer: Pope Urban II (or Odo of Lagny)

b) The French King whose abandonment of the 3<sup>rd</sup> Crusade effectively doomed it to failure.

Answer: Phillip II Augustus (just Phillip Augustus is also acceptable)

c) The last King of Jerusalem, his loss at the Battle of Hattin meant the end of Christian rule over Jerusalem.

Answer: King Guy of Lusignan

6. Name the composers of these musical works on a 10-5 basis.

a) 10: *Archduke Trio*

5: *Missa Solemnis*

Answer: Ludwig von Beethoven

b) 10: *The Miraculous Mandarin*

5: *Duke Bluebeard's Castle*

Answer: Bela Bartok

c) 10: *Lady MacBeth of the Mtensk District*

5: *Leningrad Symphony*

Answer: Dmtri Shostakovich

7. Identify these characters from Toni Morrison works FTP each

a) This title character is the third child of the escaped slave Sethe, who murders her to prevent her being taken by Sethe's former owner.

Answer: Beloved

b) Though this character has affairs with Ajax and Jude, she never truly finds friendship with anyone other than Nel, with whom she fails to reconcile before her death.

Answer: Sula Peace

c) In *Tar Baby*, she is a model who chooses life in Paris over her lover, Son, in Florida

Answer: Jadine Child

8. Identify the following related to a field of organic chemistry for ten points each:

a) Many reactions take place at this functional group, in which a carbon is double-bonded to an oxygen.

Answer: Carbonyl

b) In this reaction, a carbonyl is replaced by an olefin through the use of a phosphor ylid.

Answer: Wittig Olefination

c) Another way to make carbon-carbon bonds is to attack a carbonyl with one of these, a nucleophilic carbon bound to magnesium and bromine.

Answer: Grignard Reagent

9. For ten points each identify these Rolling Stones albums based on songs that can be found on them

a) *Beast of Burden*, *Miss You*

Answer: Some Girls

b) *No Expectations*, *Sympathy for the Devil*

Answer: Beggars Banquet

c) *Gimme Shelter*, *Midnight Rambler*

Answer: Let it Bleed

10. For ten points each, identify these events related to Imperialism.

a) This 1884-1885 meeting established European claims in West Africa.

Answer: Conference of Berlin (or Berlin Conference; also accept Congress of Berlin, since even though that name is more often applied to another meeting it is sometimes used for this one)

b) Prime Minister of the Cape Colony, he organized the De Beers mining company and created an educational grant that bears his name.

Answer: Cecil Rhodes

c) At this 1898 battle British forces under Kitchener gained control of the Sudan.

Answer: Battle of Omdurman

11. Identify these things related to conditioning FTP each.

a) This is a type of associative learning in which there is no contingency between response and reinforcer. An example is Pavlov's dog experiment.

Answer: Classical conditioning

b) As opposed to classical conditioning, in this form of conditioning a desired response is paired with an unconditioned stimulus, leading to a conditioned response even in the absence of the unconditioned stimulus.

Answer: Operant conditioning

c) This device used in operant conditioning typically contains one or more levers which an animal can

press, one or more stimulus lights and one or more places in which reinforcers like food can be delivered. Responses are then automatically graphed.

Answer: Skinner Box

12. Name these ideas from statistical theory FTP each.

a) This technique involves generating a large amount of suitable random data and observing how many of those data obey certain properties.

Answer: Monte Carlo method

b) Under certain normalcy conditions, in large samples, negative 2 times the log likelihood ratio approaches this distribution. This enables one to test complex hypotheses.

Answer: Chi-squared

c) This theorem shows that under a wide range of conditions, the sum of a large number of random variables is normally distributed.

Answer: Central Limit Theorem

13. Identify these Aristophanes plays FTP each.

a) Socrates is the comic villain of this play, in which a stupid farmer, attempting to get rid of his creditors, hears that the Thinkery of Socrates will teach a person to make the bad appear good and so enrolls himself and then his son in this school.

Answer: The Clouds(Nephelai)

b) The main characters of this play build a kingdom in the sky wherein they intercept the sacrifices that men make to the gods in order to starve the gods into submission.

Answer: The Birds(Ornithes)

c) The main character of this play, Trygaeus, flies to heaven on a dung beetle and rescues the titular goddess, who has been buried in a pit.

Answer: Peace (Eirene)

14. Identify these works centering on Sherlock Holmes for ten points each:

a) A man is found murdered with the word "Rache" written in blood on the wall. Holmes later uncovers a sordid tale involving Mormonism and more murder.

Answer: A Study in Scarlet

b) A soldier whose fortune was stolen from him in India exacts an inadvertent revenge on the son of Major Sholto when his island native accomplice shoots him with a poison dart.

Answer: The Sign of Four

c) This story involves a fictitious organization set up in which a pawnshop owner copies the *Encyclopedia Britannica* longhand so that a bank robbery can take place.

Answer: "The League of Red-Headed Gentlemen" or "The Red-Headed League"

15. Answer the following about an Enlightenment figure, FTP each

a) In 1745, Andre Le Breton approached this man to bring out a French translation of an Ephraim Chambers work.

Answer: Denis Diderot

b) Diderot's most famous work other than the *Encyclopedie* is probably this novel, in which the Spinozist title character has a philosophical argument with his master and they tell the stories of their lives.

Answer: Jacques the Fatalist and His Master (Jacques le Fataliste et son Maitre)

c) Diderot also wrote a witty dialogue touching on ethics, music, and several other matters between himself and a nephew of this 18<sup>th</sup>-century composer.

Answer: Jean-Philippe Rameau

16. Answer the following questions about Southeast Asia in the twentieth century:

a) For five points each, name the three current countries that made up the former colony of French Indochina.

Answer: Vietnam, Laos, and Cambodia (or Kampuchea)

b) For another five points, name this man whose Khmer Rouge forces instituted a brutal reign of terror in

Cambodia in the late 1970s, resulting in millions of deaths and wiping out a third of his country's population.

Answer: Pol Pot

c) For a final ten points, name the country of Aung San Suu Kyi (CHEE), who has fought against the government headed by the State Law and Order Restoration Committee.

Answer: Burma (or Myanmar)

17. Answer the following about an author and his works, FTP each:

a) This Cuban-born Italian magic realist's works include *The Path to the Nest of Spiders* and *The Baron in the Trees*.

Answer: Italo Calvino

b) A loose variant of the *Arabian Nights*, in this novel the traveler Marco Polo must tell a story every night to the emperor Kublai Khan describing both places he has visited and those which are yet to come.

Answer: Invisible Cities (*Le Citta Invisibili*)

c) In this novel, The Reader buys a popular new novel by Italo Calvino, only to discover that his copy is corrupted and the novel is actually by the Polish author Bazakbal.

Answer: If on a Winter's Night a Traveler (*Se una notte d'inverno un viaggiatore*)

18. Answer the following about a controversy in the golf world, FTP each:

a) Tiger Woods has recently faced criticism for waffling on the issue of whether women should be admitted to this country club, host of the PGA Masters tournament.

Answer: Augusta National

b) This man, the chairman of Augusta National, has claimed that "There may well come a day when women will be invited to join our membership, but that timetable will be ours and not at the point of a bayonet."

Answer: William "Hootie" Johnson

c) This woman, head of the National Council of Women's Organizations, has championed the attack on Augusta National.

Answer: Martha Burk

19. Identify the following volcanoes for ten points each:

a) This volcano west of Java erupted in 1815 with the greatest volume in the common era, causing the "year without a summer" in which snowstorms in July ruined crops in North America.

Answer: Tambora

b) Some think that this volcano directly north of Crete, which erupted around 1630 BC, may have played a part in the destruction of the Minoan civilization and possibly led to some of the Biblical plagues.

Answer: Thera

c) This largest active volcano in the world is supposedly home to the fire goddess Pele and lies south and east of Mauna Loa on the main island of Hawaii.

Answer: Kilauea

20. For ten points each, identify these similarly named biological procedures.

a) This technique, named for its inventor, is used to detect specific sequences in DNA fragments and involves placing a gel on a sheet of paper and hybridizing a labeled probe.

Answer: Southern Blot

b) Similar to the Southern Blot, it is used to detect the presence of specific mRNA molecules.

Answer: Northern Blot

c) Also similar to the Southern Blot, it is a very sensitive assay for proteins, particularly antibodies and also involves filtering gel onto a paper.

Answer: Western Blot

21. Identify the following about the ultraviolet catastrophe FTP each:

a) This is an idealized object which absorbs and emits all frequencies of radiation.

Answer: Blackbody

b) Classical physics can be used to derive this equation which describes the intensity of blackbody radiation as a function of frequency for a fixed temperature and which diverges as frequency increases towards the

ultraviolet.

Answer: Rayleigh-Jeans law

c) This physicist explained the blackbody radiation in 1900 by assuming that the energies of the oscillations of electrons which gave rise to the radiation must be proportional to integral multiples of the frequency.

Answer: Max Karl Ernst Ludwig Planck

22. Name the writer from clues on a 30-20-10 basis:

30: In the 1950s, he worked as a left-leaning newspaper reporter and as a foreign correspondent in Europe. His first book was *Leaf Storm*.

20: This magic realist writer penned *The Autumn of the Patriarch* and *Chronicle of a Death Foretold*.

10: Winner of the 1982 Nobel Prize for literature, his best-known novel accounted for the history of one Colombian family, house, and town from mythic genesis through centuries of war, history, and politics.

Answer: Gabriel García Marquez

23. Name this Civil War general, 30-20-10.

30: When A.E. Burnside resigned command of the Army of the Potomac after the Union disaster at Fredericksburg, he was appointed to succeed him.

20: He immediately effected several much-needed organizational reforms and prepared to challenge the South at the Battle of Chancellorsville, but his grave defects as a commanding officer became apparent when Confederate general Lee, with fewer than half the number of troops, outmaneuvered him and caused a Union retreat.

10: Contrary to popular belief, the slang term for women of the night did not draw from the large female contingent that followed his boisterous troops.

Answer: "Fighting" Joe Hooker

24. Answer the questions about music theory for the stated number of points.

a) F5P, three or more notes sounded simultaneously form this musical unit.

Answer: Chord

b) FTP, the four notes C, E-flat, F-sharp, A form this type of chord

Answer: Diminished 7<sup>th</sup> chord (Accept diminished chord; do not prompt or accept half-diminished chord or half-diminished 7<sup>th</sup> chord)

c) Octaves have a 2 to 1 ratio in terms of frequency. F15P, what interval is denoted by a 3 to 2 ratio?

Answer: Fifth

Beaver Bonspiel II

Round 9 (Harvard)

Industrial Design Visual Bonus

