

**CARDINAL CLASSIC XII: Beware the Esker**  
**Stanford University**  
**February 2, 2002**

**Packet by Berkeley B, Berkeley C, Florida Atlantic, and Usher et al**  
**Saturday Back-Up?**

**Toss-Up Questions**

1.) In the absorption of light, this phenomenon is exhibited by Fraunhofer lines. The magnetic type produces fine and hyperfine structure in atomic spectra. The cyclotron type occurs when a magnetic field is adjusted so that a charged particle's frequency of revolution is equal to the frequency of radiation. FTP, identify this condition also used by Linus Pauling to explain what occurs when more than one reasonable molecular structure is possible.

Answer: resonance

2.) The original stated that anyone who accepted a title of nobility without the consent of Congress ceased to be a citizen of the United States. Virginia approved it in March 1819. Although never repealed, this enactment disappears from the records in the 1870s. The more familiar one only affected two states that had not already dealt with its main issue in their state constitutions. FTP, name this Amendment which abolished slavery.

Answer: Thirteenth Amendment

3.) Meaning "work of the people" or "public duty" in Greek, it originally corresponded to the official services of the Jewish temple. Versions of it in the Orthodox Church include the one of Saint Basil and more famously the one of Saint John Chrysostom, which has, among other things, a reenactment of the Last Supper. FTP, name this church service usually celebrated on Sunday, the equivalent of the Roman Catholic Mass.

Answer: Divine Liturgy (prompt on Mass early)

4.) A student of Rimsky-Korsakov and Bruch, this composer taught composition at Rome's Saint Cecilia Conservatory. His eight operas include *Sleeping Beauty* and *Belfagor*, and his final opera, *Lucrezia*, which was completed by his wife, Elsa. FTP, identify this Italian composer better known for orchestral works such as the *Botticelli Triptych*, *Ancient Airs and Dances* and *Fountains of Rome*.

Answer: Ottorino Respighi

5.) He did most of his writing in London's Newgate prison. His most famous work was written as eight separate romances, though William Caxton, upon publication, changed the title and combined them into one story. His landmark work was published in 1485. FTP, name this 15th century English author from Newbold Revell whose original work's title was changed to *Morte d'Arthur*.

Answer: Sir Thomas Malory

6.) This group of molecules can be cleaved to form two alcohol molecules by lithium aluminum hydride or catalytic hydrogenation. They cause a solution of potassium iodide to turn brown, and a solution with sodium dichromate and acid to turn blue. Often a product of

the autooxidation of ethers in air, FTP, identify this group of molecules containing a weak oxygen-oxygen bond.

Answer: peroxides

7.) Historian Lord Bryce said that this document “codified anarchy and called it a constitution.” Among its provisions were ensuring the rights to coin gold and silver for the King of Bohemia and the right of the Archbishop of Mainz to administer the oath once the other six electors arrived. FTP, name this 1356 document issued by Emperor Charles IV that gave provisions for the election of the Holy Roman Emperor.

Answer: Golden Bull

8.) Some of the assumptions in this model are that resources are fully utilized and capital and labor are mobile between sectors within a country but are not mobile across countries. The basis for input/output analysis This model seeks to get at why some countries produce some goods cheaper than others through attributing comparative advantage to factor endowments. FTP, identify this model of international trade named after two Swedish economists.

Answer: Heckscher-Ohlin-Samuelson model

9.) He received a recent Grammy nomination for his song “Lovesick Blues” on the album *Timeless*, a tribute to Hank Williams. Also nominated for Best Rock Album, Male Rock Vocal, this former lead singer of Whiskey Town began his solo career releasing the album *Heartbreaker* in 2000. FTP, name this alt-country musician whose recent album *Gold* contains the hit “New York, New York.”

Answer: Ryan Adams

10.) The affair at the center of this novel is based on the parties of Sara and Gerald Murphy in southern France. Tommy Barban succeeds in seducing the protagonist’s wife, but only after she learns of his affair with starlet Rosemary Hoyt. Nicole then leaves her husband Dick Diver. FTP, identify this fourth novel of F. Scott Fitzgerald.

Answer: Tender is the Night

11.) First found in mushrooms by Henri Braconnot in 1811, this substance has been used as a pesticide against pathogenic roundworms and as a binder of metal ions in wastewater treatment. A polymer of the sugar N-acetylglucosamine, FTP, identify this second most abundant polysaccharide in nature, found in the cell walls of fungi and the exoskeletons of crustaceans.

Answer: chitin

12.) Engine 18, Engine 72, and Hook and Ladder 20 had to stop short of their destination to avoid running over bodies. It occurred at 4:40 PM on Saturday March 25, 1911 at the eleven year old Asch building. Supervisors had looked the exits, and the drop ladder had never been installed on the fire escape. FTP, name this workplace inferno named for the garments produced in the building.

Answer: Triangle Shirtwaist Building fire

13.) He was a pupil of Chardin and was the 1752 winner of the Prix de Rome. In 1765 he became a member of the Academy after having painted *Coroesus Sacrificing himself to Save Callirhoe*. He soon abandoned the gallery in favor of more privately commissioned work in the Rococo Style such as *The Pasha* and *The Bathers*. FTP, name this painter famous for the *Progress of Love* and *The Swing*.

Answer: Jean-Honoré **Fragonard**

14.) The largest part of the father's inheritance is given to the eldest daughter Angustinas, making her the most eligible for marriage although she is forty years old, ugly, and thin as a stick. The grandmother, Maria Josefa, is locked in her room but wishes to marry a man from the seashore and have babies. Five daughters are trapped by their mother for eight years in, FTP, what title locale in a 1936 play by Federico Garcia Lorca?

Answer: The ***House of Bernarda Alba*** or ***La casa de Bernarda Alba***

15.) Debye assumed a continuous distribution of states proportional to the square of frequency up to the Debye frequency, deriving a model for this quantity that accounted for the interdependency of molecular vibrations. This provided an improvement on Einstein's theory at very low temperatures. FTP, identify this thermodynamic quantity determined by Dulong and Petit to have a classical limit of 25 joules per mole Kelvin.

Answer: molar **heat capacity** of a solid

16.) Both Senators from Nevada were elected as members of a party by this name in the 1890s. Five other western senators were listed as this type of republican in the same decade. In 1896 they joined the Populists, and the Democrats in endorsing William Jennings Bryan for President. FTP, name this party that advocated the free coinage of its namesake metal.

Answer: **Silver** Party

17.) These creatures can become boggarts if greatly offended, but usually they are content to bring luck to a house and wear scruffy clothes of a particular color. Creatures of this type will work for a family, but only if left alone and rewarded with a bowl of milk. FTP, identify this mythical creature of the British Isles that shares his name with a delicious chocolate dessert.

Answer: **brownie**

18.) The hero of this play is called an intruder, a splinter in the flesh, and a poacher in the lord's forest. Despite his feelings of estrangement from the hometown that he has not seen in 16 years, he feels compelled to free it from its terrible curse, the creatures of the play's title. This existentialist play features such characters as Creon and Antigone. FTP, identify this re-enactment of the Oresteia by Jean Paul Sartre.

Answer: The ***Flies*** or Les ***mouches***

19.) This celestial object with an aphelion of 19 AU and perihelion of 8.5 AU was discovered in 1977 by astronomer Charles Kowal. Originally given minor planet number 2060, it has a diameter of about 200 kilometers and has an observable coma. FTP, identify this largest of the centaur objects that orbits mainly between Saturn and Uranus, named for the centaur who tutored Achilles and Hercules.

Answer: 95/P or 2060 **Chiron**

20.) Tradition states that this man learned philosophy from Leo the Mathematician and Patriarch Photios while visiting Constantinople around the year 842. A skilled linguist, Byzantine Emperor Michael III sent him on a mission to Khan Rotislav of Moravia to do the work for which he is famous. FTP, name this missionary who, along with brother Methodius, translated the divine liturgy into Church Slavonic and whose name the Russian Alphabet takes.

Answer: Saint Cyril

21.) Born in Dawson, Georgia, this soul musician moved to Macon at the age of three. He toured and sang with various groups until he got his break with "These Arms of Mine," recorded in 1962. He had a meteoric career with Stax Records, going on to record such hits as "Mr. Pitiful," "Respect," and "Tramp." All that ended on 10 December 1967, when his airplane crashed into Lake Monona in Madison, Wisconsin. FTP, name the artist who, three days before, had finished recording "(Sittin' on) the Dock of the Bay."

Answer: Otis Redding

**CARDINAL CLASSIC XII: Beware the Esker**  
**Stanford University**  
**February 2, 2002**

**Packet by Berkeley B, with help from Berkeley C, Florida Atlantic, and Usher et al**

**Bonus Questions**

1.) Given a World Series champion and a year name the manager of that squad FTPE.

A. Los Angeles Dodgers, 1988

Answer: Tommy Lasorda

B. Detroit Tigers, 1984

Answer: George "Sparky" Anderson

C. New York Mets, 1969

Answer: Gil Hodges

2.) Identify these Abstract Expressionists FTPE.

A. This artist specialized in monochromatic fields with one or more lines, or "zips", running through them.

Answer: Barnett Newman

B. His *Homage to Matisse* is typical of his work. Among his best known works is his *Subterranean Fantasy*.

Answer: Mark Rothko

C. This Turkish Armenian painter was influenced by Cubism and Surrealism. He is well known for the *Garden in Sochi* series.

Answer: Arshile Gorky

3.) Name the Graham Greene work given characters FTPE.

A. Holly Martins, Anna Schmidt, Harry Lime

Answer: *The Third Man*

B. Maurice Bendrix, Sarah Miles

Answer: *The End of the Affair*

C. Hale, Ida, Pinkie

Answer: *Brighton Rock*

4.) Answer the following concerning the Borgias FTPE.

A. Authoring the Treaty of Tordesillas, which established the 1494 Line of Demarcation, was Pope Alexander VI who had what given name?

Answer: Rodrigo Borgia

B. The model for Machiavelli's *The Prince*, name this Borgia who, besides committing incest and murder threw his rape victims in the Tiber.

Answer: Cesare Borgia

C. Finally, name this daughter of Rodrigo Borgia who questionably had an affair with her father. She is immortalized in a Gaetano Donizetti Opera.

Answer: Lucrezia Borgia

5.) You drink a can of diet soda flavored with Nutrasweet. FTPE, identify the following.

A. Identify the type of bond that links the two amino acids in Nutrasweet together.

Answer: peptide bond or amide linkage

B. A hydrogen atom at the C-terminus of the peptide is replaced by a methyl group, changing the original functional group to which other group?

Answer: ester

C. In a few hours, you excrete the excess Nutrasweet as this nitrogenous waste product in your urine.

Answer: urea

6.) Name the following people who were struck down by God:

A. She was turned into a pillar of salt after she looked back at Sodom.

Answer: **Lot's wife**

B. He was killed and buried by God atop Mount Nebo.

Answer: **Moses**

C. He reached out to steady the Ark of the Covenant while it was being improperly transported. He touched the Ark and died.

Answer: **Uzzah**

7.) Name the character given an actress from the British sitcom "Absolutely Fabulous" FTPE.

A. Jennifer Jane Saunders

Answer: Edwina '**Eddy**' Margaret Rose Monsoon

B. Joanna Lamond Lumley

Answer: Eurydice Colette Clytemnestra Dido Bathsheba Rabelais Patricia '**Patsy**' Cocteau Stone

C. Jane Horrocks

Answer: **Bubble**

8.) Given the first speaker, identify the Shakespeare play FTPE.

A. Leonato

Answer: **Much Ado About Nothing**

B.) Roderigo

Answer: **Othello, Moor of Venice**

C. Orsino, Duke of Illyria

Answer: **Twelfth Night**

9.) Answer the following concerning the Amritsar Massacre of 1919 FTPE.

A. The massacre was a response to riots over which pieces of legislation?

Answer: Rowlatt Acts

B. Which British General who gave no warning about firing on the crowd led the massacre?

Answer: R.E.H. Dyer

C. The massacre occurred in what enclosed, high-walled park being used for a Hindu Festival?

Answer: Jallianwallah Bagh

10.) Answer the following questions about fluid flow around an object FTPE.

A. For irrotational and incompressible flow, the velocity potential can be solved using this equation, whose solutions are harmonic functions.

Answer: Laplace's equation

B. For Laplace's equation to hold, this dimensionless number, the ratio of inertial to viscous forces, must be large.

Answer: Reynolds number or Re

C. When all the above conditions hold, there is no drag on the object; identify the name given to this result.

Answer: D'Alembert's paradox

11.) Answer these questions about writers whose work inspired Claude Debussy FTPE.

A. His poem *L'Après-midi d'un faune* inspired an orchestral work.

Answer: Stephane Mallarme

B. Debussy's only completed opera, *Pelleas et Melisande*, is based on this man's drama.

Answer: Maurice Maeterlinck

C. One of his planned but uncompleted works was an opera based on this author's *The Fall of the House of Usher*.

Answer: Edgar Allan Poe

12.) Identify these characters from *The Grapes of Wrath* FTPE.

A. This protagonist is on parole from McAlester Prison. He returns home to find his family kicked off their farm.

Answer: Tom Joad

B. Tom meets up with this former preacher who then accompanies the family to California.



Answer: Jim Casy

C. Tom's brother, he converts the family car into a truck to seat over ten people. He spends his free time chasing after pretty migrant girls.

Answer: Al Joad

13.) Answer the following questions about the life of Woodrow Wilson FTPE.

A. He is the only President to earn a Ph.D.; he got one in Political Science from this university.

Answer: Johns Hopkins University

B. In 1912 he campaigned on this program that was quite similar to Teddy Roosevelt's New Nationalism.

Answer: New Freedom

C. Wilson's unofficial advisor through much of his presidency, Wilson blamed this man for bungling peace negotiations in Paris while he was away.

Answer: Edward House

14.) Identify the following related to nitrogen fixation FTPE.

A. In the process of nitrogen fixation, molecular nitrogen is reduced to this form of inorganic nitrogen.

Answer: ammonia (accept ammonium)

B. Bacterial nitrogenases, which fix nitrogen, generally have an oxygen-sensitive cofactor containing iron and this Group 6 element with an atomic number of 42.

Answer: molybdenum or Mo

C. This genus of gram-negative bacilli fix nitrogen in nodules on the roots of legumes such as pea plants.

Answer: Rhizobium

15.) Answer the following surrounding certain religious texts FTPE.

A. A goat herder at Nag Hammadi discovered several of these types of books. The text of these books claim they contain secret teachings of Jesus Christ.

Answer: Gnostic Gospels or Books

B. Identify the movie concerning the discovery and supposed cover up of the Gnostic Gospels was made in 1999 starring Gabriel Byrne as a Father Andrew Kiernan along with Patricia Arquette.

Answer: Stigmata



C. The movie *Stigmata* referred to a specific Gnostic Gospel, name it, the one supposedly written by the one of the twelve apostles who did missionary work in India.

Answer: Gospel according to **Thomas**

16.) Identify the following people featured in an author's preface to a book FTSNOP.

A. For 5 points--Charlotte Bronte praised this author's *Vanity Fair* in the preface to the second edition of *Jane Eyre*, raising rumors that she had had an affair with him.

Answer: William Makepeace **Thackeray**

B. For 10 points--Spenser described the intention and meaning of *The Faerie Queene* in his prefatory letter to this poet and organizer of the failed Roanoke expedition.

Answer: Sir Walter **Raleigh**

C. For 15 points--Sir Walter Scott dedicated the preface of *Ivanhoe* to this fictitious pedantic doctor.

Answer: Doctor Jonas **Dryasdust**

17.) Identify the U.S. Vice President from a description FTSNOP.

A. For 5 points--This man was the only two term VP to be elected to the presidency twice in his own right.

Answer: Richard M **Nixon**

B. For 10 points--This man was the second to be appointed to the post without having been elected.

Answer: Nelson **Rockefeller**

C. For 15 points--This VP was in Cuba at the time of his inauguration. He fell ill and died shortly after returning to the US.

Answer: William **King**

18.) Given a country or civilization name its medieval evangelizer FTSNOP.

A. For 5 points--Ireland

Answer: Saint **Patrick**

B. For 10 points--"The Germans"

Answer: Saint **Boniface**

C. For 15 points--Spain

Answer: Saint **James** the Greater

19.) Identify the following concepts related to chemical kinetics FTPE.

A. A reaction proceeds through a series of these steps that directly involve the collisions of atoms or molecules.

Answer: elementary reaction

B. This approximation, in which the concentration of intermediate molecules is assumed to remain constant, is often used to derive rate laws from elementary steps.

Answer: steady-state approximation

C. This winner of the 1903 Nobel Prize in Chemistry suggested that rate constants vary exponentially with the inverse of temperature.

Answer: Svante August Arrhenius

20.) Name these curves from economics, FTP each:

A. A favorite from the Reagan era of economics, this shows the relationship between tax revenue and tax rate. Under certain conditions, tax revenue goes up when tax rates are cut.

Answer: Laffer Curve

B. In its original form, this curve showing the relationship between inflation and unemployment was inaccurate, because it neglected how expectations for the economy modified behavior.

Answer: Phillips Curve

C. This curve shows the points at which the utility gained from the acquisition of two goods is equal.

Answer: Indifference Curve