

Minnesota Open V

Packet by Rob Carson, Gautam Kandlikar, and the editors

Edited by Auroni Gupta, Andrew Hart, Gaurav Kandlikar, and Cody Voight

Tossups

- 1. In a technique used to characterize thin films, psi and delta represent the change in this phenomenon. A special type of modal dispersion named for this phenomenon is measured by the differential group delay. A change in this phenomenon is accompanied by a phase shift, named for Pancharatnam, determined by its representation on a Poincaré sphere. Whether one is dealing with amplitude or intensity determines which of the (*) Jones or Mueller matrix formalisms of this phenomenon one uses. The Mueller matrix is used in conjunction with four parameters, dubbed I, Q, U, and V by Chandrasekhar, that describe it and are named for Stokes. The Verdet constant partly determines the rotation of this phenomenon in a magnetic field in the Faraday effect. For 10 points, name this phenomenon that comes in elliptical, circular, and linear forms and which describes the oscillation of the electric field.**
ANSWER: polarization [accept word forms]
- 2. Patrick Seale wrote a biography of this leader, who expelled the terrorist organization of Abu Nidal after the government was directly linked to attempted hijackings. This person's brother ran a security force called Defense Companies and orchestrated the massacre of several dissidents locked up in Tadmur. This person, who changed his last name from Wahsh, meaning "the monster," led a campaign to remove supporters of his brother Rifaat after the latter attempted to take over his government in 1984. He disposed of General Jadid after eliminating Michel Aflaq from his country's politics as a part of the "Corrective Movement." This man, who died in 2000, ordered the massacre of several thousand (*) Sunnis and members of the Muslim Brotherhood in Hama and brought the Alawites to power in his home country. For 10 points, name this man, the father of Bashar and erstwhile dictator of Syria.**
ANSWER: Hafez al Assad [prompt on al Assad; accept Hafez al Wahsh until mentioned]
- 3. This figure is dressed in Turkish garb and sits in a dimly lit room as a black servant brings coffee in a Carle Van Loo painting. The Alte Pinakothek houses the "Munich portrait," which refers to a work depicting this figure in flowing green garb as a clock in the background shows 8:20pm. In one painting, sheep surround the central figure as a dove lies in this figure's hands holding the title message. In another painting, this figure is shown playing a mandolin as a black dog watches on. In addition to *The Sultana drinking coffee* and *The billet-doux*, this figure is shown delicately clutching a bow as a leopard-skin barely hangs onto her back in a painting by Jean-Marc Nattier in which she is portrayed as (*) Diana. Francois-Hubert Drouais painted a portrait of this figure "at her Tambour Frame." She is depicted playing the Harpsichord in one of several portraits of her by Francois Boucher. For 10 points, name this Marquise, the mistress to Louis XV.**
ANSWER: Madame du Pompadour [or Jeanne Antoinette Poisson, Marquise du Pompadour]
- 4. This man described becoming enraptured by a "lovesick swan that hath her pool forsaken" whose cheeks were "afire / with the conquering glow of lofty shame / that hopeless love and longing brings" in the poem "The Moon Maiden." This person's travelogues include "Oxford Contrasts" and "Impressions of Haifa," the latter of which was, like the essay "The Gospel for the Twentieth Century," inspired by a conversion to Baha'i. This writer commissioned Winold Reiss to create the cover and illustrations for a work that grew out of a guest-editing job on the March 1925 issue of *The Survey Graphic*. This person wrote essays about "The Legacy of Ancestral Arts," how the "Youth Speaks," and spirituals in that work, whose second part, named for its title figure "in a New World," contains Walter (*) White's "The Paradox of Color" and an essay by Melville Herskovits. For 10 points, name this "Dean of the Harlem Renaissance," the editor of *The New Negro*.**
ANSWER: Alain LeRoy Locke
- 5. For Banach spaces X and Y, one quantity of this type is the log of the infimum of the norm of T and the inverse of T, where T represents all isomorphisms mapping X to Y, and is named after Banach and Mazur. For ultrametrics, this quantity is always of a Robinsonian type. One variant of this measure is a scale-invariant quantity calculated using a correlation matrix and is used to compare two distributions, and is named for P.C. Mahalanobis. For a metric space, this type of measure is required to be non-negative, symmetric, and must satisfy the (*) triangle inequality. This type of quantity is the length of the shortest path connecting two vertices in graph theory. For 2D Euclidean spaces, it is the square root of the sum of the squares of the differences of the x and y coordinates. For 10 points, identify this type of measure that, in Euclidean space, is defined as the length of a line connecting two points.**
ANSWER: distance [accept no other answer]

6. **One musician with this surname was only eleven years old when he wrote the song “I’m On My Way,” which was included on his uncle’s live album *Why Am I Treated So Bad!* That music director for Luther Vandross shares this surname with another performer who took the lead on such albums as *Sayin’ Something* and *Work Song*, but was just as prolific as a sideman for his brother. Those two men with this surname collaborated on albums like *Accent on Africa* and *Sophisticated Swing*. The older brother with this surname also collaborated with elements of the Modern Jazz Quartet on albums like *Know What I Mean?* Joe Zawinul wrote the song (*) “Mercy, Mercy, Mercy,” which was recorded by a man with this surname who performed alongside John Coltrane and Miles Davis on *Kind of Blue*. For 10 points, identify this surname shared by a pair of jazz-musician brothers, the cornetist Nat and the saxophonist Julian, or “Cannonball.”**
ANSWER: Adderley [Nat, Julian, Cannonball, or Nat Jr.]
7. **In the late 1500s, members of this ethnic group, including Richard Colfe and Adrianus Saravia, fled their homeland for Canterbury and became important members of English ecclesiastical life. During Charles III’s reign, the Esquilache Riots called for the disbanding of a Spanish guard force, active from the mid-1700s to 1820, consisting of members of this ethnic group. Jules Feller developed a spelling system for members of this ethnic group, whose flag is graced with a red cock on a yellow background. Elio di (*) Rupo, a current national prime minister, is a member of this ethnic group, whose members are bitterly hated in the circles of the far-right political party Vlaams Belang. Members of this ethnic group rebelled alongside their northern neighbors to become independent in 1830. For 10 points, name this ethnic group of French-speakers living in a namesake southern region of Belgium.**
ANSWER: Walloons [or Wallons; accept people from Wallonia and word forms thereof]
8. **One game released by this publisher stars a football team sent back in time to save the title character from Morgana. In another of its publications, the player alternately controls an angel and an animated statue and assaults the fortress of Death Heim after fighting the six guardians of Tanzra; in that game, the Master is tasked with rebuilding various civilizations. This publisher of *King Arthur* and the *Knights of Justice* also published the original version of a game in which the player collects einherjar while controlling Lenneth, one of their many collaborations with tri-Ace. This publisher of *ActRaiser*, (*) *Valkyrie Profile*, and the first three *Star Ocean* games also published the first seven entries in a series of RPGs produced by Yuji Horii. For 10 points, name this publisher of the *Dragon Quest* series that, in 2003, merged with Square.**
ANSWER: the Enix Corporation [accept Kabushiki-gaisha Enikkusu from insufferable people; don’t accept “Square Enix” as none of the games are Square Enix games]
9. **This work compares the Yoruban proverb “You don’t know nine times nine,” which means “You are a dunce,” to European sayings involving counting to five to display the Yorubas’ relatively high facility for arithmetic in its seventh chapter, which examines the derivation of various notations from the use of fingers and toes and is called “The Art of Counting.” One section of this work lists “prejudice against saving a drowning man” and several other customs that still exist despite their obsolescence, which the author terms (*) “survivals.” In one section, this work asserts that the science of the title concept is a “reformer’s science.” Its second volume, titled for “Religion in” the title subject, covers its author’s theories about animism. For 10 points, name this two-volume collection of “researches into the development of mythology, philosophy, religion, art, and custom,” the 1871 magnum opus of Edward Tylor.**
ANSWER: Primitive Culture
10. **This book discusses how an alphabet with twenty-eight characters, each character representing a number from 1 to 1000, was made in just one year. An early chapter in this work discusses a system by which a gold piece could be exchanged for a cup of water—that chapter focuses on the “Big Solitaire” game of a “sewage disposal system.” The high point of its third volume is the chapter “The Forty Days of Kengir,” an account of a failed revolt. A dead boy’s corpse is removed from his coffin for a customary search of his father’s belongings in the first anecdote from this work, which drew from 227 (*) testimonies. It discusses how scientific residents, such as the researchers under Andrei Sakharov, were distinct from the rest of the zeks. This book was finally published in 1989, but was circulated *samidzat*, or underground, for nearly three decades before that. For 10 points, name this nonfiction book by Solzhenitsyn, an account of life in Soviet labor camps.**
ANSWER: *The* Gulag Archipelago [or Arkhipelag GULAG]
11. **Lawrence A. Englander penned a “Mystical Study” of this book, a close reading of center portion of the fragmentary *Midrash ha-Ne’elam* from the *Zohar*. The final verse of this book traces “the generations of Pharez” all the way to David. In the last chapter of this book, ten elders arbitrate proceedings in which a man takes off his shoe and gives it to his neighbor to confirm that he is relinquishing his right of redemption to his kinsman. One character in this book calls herself (*) Mara to reflect her bitterness at the deaths of Mahlon, Chilion, and Elimelech. The title character of this book uncovers the feet of a sleeping gleaner, who then spreads his cloak around her, uniting the two in marriage. Its title character says “your people shall be my people, and your God, my God,” refusing to abandon her mother-in-law Naomi as she returns to Bethlehem from Moab. For 10 points, name this short Old Testament book whose title devoted woman marries Boaz.**
ANSWER: *Book of* Ruth [or *Megilath* Ruth; or *Scroll of* Ruth]

12. During a stay in Maiano in Italy, this man wrote a series of essays called the “Wishing Cap” articles, which formed the basis for this writer’s book about London titled *The Town*. This person isn’t Keats, but wrote a sonnet that imagines the title poet seeing “his own Delphic wreath” while “running his fine fingers” through “a Lock of Milton’s Hair.” In another poem, this writer admits that “I’m wary...I’m sad...health and wealth have missed me...I’m growing old,” but it’s all good because the wife of Thomas Carlyle jumped out of her chair to perform the title action. In another of this writer’s poems, the title figure encounters an angel writing in a “book of gold,” and beseeches that angel to mark him among “The (*) names of those who love the Lord,” but learns that his name “led all the rest.” For 10 points, name this poet who wrote “Jenny Kissed Me” and wished largess unto the tribe of “Abou Ben Adhem,” a Romantic who was good friends with Keats and Shelley.
ANSWER: [James Henry] Leigh Hunt
13. The causative agent of this disease possesses the NS1 protein, which inhibits the ubiquitination of RIG-I by TRIM and suppresses the production of interferon in host cells. One protein used by its causative agent to cause this disease includes a 130 loop, a 190 loop, and a 220 loop. Some strains of this disease are treated by compounds that inhibit the M2 ion channel. Thomas Francis proposed his doctrine of “original antigenic sin” while studying this disease. Drugs against this disease include (*) Rimantadine. The binding and release of the causative agent of this disease occurs at sialic acid residues on the host cell membrane. Ferrets are used as animal models for the transmission and pathogenicity of this disease, which is often treated with olestemivir, a neuraminidase inhibitor. For 10 points, name this disease caused by an orthomyxovirus that comes in “Spanish,” “Avian,” and “Swine” types.
ANSWER: influenza [or flu]
14. One person with this surname was the addressee of a prescient Thomas Merton New Year’s Eve letter predicting the Cuban Missile Crisis. In 1975, a person with this surname testified to the House Select Committee on Assassinations about a phone call from a Cuban named “Julio Fernandez.” A person with this surname served as ambassador to Brazil for just four days, resigning in the furor resulting from the remark that Senator Morse was “kicked in the head by a horse.” That representative from Connecticut with this surname previously had a stint as ambassador to Italy cut short by freak arsenic poisoning and carried on an affair with Roald (*) Dahl. That first female ambassador shared this surname with her husband, who loftily proclaimed the 1900s the “American Century” in an article in one of his publications. For 10 points, name this power couple with first names Clare Boothe and Henry, the latter of whom founded *Sports Illustrated*, *Time*, and *Life*.
ANSWER: Luce [Henry and Clare Boothe]
15. In Evelyn Waugh’s *Decline and Fall*, Paul Pennyfeather is taken to a prison in this place after being arrested for traffic in prostitution on the morning of his wedding day. A dissatisfied merchant in Paris returns to this location to build a school for children in another novel, which contains a scene at the beginning in which a mass of people light a bonfire at this place’s highest point, Rainbarrow. During a particularly stormy night in this place, two lovers drown; one of them prevents her mother-in-law from entering her house, hastening her death by (*) snake-bite, and the other owns the Quiet Woman Inn in this place. As that novel begins, Diggory Venn is on a wagon ride to this place, which was depicted in a Gustav Holst tone poem in memory of its creator’s death. This place’s inhabitants include Damon Wildev, Eustachia Vye, and Clym Yeobright. For 10 points, name this portion of moorland in Wessex County where Thomas Hardy set *The Return of the Native*.
ANSWER: Egdon Heath [prompt on Wessex County until mentioned; accept Rainbarrow before it is mentioned]
16. This man purified one of his servants of the murder of an Elean named Iphitus. His wife was a daughter of Amphidamas, and thus a sister of Melanion, named Antimache. In one story, this man’s daughter was a priestess of Hera in Argos until she absconded with an image of the goddess to Samos. In another story, Macaria offered herself as a sacrifice to foil an invasion led by this man and his herald Copeus; after this man’s forces are defeated, he is killed by either Hyllus or (*) Iolaus, relatives of his most notable rival. This son of Sthelenus was born after Hera drove Eileithyia away from Admete and provided aid to his mother Nicippe. In appearance, he regularly ran and hid in a bronze wine jar and refused to accept the legitimacy of the cleaning of the Augean Stables and the killing of the Hydra. For 10 points, name this king of Tiryns who ordered Heracles to perform twelve labors.
ANSWER: Eurystheus
17. One organization of this type from the Basque region of Spain is called Mondragon. 2012 is the international year of these business entities, according to their world governing body, the ICA. These organizations are governed by the seven Rochdale Principles, which include democratic member control and concern for community. They are user-owned, user-operated organizations that often return proceeds to the members in the form of rebates called (*) patronage. They are similar to fraternal, mutuals, and credit unions. For 10 points, name this business form, autonomous associations of people who work toward the same end, exemplified by organizations that bring electricity to rural areas, groups of farmers who sell their crops together, and markets that sell local crops.
ANSWER: cooperatives [or co-ops]

18. Near this work's end, a tuba holds a B natural for ten bars while the timpani plays the repeating sixteenth triplets alternating with eighths, and the rest of the orchestra plays a slow dirge in B major. Its opening section features a liturgically inspired theme in the clarinets and bassoons, which transitions into an alternation of B-minor six chords between strings and woodwinds, representing a street fight. This piece was heavily revised with Balakirev's criticisms in mind. Its most famous theme is introduced by the English horn and muted violas, followed by a brief episode of muted strings, before the (*) D-flat main theme returns in the flute and oboes, accompanied by horns. Near its end, a timpani roll represents the suicides of the title characters. The "Love Theme" and the "Friar Laurence" theme are components of, for 10 points, what "Overture-Fantasy" by Pyotr Tchaikovsky, an adaptation of a Shakespeare play?
ANSWER: Romeo and Juliet [accept TH 42; or ČW 39]
19. This person's most enduring work claims that a pebble or a "spire of grass" can be a "profound mystery." Voltaire's quote "If God didn't exist, it would be necessary to invent him" appears in a response to a hoax manuscript that was probably written by this author. In addition to that version of *The Treatise of the Three Impostors*, this person wrote a biography of John Milton, which was then defended in the *Amyntor* of this author, who also penned *Socinianism Truly Stated*. Another work, which this author defended in *Vindicius Liborius*, claimed to "hold no orthodoxy but truth" and asserted that "there is nothing in the Gospel contrary to reason." This thinker coined the term "pantheism" in his *Letters to (*) Serena*. For 10 points, name this so-called first freethinker, a prominent early deist who wrote the oft-burned *Christianity Not Mysterious*.
ANSWER: John Toland [or Janus Junius Toland; or Seán Ó Tuathaláin]
20. A turncoat during this event who adopted the surname "Jerhot" was eventually executed at Pankrac Prison. In the aftermath of this event, Bishop Gorazd was shot after a member of the "Out Distance" group ratted out a group of people hiding in the Karel Boromejsky Church. A radio transmitter used during a mission related to this event, Operation Silver A, was found in Lezaky. This planned event was ultimately successful thanks to septicemia brought on by bits of carpet embedded in its target after the jamming of a gun and the use of an anti-tank grenade. On the orders of Eduard (*) Benes, Jozef Gabcik and Jan Kubis carried out this mission during an operation with the codename Anthropoid. For 10 points, Hitler ordered the Lidice massacre after what event, the killing of the Nazi head of security by the Czechoslovak government in exile?
ANSWER: the assassination of Reinhard Heydrich [accept Operation Anthropoid before mentioned; accept anything that signifies the death of Heydrich]
21. While working with imidazolium derivatives, Wanzlick proposed a mechanism in which NHCs participate in this process, though Wanzlick's hypothesis was disproved by Lemal. In G-protein coupled receptors, this process is thought to occur via a "contact" process wherein transmembrane bundles are present at interfaces that otherwise face a lipid region, and via a "domain-swapping" process, in which the polypeptides appear (*) interwoven. Binding of a ligand to receptor tyrosine kinases causes this process to occur. Highly reactive molecules like carbenes participate in these reactions regularly, whereas noble gases do not produce stable molecules when undergoing these reactions. For 10 points, name this process in which a pair of identical atoms or molecules combines covalently or noncovalently, and which can also describe polymerization of degree two.
ANSWER: dimerization [or formation of dimers; accept word forms]

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Bonuses

1. Chick Counterfly is the newest member of this group, which is accompanied by the *Princess Cassamassima*-reading dog Pugnax. For 10 points each:
[10] Name this group, led by Randolph St. Cosmo, which flies the airship *Inconvenience* to the 1893 Chicago World's Fair in a certain novel.
ANSWER: the **Chums of Chance**
[10] The Chums of Chance can be found in this incredibly crowded, monstrously long 2006 novel, whose main plot, such as it is, is sparked by the murder of the anarchist Webb Traverse.
ANSWER: ***Against the Day***
[10] *Against the Day* was written by this reclusive author of *The Crying of Lot 49* and *Gravity's Rainbow*.
ANSWER: Thomas [Ruggles] **Pynchon** [Jr.]
2. One conjecture of this physicist was based on two 2D gravity models: one, a matrix model, in which some flows were governed by the KdV equations; the other, the theory of intersection theory on coarse moduli spaces. For 10 points each:
[10] Name this physicist who suggested the existence of M-theory and showed how anyone, even Chris Ray, could use supersymmetric quantum mechanics to compute the de Rham cohomology of a compact manifold with Morse theory.
ANSWER: Edward **Witten**
[10] This Russian mathematician proved Witten's conjecture, which can also be stated as: the generating function of the top products of psi classes obeys the KdV hierarchy of differential equations.
ANSWER: Maxim [Lvovich] **Kontsevich**
[10] Witten showed that the Jones one of these things of a knot in a 3-manifold M can be viewed as the path integral over all $SU(2)$ connections of M of the exponential of the Chern-Simons action functional. More generally, these things are expressions involving a sum of powers in one or more variables multiplied by coefficients
ANSWER: **polynomials** [also accept knot **invariant** (the Jones polynomial is a knot invariant)]
3. In this city, an event that served as a direct inspiration for the video game *State of Emergency* included an alliance of trade unionists and environmentalists known as the "Teamsters and Turtles." For 10 points each:
[10] Name this city, the site of a 1999 "battle," an instance of anti-globalization unrest during which a "black bloc" of anarchists vandalized a large number of storefronts.
ANSWER: **Seattle**
[10] The "Battle in Seattle" protested a meeting of the Ministerial Conference of this body that was created in 1995 to issue binding decisions on international-exchange-related disputes.
ANSWER: the **WTO** [or **World Trade Organization**]
[10] This journalistic organization, dedicated to a policy of open publishing, originated during the Seattle protests. In 2003, Google stopped indexing some of its stories due to their repeated use of the anti-semitic term "Zionazis."
ANSWER: **Indymedia** [accept the **Independent Media Center**; or **IMC**]
4. Name some people who might be known as the "Hebrew Hammer," for 10 points each.
[10] This son of the priest Mattathias had a surname that literally means "Hammer." Hanukkah celebrates his removal of the Hellenistic statuary from the temple of Jerusalem.
ANSWER: **Judah Maccabee** [or **Judas Maccabeus**; prompt on partial answer]
[10] This Detroit Tiger legend who smacked 331 homers in an army-service-shortened career, including 58 homers in 1938, was known as the "Hebrew Hammer."
ANSWER: Hammerin' Hank **Greenberg** [or Henry Benjamin **Greenberg**]
[10] The 2003 parody blaxploitation film *The Hebrew Hammer* stars this Jewish actor in the title role. He played Private Mellish in *Saving Private Ryan* and Mike Newhouse in *Dazed and Confused*.
ANSWER: Adam [Charles] **Goldberg**

5. These peoples believed that a white goose, feeling lonely, created a companion named Er Kishi, who later became a demonic figure. For 10 points each:
 [10] Name these peoples who worshiped the creator god Tengri. The Orkhon inscriptions attest to the language of these nomadic peoples, to whom the wolf and horse were important animals
 ANSWER: Turko-**Mongolian** peoples [or **Turkic** peoples; or **Tibetan** peoples; prompt on **steppe** peoples; prompt on **nomads**; accept **Xiongnu**; accept **Naiman**]
 [10] Noted dinosaur namesake Erlik is the Turko-Mongolic god of this domain. Other gods who rule over this domain include Mictlantecuhtli and Hades.
 ANSWER: the **underworld** [accept equivalents; also accept **death** and its equivalents]
 [10] One of the most important figures in Turko-Mongolic mythology was this priest of Tengri, the title character of a twelfth-century epic reputed to be the longest in the world. In one version, he wins the princess 'Brug-mo in a horse race.
 ANSWER: King **Gesar** [or **Geser**; or **Keser**; or **Kesar**; or **Gesar-khan**]
6. The least-mean-square algorithm developed by Widrow and Hoff for adaptive filters is an example of this gradient method. For 10 points each:
 [10] Name this simplest of the gradient methods, which uses a zig-zag-like path from an arbitrary point to gradually slide down the gradient until it converges to the minimum.
 ANSWER: method of **steepest descent** [or **saddle-point** method; prompt on gradient **descent**]
 [10] The least-mean-square algorithm is a scheme for producing the lowest value for the mean squared form of this quantity, the difference between the expected output and the actual output.
 ANSWER: **error**
 [10] Other gradient methods include Levenberg-Marquardt, which iterates between the method of steepest descent and this method. This modification of Newton's method is used for nonlinear least-squares problems.
 ANSWER: **Gauss-Newton** method
7. In the western U.S., rights to this substance are determined by who puts it to the earliest beneficial use. For 10 points each:
 [10] Name this substance governed in the west by the prior appropriation doctrine, which is the legal rule that allowed William Mulholland to plunder the Owens Valley's supply of this substance to supply LA's need for it.
 ANSWER: **water** [accept equivalents]
 [10] In the eastern U.S., this common-law doctrine controls water rights. As its name suggests, it states that all landowners whose property adjoins a body of water have the right to use its water reasonably.
 ANSWER: **riparianism** [or **riparian** rights]
 [10] A major unresolved question in water law is what to do about the "bulk" form of this practice, which is currently not economically viable on a large scale. Sitka, Alaska has a contract with S2C Global Systems to engage in a form of this practice.
 ANSWER: bulk water **export** [or bulk international water **trade**; accept reasonable equivalents]
8. This work uses the example of the camel to upset the proposition "all ruminants are horned" in its twenty-fifth section, "Find One Instance to the Contrary." For 10 points each:
 [10] Name this sarcastic treatise, published in 1831, which introduces thirty-eight fallacious or distracting methods for showing up one's opponent in a debate.
 ANSWER: *The **Art of Being Right**: 38 Ways to Win an Argument* [or **Eristic Dialectic**; accept either underlined portion of **Eristische Dialektik: Die Kunst, Recht zu Behalten**]
 [10] *The Art of Being Right* was written by this cantankerous philosopher, a fan of the *Upanishads* and regular critic of Kant whose other works include *On the Freedom of the Will* and *On the Basis of Morality*.
 ANSWER: Arthur **Schopenhauer**
 [10] Schopenhauer advocated aestheticism and asceticism as avenues of escape from suffering in this 1818 work, his most famous.
 ANSWER: *The **World as Will and Representation*** [or *The **World as Will and Idea***; or *Die **Welt als Wille und Vorstellung***]
9. This city's sewage crisis of 1858 coincided with sweltering heat and led to its "Great Stink." For 10 points each:
 [10] Name this city whose toshers scoured the sewers for objects of value, leading to downright shitty conditions that contributed to its 1854 cholera outbreak centered on the Broad Street pump.
 ANSWER: **London**
 [10] This English physician drew a map that zeroed in on the Broad Street pump as the source of the 1854 Soho cholera outbreak in London.
 ANSWER: John **Snow**
 [10] This giver of the popular lecture *The Chemical History of a Candle* was satirized in a *Punch* cartoon, which depicted him giving his card to Father Thames, for having the nerve to write a letter to the *Times* suggesting that the river be cleansed of human feces.
 ANSWER: Michael **Faraday**

10. [NOTE: for obvious reasons, don't read the extended moderator notes in the first answer out loud]
 They were initially thought to be entirely fictional, though research by Montague Summers and Michael Sadleir revealed that they all actually existed, even Ludwig Flammenberg's *The Necromancer*; or, *the Tale of the Black Forest*. For 10 points each:
 [10] Identify or describe these seven works, all of which had been read by a certain Miss Andrews, that were recommended to the protagonist of an 1818 novel after that character had finished reading *The Italian*.
 ANSWER: the Northanger **horrid novels** [prompt on answers like **Gothic novels**, if they don't say "horrid novels," they to need either mention **Northanger Abbey** OR **Catherine Morland** OR **Isabella Thorpe** alongside Gothic **novels**]
 [10] Isabella Thorpe recommends those "horrid novels" to Catherine Morland, the protagonist this Jane Austen novel.
 ANSWER: **Northanger Abbey**
 [10] This family owns Northanger Abbey itself. While staying with them, Catherine begins to suspect its patriarch, the General, of having imprisoned his wife in a mysterious suite of rooms.
 ANSWER: the **Tilney** family
11. During this monarch's short life, he impregnated Angelitha Wass with a bastard son. For 10 points each:
 [10] Name this monarch who was succeeded as regent by his devoted wife, Mary of Austria, whose brother Ferdinand I claimed the throne after this nineteen-year-old ruler drowned in a stream fleeing a battlefield.
 ANSWER: **Louis II** of Hungary [or **Lajos II**; prompt on **Louis** or **Lajos**]
 [10] Louis II died fleeing this 1526 battle in which Suleiman the Magnificent crushed the Jagiellon forces, thus conquering Hungary.
 ANSWER: Battle of **Mohacs** [or **Mohacsi**; or **Mohac**; or **Mohackom**]
 [10] The divided Hungarian nobility after Mohacs supported both Ferdinand I and this Voivode of Transylvania, who was en route to Mohacs but arrived too late to fight, as possible candidates for King of Hungary. He held the de facto title King of Hungary, with very little practical effect, from 1527 to '40.
 ANSWER: John **Zápolya** [or Janos **Zapolya**]
12. This actor played the title character in Duccio Tessari's adaption of *Zorro*, and he won the Cesar award for portraying an art collector who is persecuted by the Vichy government in *Monsieur Klein*. For 10 points each:
 [10] Name this French actor who played a young criminal who plans a jewelry-store robbery in *Le Cercle Rouge* and portrayed the calculating vigilante Jef Costello in *Le Samourai*, both directed by Jean-Pierre Melville.
 ANSWER: Alain [Fabien Maurice Marcel] **Delon**
 [10] Delon was once engaged to Austrian-German actress Romy Schneider, who played Leni in this director's adaptation of Kafka's *The Trial*, which this director made during a stint in Europe that also produced *Chimes at Midnight*.
 ANSWER: [George] Orson **Welles**
 [10] This masterwork of Orson Welles focuses on the title newspaper magnate's obsession with Rosebud.
 ANSWER: **Citizen Kane**
13. The first Hohenberg-Kohn theorem states that the external potential of a system is a functional of this property, while the second HK theorem invokes the variational principle to relate it to the ground state of a system. For 10 points each:
 [10] Name this property that is invoked extensively in the Thomas-Fermi model.
 ANSWER: **electronic density** [prompt on **density** or **density functional** or **DFT**; do not accept **charge density**]
 [10] DFT is an example of this method, which involves guessing the mathematical form of all but one orbital, calculating the equations for the orbital of interest, and repeating the process to obtain improved calculations for all orbitals.
 ANSWER: **self-consistent field** method [or **SCF**; **moderate note** prompt on, but do not say, **Hartree-Fock** or **HF** method]
 [10] This doubly eponymous self-consistent field method approximates the ground-state wave function and ground-state energy of a quantum many-body system and comes in "unrestricted" and "restricted open-shell" varieties.
 ANSWER: **Hartree-Fock** method [or **HF** method]
14. In the third part of this novel, its protagonist becomes a professional photographer and engages in an affair with Dr. Ivan Radovic. For 10 points each:
 [10] Name this novel about Aurora del Valle, the granddaughter of Tao Chi'en and Eliza Sommers, two characters from the author's earlier novel, *Daughter of Fortune*.
 ANSWER: **Portrait in Sepia** [or **Retrato en Sepia**]
 [10] *Daughter of Fortune* and its sequel *Portrait in Sepia* were written by this Chilean author of *Eva Luna*.
 ANSWER: Isabel **Allende** Llona
 [10] Allende also wrote a novel titled for, and focusing on the origin of, this character, who made his first appearance in the 1919 Johnston McCulley novel *The Curse of Capistrano*.
 ANSWER: **Zorro** [or **El Zorro**]

15. The rate-limiting step of the biosynthesis of these molecules is characterized by an iso-pentyl-transferase. For 10 points each:
 [10] Name these molecules that are found in high concentrations in meristematic tissue and are exemplified by zeatin and benzyl adenine. Among other things, they stimulate morphogenesis and chlorophyll synthesis in plants.
 ANSWER: **cytokinins**
 [10] The synthesis of cytokinins is regulated by these plant hormones that regulate geo- and photo-tropism. Examples of these hormones include indole-3-acetic acid.
 ANSWER: **auxins**
 [10] Cytokinins are important to the formation of some galls, a type of plant tumor which that be caused by this Gram-negative bacterium. It transduces its genes to the host via the Ti plasmid, and infects a lot of commercial crops.
 ANSWER: ***Agrobacterium tumefaciens*** [or ***A. tumifaciens***; or ***Rhizobium radiobacter***; or ***R. radiobacter***]
16. Later in her career, this accomplished textile designer edited a journal called *L' plastique*. For 10 points each:
 [10] Name this artist who designed the interiors of the Cafe de l'Aubette in Strasbourg. She was married to the artist of French-German extraction who created *Shirt Front and Fork*.
 ANSWER: Sophie **Tauber-Arp** [or **Taeuber-Arp**; prompt on **Arp**]
 [10] During the early 1940s, Sophie Tauber-Arp hung out with Sonia Delaunay, wife of Robert Delaunay, who founded this art movement. Its name was coined by Apollinaire and refers to a musician from Greek myth.
 ANSWER: **Orphism**
 [10] Tauber-Arp's husband, Jean Arp, was the leader of the Cologne segment of this movement, the "hobbyhorse" of Marcel Duchamp.
 ANSWER: **Dadaism**
17. Yvonne visits her ex-husband Geoffrey Firmin during this celebration at the start of Malcolm Lowry's *Under the Volcano*. For 10 points each:
 [10] Name this early November celebration, a Mexican holiday that combines the Aztec worship of Mictecacihuatl with Catholic All Souls' Day. Its participants offer marigolds to deceased loved ones.
 ANSWER: **Day of the Dead** [or **Dia de los Muertos**]
 [10] This confection, inscribed with the names of the deceased, is also offered on the Day of the Dead, but is more commonly gobbled up by kids. The nearest candy store might still have some, Chris Ray.
 ANSWER: **sugar skulls** [or **calaveras de azucar**; prompt on partial answer]
 [10] This is what the creepy wooden skulls and skeletons that people decorate on the Day of the Dead are called.
 ANSWER: **calacas** [or **catrinas**]
18. Identify the following about viola concerti, none of which concerns Carl Ditters von Dittersdorf's surely-magnificent *Viola Concerto in F major*, for 10 points each.
 [10] Tibor Serly completed the viola concerto this man left unfinished at his death. This Hungarian composer of *Mikrokosmos* also wrote *The Miraculous Mandarin* and *Duke Bluebeard's Castle*.
 ANSWER: Béla [Viktor János] **Bartók** [or **Bartók** Béla Viktor János]
 [10] The first extant viola concerto of note was written by this Baroque composer of the opera *Orpheus, or the Wonderful Constancy of Love*. He also wrote the eighteen-piece, three-collection work *Tafelmusik*.
 ANSWER: Georg Philipp **Telemann**
 [10] The debut of this Paul Hindemith viola concerto, sometimes known as the "Concerto from Old Folk Songs," was delayed by the sudden death of King George VI. In its place, Hindemith quickly composed and debuted his *Trauermusik*.
 ANSWER: *Der* **Schwanendreher** [or *The* **Swan-Turner**]
19. Three articles by this man on the "Institutional Character," the "Sphere," and the "Progress" of "Pecuniary Valuation" were included in his last major work, *Social Process*. For 10 points each:
 [10] Name this author of *The Theory of Transportation*, a sociologist who introduced the concept of primary social groups in the opening section of his text *Social Organization: A Study of the Larger Mind*.
 ANSWER: Charles [Horton] **Cooley**
 [10] Cooley is developed this concept to explain society's impact on a person's identity, which he explained with the quote "I am not what I think I am and I am not what you think I am; I am what I think that you think I am."
 ANSWER: the **looking-glass self**
 [10] Charles Horton Cooley worked at Chicago alongside this man whose lectures were posthumously collected into *Mind, Self, and Society*, and alongside whom Cooley co-founded symbolic interactionism.
 ANSWER: George Herbert **Mead**

20. This war began with the issuance of the October Tenth manifesto by Carlos Manuel de Cespedes. For 10 points each:
- [10] Name this conflict fought between 1868 and '78, which was ended when the rebel groups signed the Pact of Zanjón with Spain.
- ANSWER: **Ten Years War** [or Guerra de los **diez años**]
- [10] The Ten Years war was the first attempt for independence from this island nation, which gained independence from Spain in 1898. The Platt amendment codified U.S. involvement in this country.
- ANSWER: Republic of **Cuba**
- [10] This man led Spanish armies against Cuba during the Ten Years War and briefly returned only to be replaced by Valeriano Weyler. He led a coup that restored Alfonso XII and the Bourbon dynasty to the Spanish throne in 1874.
- ANSWER: Arsenio **Martinez Campos** [or Arsenio **Martinez Campos** y Anton]
21. For lack of a better idea, answer the following about instances of Chekhov's gun in literature according to TVTropes, for 10 points each.
- [10] In this play, written by Chekhov himself, an actual gun that is mentioned in passing is later used by the title character against the professor Serebryakov. Its title character and the doctor Astrov both fall in love with Elena.
- ANSWER: **Uncle Vanya** [or **Dyadya Vanya**; or apparently **Uncle Jonny**, according to Wikipedia]
- [10] In order to prove her literacy, this character writes the sentence "The cops are here" on a note, which later alerts Jean Valjean and saves his life. She is incredibly jealous of Cosette and saves the object of her affection, Marius, by taking a bullet for him at the barricade.
- ANSWER: **Eponine** Thenardier [or the **Jondrette** girl or synonyms]
- [10] Whether or not the gun is fired is left to the reader's imagination in this 1931 Faulkner short story, in which the black man Will Mayes is abducted by a lynch mob responding to rumors of his alleged rape of the spinster Miss Minnie Cooper.
- ANSWER: "**Dry September**"