

Tossups for 1996 Wahoo War of the Minds Round 1

1. Usually placed in the songbird family Fringillidae, all are ten to twenty centimeters long and brownish-black, but their bills vary widely in configuration. A book describing how their diversity illustrates evolution won the 1995 Pulitzer Prize for general non-fiction. FTP, identify these birds named either for the islands on which they radiated into several ecological niches, or for the English naturalist who observed them.

Answer: Galapagos (or Darwin's) Finch

2. Hailed as his country's most promising young writer after his first novel, "Pluck the Bud and Destroy the Offspring," his work suffered as he became obsessed with leftist politics. He refocused on writing after the birth of his son in 1963 with a deformed skull. The winner of the Shintchi and Tanizaki prizes, his later works explored the cultural alienation of Japan's post-World War II generation. FTP name this author of "A Personal Matter," a Nobel laureate in literature.

Answer: Oe Kenzaburo

3. Chorister in a large church from the age of eight, he survived lean times after his voice cracked at 17. He rose eventually to become musical director at the Esterhazy court in 1766, and spent a quarter of a century there, composing works such as "Missa Sancti Nicolai" and "Trauersymphonie in E minor." He worked also in England, writing twelve symphonies there, and acquired Beethoven as a pupil. FTP, name this composer of the "Emperor Quartet," "Stabat Mater," and "The Creation."

Answer: Franz Joseph Haydn

4. A young woman, seduced and betrayed by her mother's benefactor, marries a radical friend of her employer's son, but is soon drawn to a young doctor whom she tends to at the front. The doctor is deserted by his family after a run-in with Communist insurgents, and the brief, idyllic romance that ensues is cut short by the threat of persecution. The doctor remarries, then dies, and his poems are published posthumously by his half-brother Evgraf. FTP, name this Boris Pasternak novel.

Answer: Doctor Zhivago

5. These devices regulate the current between one pair of terminals with a varying voltage across another pair. You can make a bipolar one by sandwiching layers of oppositely doped semiconductor, but in more common use since 1986 is the MOSFET type. FTP, name these ubiquitous devices engraved by the millions onto microchips.

Answer: Transistors

6. In the fifth century AD, a controversy broke out over the "Christology," or the relation of God the Son to Jesus the Christ. This church leader taught that the two were fundamentally distinct, and in consequence was condemned by the Council of Ephesus in 431. Many of his followers later emigrated to Mesopotamia, and their band of Christianity was prevalent in Persia and China until the fall of the Yuan dynasty. FTP, name this patriarch of Constantinople.

Answer: Nestorius

7. This term originally described a light, danceable, or popular song, often attacking public figures or institutions. Today, as well as applying to a class of pop music, it refers to a literary form concerned typically with the pagan supernatural, as in "Tam Lin," quasi-history like Robin Hood, or tragic love, as in "Barbara Allan." FTP, what term describes a spirited poem in short stanzas narrating a popular story?

Answer: Ballad

8. Composed of draftees from the Christian provinces, they were highly respected as warriors in the fifteenth and sixteenth centuries. Their discipline waned in the 17th and 18th centuries, when they frequently orchestrated palace coups. Their end came in the so-called Auspicious Incident of 1826, when they revolted over Westernizing reforms, prompting Sultan Mahmed II to have cannon fire directed at their barracks and execute the survivors. FTP, name this elite corps in the standing army of the Ottoman empire.

Answer: Janissaries or Janizaries

9. In this novel, Marian Forrester, the wife of a pioneer, is seen through the eyes of an adoring boy named Niel Herbert. Her husband dies, and Marian remarries businessman Ivy Peters. However, when he moves in, she disappears and is only heard of again in rumors. FTP, name this aptly named Willa Cather novel.

Answer: A Lost Lady

10. It consists of two adiabats alternating with isotherms, and its efficiency is equal to one minus the ratio of the colder to the hotter of the two temperatures between which it operates. Thermodynamic theory shows this efficiency to be an upper bound for any real cycle or engine. FTP, name this abstraction developed in the 1820's by a French scientist irked by England's pre-eminence in steam engine design.

Answer: Carnot cycle or Carnot engine

11. He met Zola at the College Bourbon, and the two were friends until his depiction of him as Claude Lantier in the novel L'Oeuvre appeared. Born in Aix-en-Provence (AY-On-pro-VAHNCE) to a wealthy banker, his early works such as Rape and Murder, were unpopular melodramas. FTP, name this Impressionist painter, whose goal of "doing Poussin again, from Nature" can be seen in his late Bathers, a man best known for The Card Players.

Answer: Paul Cezanne

12. This reclusive musician sought refuge in the home of her friend and producer Nicky Ryan after the startling success of her debut album, assembled from the soundtrack of a television miniseries. A former member of the folk group Clannad, she has drawn on that background to produce eclectic hits like Caribbean Blue and songs in Latin, Spanish, and her native Irish. FTP, name this ethereal singer whose new album is The Memory of Trees, and whose biggest hit urged us to "sail away" on the Orinoco Flow.

Answer: Enya (Eithne) Brennan

13. An archaic model was built in 1839 by a Scottish blacksmith, who added swinging cranks to the "draisienne." The first commercially viable example of the modern variety was created by the Michaux brothers in 1861, with rotating cranks operated by pedals. Dunlop's pneumatic tires made it a lasting success, and modern advances like cross frames and derailleur gears have further popularized, FTP, what two-wheeled vehicle?

Answer: Bicycle

14. This philosopher studied physical science at Leipzig and Berlin, and received his doctorate with a dissertation on the calculus of variations. He then moved to Vienna to study with the psychologist and philosopher Franz Brentano, under whose influence he developed his interest in unifying Empiricism and Rationalism with an analytical theory of consciousness. FTP, name this German philosopher, the founder of Phenomenology.

Answer: Edmund Husserl

15. Trained as a doctor, he has become his country's best-selling and most-translated author. His light, satirical fiction explores serious philosophical issues. His works include Solaris, which uses an alien sentient ocean to examine man's anthropomorphic limitations, and the monumental non-fiction Summa Technologiae. FTP, name this Polish author of A Perfect Vacuum and Cyberiad.

Answer: Stanislaw Lem

16. This law was discovered in 1621 by a Dutch scientist and independently discovered by Rene Descartes a few years later. It holds for any wave incident on a boundary surface separating two different mediums. It states that the index of refraction for one medium times the angle of incidence equals the index of refraction for the other medium times the angle of refraction. FTP, name this law of refraction.

Answer: Snell's Law

17. The power of this empire stretching over the Niger river was in part due to the flotilla of war canoes that patrolled the thousand navigable miles of the Niger. Founded in 1464 when the warrior king Ali took the throne of the state of Gao, it was ruled by a dynasty of emperors known as askiyas. Prosperous for a century, this empire fell in the 1580's due to a Moroccan invasion that used gunpowder and muskets. FTP, name this last great empire of sub-Saharan West Africa.

Answer: Songhai Empire

18. Born in Gilmore, Ohio in 1867, he was a farmer until he became a professional at age 23. His given name was Denton True, but the award given in his honor since 1953 is known by his nickname. FTP, name this legendary pitcher whose nickname, a reference to the speed of his fastball, was short for "cyclone".

Answer: Denton True "Cy" Young

19. Employed by the Chinese before the birth of Christ, the earliest Western examples of this weapon date to the first or second century A.D. in France. Popular in the middle ages, its use against Christians was prohibited by Pope Innocent II. Armed with bolts or quarrels, it had a range of over 300 yards. FTP, name this device consisting of a bow affixed transversely to a stock, with a mechanical trigger.

Answer: Crossbow

20. His family sought church connections, and at 22 he charmed Pope Paul V into consecrating him bishop. An early advocate of the decrees of the Council of Trent, his diplomacy won him a cardinal's hat and a high government post. He then promulgated royal absolutism with the help of his secret police and strove to destroy the Spanish-Habsburg hegemony in Europe. FTP, name this First Minister of France, known as the "red eminence."

Answer: Armand-Jean du Plessis, duc de Richelieu

Bonuses for 1996 Wahoo War of the Minds Round 1

1. FTP each, answer these questions about data encryption.

1. This popular method, developed by the RSA corporation, relies on the inability of computers to factor products of extremely large primes.

Answer: Public Key Encryption

2. Programmer Phil Zimmerman created this popular implementation of public key encryption, but ran afoul of U.S. munitions laws when he distributed it globally on the Internet.

Answer: PGP or Pretty Good Privacy

3. With many governments threatening to ban unauthorized encryption, interest has grown in this technique of invisibly embedding coded messages in picture or sound files.

Answer: Steganography or Stego

2. FTP each, name these theoretical curves from economics.

1. The plot of the relationship between an individual's income and his consumption of a specified good.

Answer: Engel curve

2. It suggests that there is an optimal tax rate which maximizes government revenues.

Answer: Laffer curve

3. It shows an inverse relationship between the unemployment rate and the rate of change of money wages.

Answer: Phillips curve

3. Recombinant DNA technology came into its own with the development by a Cetus corporation scientist of a process which rapidly and selectively replicates specific parts of a DNA molecule. For 15 points each:

1. Name the process.

Answer: Polymerase Chain Reaction

2. Name the scientist, who has since retired on his Nobel winnings, and who almost testified in O.J. Simpson's defense as a DNA expert.

Answer: Kary Mullis

4. One of the great filmmakers of the first half of the century was a Soviet director whose works included "Strike," "October," and "Ivan the Terrible." FTP each:

1. Name him.

Answer: Sergey Eisenstein

2. Name these two classic Eisenstein films: As revolutionary in technique as in its subject matter, this 1925 work recounts the mutiny aboard one of the Tsar's vessels, and subsequent reprisals.

Answer: The Battleship Potemkin

3. Filmed during World War II, with a score by Prokofiev, it tells the story of a thirteenth century prince who unites Russian factions to repel German invaders.

Answer: Alexander Nevsky

5. Identify the author from works, 30-20-10.

30: The Four Loves, Surprised by Joy

20: The Problem of Pain

10: The Screwtape Letters

Answer: Clive Staples Lewis

6. Identify the following Norse gods for 10 points each.

1. All things were made to promise Frigg that they would not harm this wise and handsome god...except the mistletoe, which was thought too young to understand.

Answer: Balder

2. Balder was killed by a sprig of mistletoe thrown by this blind god.

Answer: Hoder

3. Hoder's hand was guided in that throw by this god, who was sometimes good, as when he helped build Asgard.

Answer: Loki

7. For 5 points each and 5 more for all correct, give the sci-fi TV show which featured the following as recurring characters. Hint: none of them is Star Trek or its spinoffs.

1. Lister, Rimmer, and The Cat

Answer: Red Dwarf

2. Edison Carter and Ped Xing

Answer: Max Headroom (not the talk show)

3. Londo Mollari and Zack Allan

Answer: Babylon 5

4. Romana, K-9, and Sarah Jane Smith

Answer: Doctor Who

5. Colonel Ty and Cassiopeia

Answer: Battlestar Galactica

8. FTP each, name these non-invasive medical imaging procedures.

1. X-rays are shot through the tissue in all directions, and their attenuation as a function of position is fed into a computer which produces a cross-sectional image.

Answer: Computerized (Axial) Tomography or CT or CAT scan

2. Crossed magnetic fields are used to manipulate the spins of tissue nuclei. The results are cross-referenced with the known magnetic susceptibilities of various tissues to produce a tissue map.

Answer: Nuclear Magnetic Resonance or Magnetic Resonance Imaging or NMR or MRI

3. The tissue being scanned is imbued with an isotope whose radiation collides with nearby electrons, producing gamma rays through pair production. Image reconstruction is then similar to the CAT scan.

Answer: Positron Emission Tomography or PET

9. FTP each, name these rivers.

1. At 651 miles, it is the largest river in the drainage basin of the Baltic sea, and of great importance to the nations of Eastern Europe. Warsaw and Krakow lie on its banks.

Answer: Vistula

2. With a length of 2600 miles, it is the principal river of West Africa. Certain stretches are known to locals as Joliba, Mayo Balleo, Isu Eghirren, and Quorra.

Answer: Niger

3. It flows some 1800 miles from its source in the Himalayas to its confluence with the Ganges. Along the way it passes through Tibet, where it is called the Tsangpo, and Bangladesh, where it is called the Yamuna.

Answer: Brahmaputra

10. FTP each, name the following Nazi commanders.

1. His 1935 "Achtung! Panzer!" attracted the patronage of Hitler, and his notions of rapid strikes and encirclement informed the Wehrmacht's blitzkrieg strategy as practiced by Rommel.

Answer: Heinz Guderian

2. Encircled and besieged at Stalingrad, he refused to break out to meet Manstein's rescue column, citing Hitler's no-retreat orders. When the outlook turned bleak, Hitler tried to fortify him by creating him field-marshal, and noting that no German commander of that rank had ever surrendered. The next day, he became the first.

Answer: Friedrich von Paulus

3. Director of the U-boat campaign, then commander in chief of the navy, he assumed leadership of the Reich upon Hitler's suicide.

Answer: Karl Doenitz

11. Martina Navratilova, Chris Evert, Steffi Graf, and Monica Seles combined for 49 of the 57 women's Grand Slam titles awarded since January 1982. For five points each, and five more for all correct, name the five other women who have a combined eight grand slam victories in that period.

Answer: Mary Pierce, Arantxa Sanchez-Vicario, Conchita Martinez, Gabriella Sabatini, Hana Mandlikova

12. Pencil and paper ready. Bearing in mind that high electronegativity is favored by small size and a large effective charge felt by the outer electrons, order the following compounds from most to least ionic in their bonding: cesium and fluorine, rubidium and oxygen, cesium and iodine, oxygen and itself, iron and oxygen, hydrogen and fluorine.

Answer: Cs-F, Cs-I, H-F, Fe-O, Ru-O, O-O

13. Assume each of the following pairs of musical notes lies between middle C and the C just above it, inclusive. For 5 points each give the interval they form; for example, C and F make a perfect fourth.

1. D and F

Answer: minor third or augmented second

2. E and B

Answer: perfect fifth

3. D-sharp and A

Answer: augmented fourth or diminished fifth or tritone

4. C and A

Answer: perfect sixth

5. Now consider the triad of C, F-sharp, and A. Is this triad: diminished root position, diminished inverted, minor root position, or minor inverted?

Answer: diminished inverted

14. FTP each, give the authors of these literary works titled "Endymion."

1. A 1591 prose play with a mythological setting, it is an allegory which perhaps involves Elizabeth I, Mary Queen of Scots, and Leicester.

Answer: John Lyly

2. A poem in four books, it includes the "Hymn to Pan" and the roundelay "O sorrow."

Answer: John Keats

3. The last completed novel by this author, it tells of the rise of Endymion from a sweet-natured, reflective boy to Prime Minister of England through the ambitions of those around him.

Answer: Benjamin Disraeli

15. 30-20-10, give the common name shared by the following three individuals.

30: Eastern Roman emperor from 474 to 491, also known as Tarasicodissa, he made peace with the Vandals in Africa and supervised the secession of the Ostrogoths.

20: A philosopher and mathematician called "the father of dialectic" by Aristotle, he argued by reductio ad absurdum for the Parmenidean doctrine.

10: A native of Citium, he founded the Stoic school of philosophy at Athens.

Answer: Zeno

16. FTP each, name these writers.

1. A member of the Yoruba people, he has written satirically of the troubles of West Africa in plays such as "The Lion and the Jewel" and "Kongi's Harvest," and novels "The Interpreters" and "Season of Anomy."

Answer: Akinwande Oluwole "Wole" Soyinka

2. Born into a privileged middle-class family, her wide reading informed her strong opposition to racism, shown in her novels "The Lying Days" and "The Conservationist" and short story collections "The Soft Voice of the Serpent" and "A Soldier's Embrace."

Answer: Nadine Gordimer

3. His major work is the Cairo trilogy, and his novels include "Miramar," "The Beggar," and "The Children of Gebelawi."

Answer: Naguib Mahfouz

17. Give the year in which the following events happened on a 10-5 basis.

1. 10: The Supreme Court rules that genetically engineered life forms may be patented. CNN goes on the air, and Carl Sagan publishes Cosmos.

5: The Summer Olympics are boycotted by the U.S.

Answer: 1980

2. 10: L. Ron Hubbard founds the Church of Scientology, Ralph Ellison publishes "Invisible Man."

5: The fiftieth World Series is played, Josef Stalin dies.

Answer: 1953

3. 10: "Steamboat Willie" hits theaters, Beijing surrenders to Chiang Kai-shek.

5: The Kellogg-Briand Pact is signed.

Answer: 1928

18. FTP each, identify these types of scientific diagram.

1. Most stars lie along a diagonal line known as the "main sequence" on these graphs plotting stellar brightness against surface temperature.

Answer: Hertzsprung-Russell or HR diagram

2. The three-dimensional structure of complex biomolecules can be visualized at a glance with these illustrations, developed by a Duke University professor, which highlight common, repeated structures like alpha helices and beta barrels with colorful, swooping bands.

Answer: Richardson or ribbon diagrams

3. These diagrams facilitate the calculations of quantum electrodynamics with graphical representations of perturbation-theoretic integrals.

Answer: Feynman diagrams

19. Identify these poets from a list of works for the stated number of points.

1. 5: The Second Coming, Down by the Salley Gardens

Answer: William Butler Yeats

2. 10: To Flush, My Dog; To George Sand, A Desire

Answer: Elizabeth Barrett Browning

3. 15: White Buildings, To Brooklyn Bridge

Answer: Hart Crane

20. For 5 points each, place the following events from the history of ancient Rome in chronological order: revolt of gladiators and slaves under Spartacus, full equality between patricians and plebeians, Romans destroy Carthage, Hannibal commits suicide, the end of the Second Samnite War, Romans defeat Macedonians at Pydna.

Answer: Samnite (304 BC), equality (287), Hannibal (182), Pydna (168), Carthage (146), Spartacus (71)