

## Chicago Open 2023

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## Tossups

1. *Original-language term required.* **Peter A. Jackson documented how people with this status first gained a positive outlet in national media through a 1970s advice column written by the pseudonymous “Uncle Go.” People with this status feature in a specialized international marketing campaign whose slogan tells the reader to “Go [to their country], Be Free.” A 2000 comedy that broke its country’s cinema into the US market is based on the victory of a team with this status in its national volleyball championships. Most entrants in the (\*) Miss Tiffany’s Universe pageant have this status. Transgender women typically use the word *phuying* instead of identifying with this status, whose holders often find employment at go-go bars and cabarets in tourist centers like Pattaya. For 10 points, name this “third gender” identity common in Thailand.**

ANSWER: **kathoey** (“ka-TUH-ee”) [prompt on ladyboy, gay, homosexual, LGBTQ+; prompt on transgender woman until “transgender” is read] (The 2000 comedy is *The Iron Ladies*.)

<Henry Atkins, Geography>

2. **The title character of a story by this author is given a sixpence with a hole in it by some gunrunners to ward off the voice of a friend whom he betrayed. In a story by this author, a man declares, “I loved my brother,” after telling of how he left that brother to die to save his love Diamelen. In a novel by this author that grew out of the story “Two Vagabonds,” Aïssa (“eye-EE-sah”) shoots Peter Willems after both of them are abandoned by Tom (\*) Lingard. It is rumored that one of this author’s protagonists hides a priceless emerald on the body of a beautiful half-native woman from whom he is inseparable. This author wrote “Karain” and “The Lagoon.” One of this author’s protagonists offers a “latter-day buccaneer” a “clear road or else a clear fight,” after which that pirate massacres a band of natives. For 10 points, name this author who created a man who defeats Sherif Ali to gain control of Patusan in the novel *Lord Jim*.**

ANSWER: Joseph **Conrad** [or Józef Teodor Konrad **Korzeniowski**] (The powermark clue is from *An Outcast of the Islands*.)

<Arya Karthik, British Literature>

3. **A common piece of pottery found on this island is a type of pubic cover called a “tanga,” whose depiction of stylized female genitalia has been thought to suggest a matriarchal society. In the 1980s, this island’s *tesos* were revealed to have been domestic occupations, not just ceremonial sites, by an archaeologist who argued that complex societies could have existed in regions with (\*) *terra firme* soil. Earlier studies of this island’s civilization were heavily influenced by the “Environmental Limitation Hypothesis” of archaeologist Betty Meggers, who argued that the poor soil of the region created a “counterfeit paradise” and debated Anna Curtenius Roosevelt over the nature of this island’s civilization. Generations of archaeologists have debated whether this island’s mound-building society disproves the “pristine myth” of the Amazon. For 10 points, name this largest island on the Amazon delta.**

ANSWER: **Marajó** (“mah-rah-ZHAW”) Island [accept **Marajoara** culture]

<Corry Wang, Social Science>

4. A flotilla organized by Asa Jennings rescued over three hundred thousand survivors of a disaster in this city chronicled in a book by US Consul George Horton. Following its liberation, French soldiers were ordered not to intervene as a mob lynched this city's metropolitan bishop. The mathematician Constantin Carathéodory founded a university in this city that was forced to close before ever taking students. Surrendering soldiers in this city were executed for refusing to shout "Long live" a soon-to-be (\*) eight-term prime minister. A namesake zone around this city was granted to an occupying force in the Treaty of Sèvres ("SEV-ruh"). Ernest Hemingway's *In Our Time* opens by depicting British sailors trying to establish order on this city's quai during an event likely ordered by Nureddin Pasha. For 10 points, a 1922 "great" fire destroyed what once predominantly Greek port city in Anatolia?  
ANSWER: Smyrna [or İzmir]

<Caleb Kendrick, European History>

5. *Description acceptable.* A highly chemoselective form of this process can occur via a Norrish Type II photo-isomerization in nitro-benzyls such as NVOC. Anisole and *p*-cresol are used to prevent damaging side reactions after acylium carbocations are produced via a form of this process that uses an S<sub>N</sub>1 reaction with TFA. It's not related to quizbowl, but this process occurs when light is shone on PPGs. Performing a type of this process selectively at low pH relies on large steric differences, such as between (\*) TIPS and DMIPS. This process is the first step of each cycle of the phosphoramidite method, in which the formation of a DMT cation yields a bright orange color. Coupling and this process alternate in solid-phase peptide synthesis, which usually uses piperidine to perform this process on Fmoc. For 10 points, name this process exemplified by treating a silyl ether with TBAF or an acid to restore an alcohol group.

ANSWER: deprotection [or word forms; accept descriptions of removing a protecting group; prompt on desilylation or detritylation by asking "what general chemical task does that reaction exemplify?"; prompt on removal or cleavage or word forms]

<Adam Fine, Chemistry>

6. This cathedral unusually features a gallery of 22 sculptures of kings that lies underneath its rosette window. The ratio of dimensions of this cathedral's nave, along with its floor plan, was the model for Cologne Cathedral. The *trumeau* of this cathedral's west façade features a statue of Christ called the *Beau Dieu*. To prevent this cathedral's choir from collapsing, Pierre Tarisel installed a wrought iron chain through its triforium that contracted as it cooled. Openwork flying buttresses were chosen to reinforce this cathedral's choir by Renaud de Cormont, who designed it along with his father Thomas and (\*) Robert de Luzarches ("loo-ZASH"). This cathedral houses a relic of the skull of John the Baptist. Like Chartres and Reims ("rams"), it features a marble labyrinth at the center of its nave, which is the highest of any French Gothic cathedral. For 10 points, name this High Gothic cathedral located in the capital of the Somme department.

ANSWER: Amiens ("am-YAN") Cathedral [or Our Lady of Amiens or Notre-Dame d'Amiens; or Cathedral Basilica of Our Lady of Amiens or Basilique Cathédrale Notre-Dame d'Amiens; accept *The Bible of Amiens*; reject "Notre Dame" or "Our Lady"]

<Aseem Keyal, Other Fine Arts>

7. A novel in this language includes the recurring image of a mysterious hadji dressed in white. A novel in this language describes a house by dividing it into 21 squares and listing the squares corresponding to each room; that novel's narrator writes a line-by-line refutation of some "trash by Heine" to prove that no one who recites poetry can have a "love of truth." In 2020, a country that uses this language overhauled its official "Canon" to include the author of *We Slaves of* [one of its colonies]. In a novel in this language, a (\*) buffalo gores a tiger's stomach to save Saijah's life; that novel's protagonist is incensed by colonial bureaucrats' collusion with the Adhipatti. A novel in this language, which has been called "the novel that killed colonialism," begins with Scarfman giving some manuscripts to an employee of Last & Co. coffee brokers. For 10 points, name this language used by Multatuli, the author of *Max Havelaar*.

ANSWER: Dutch [or Nederlands, Netherlandic, or Netherlandish] (The third line refers to Anton de Kom's *We Slaves of Suriname*; *Max Havelaar* is also in the Canon of the Netherlands.)

<Arya Karthik, European Literature>

8. An explorer born in this modern-day country named Salim bin Abakari wrote *Journey to Russia and Siberia*. Jeremy Prestholdt's book *Domesticating the World* describes how this country's "Johanna-men" imitated English titles and etiquette. In the 1780s, this modern country's Shimaswa-speaking prince Bwana Combo sparked invasions of Domoni and Mutsamudu by hiring [emphasize] *foreign* Sakalava navies from Boina. This country's al-Maduwa dynasty ruled the Sultanate of Nzwani. One of Bob (\*) Denard's four coups in this country assassinated Ahmed Abdallah, who expanded its production of palmarosa, cloves, and ylang-ylang. This southernmost member of the Arab League became a "union" after the 1997 secession of Mwali and Anjouan. For 10 points, Mayotte voted not to join what island country in the Mozambique Channel that is led from Moroni?

ANSWER: Comoros [or Union of the Comoros, Udzima wa Komori, Jamhuriyat al-Qumur al-Mutaḥida, or Union des Comores; accept Comoro Islands, State of the Comoros, or Federal and Islamic Republic of the Comoros] (Denard overthrew Abdallah in 1976, was hired by him to overthrow Ali Soilih in 1978, and ordered his assassination in 1989 after profiting from his government.)

<Nick Jensen, World History>

9. Three "domains" of creating these things that converge as they become concrete are depicted in the Gajski-Kuhn Y chart. The method of logical effort helps ballpark sizing decisions for parts of these things that are later quantized in units of lambdas in stick diagrams. Halos and abutment lower the utilization ratio of these things, which is determined during floorplanning. Going "full custom" is an alternative to using standard cells, which are building blocks for these things. Carver Mead and Lynn (\*) Conway pioneered a "revolution" in creating these things. Derivatives of the SPICE program are made by Synopsys and Cadence, basically the only two suppliers of E·D·A software for making these things. Synthesis transforms an R·T·L description of these things written in a language like SystemVerilog to a specification of logic gates. For 10 points, name these things produced in semiconductor fabs.

ANSWER: computer chips [or microchips, application-specific integrated circuits, ICs, or ASICs; prompt on circuits or printed circuit boards or PCBs; prompt on semiconductors or electronics]

<Adam Fine, Other Science - Computer Science>

10. A hadith named for this practice refers to bone as "the knife of the Abyssinians" when discussing why it should not be performed using teeth, bone, or nail. Abu Hurairah recounted how the Prophet Muhammad proclaimed that there is "No *fara*' and no '*ateerah*" when referring to this practice. A charitable donation equivalent to the weight of a newborn's hair is performed alongside this practice during *aqiqah*. A 10-day fasting penalty can substitute for this practice, which must occur prior to (\*) shaving one's head if one cannot complete the Hajj. This ritual, which takes place between the morning of the 10th day and the sunset of the 13th day of Dhu al-Hijjah, is usually performed in Mina after the stoning of the *jamarat*. The performer, their family, and the poor each get a share of this practice's results. For 10 points, the *qurban* performed on Eid al-Adha involves what ritual that commemorates the swapping of Ismail for a ram?

ANSWER: animal sacrifice [accept hady, hadi, or Damm al-Shukr; accept udhiyah; accept the sacrifice of specific livestock, such as camels, buffalo, cows, goats, or sheep; accept Qurban or Qurbani until "Qurban" is read; prompt on Eid or Eid al-Adha until read; prompt on sacrifice or Kitab al-Adahi by asking "what is being sacrificed?"]

<Munir Siddiqui, Beliefs>

11. In a 1999 paper, Ned Block and Robert Stalnaker argued that this view does not require conceptual analysis. A book titled for this view calls the issues of mental causation and consciousness the "Two World-Knots." That book by Jaegwon Kim is titled for this view "or something near enough." In the 1950s, U. T. Place, Herbert Feigl, and J. J. C. Smart developed a variant of this view that was attacked in the paper "The Nature of Mental States." Hilary Putnam used (\*) multiple realizability to challenge a variant of this view named for types, which is contrasted with another variant named for tokens. In the paper "Epiphenomenal Qualia," Frank Jackson attacked this view using the knowledge argument. For 10 points, name this position in the philosophy of mind which holds that mental states can either be reduced to or are dependent on phenomena like neurons firing.

ANSWER: physicalism [or word forms of physicalist; or materialism or word forms of materialist; accept Physicalism, or *Something Near Enough*; prompt on type-identity theory or token-identity theory]

<Aseem Keyal, Philosophy>

12. **Late in this novel, a character who sports a beaver hat and a gold toothpick pays a legal fee by counting out two dollars in pennies. A boy in this novel receives an unwanted bucket of molasses months after he throws down 70 cents to save face over being rescued from an icy creek. An adaptation of this novel is “the only film that could be shown in Harlem without arousing unintended laughter” according to the title essay of (\*) Ralph Ellison’s *Shadow and Act*. A stream-of-consciousness passage from this novel states that “whenever he wants it,” “every Southern boy fourteen years old” can imagine the instant before Pickett’s charge. In this novel, Miss Eunice Habersham helps the white teenager Chick Mallison exonerate a Black farmer who had earlier saved his life. For 10 points, Lucas Beauchamp appears in what mystery novel, a quasi-sequel to *Go Down, Moses* by William Faulkner?**  
ANSWER: **Intruder in the Dust** (The Ellison essay is actually titled “The Shadow and the Act.”)  
<Nick Jensen, American Literature>

13. *Note to moderator: Please read the answerline carefully.*

**The dynamics of this process requires spherical symmetry breaking instabilities like the lepton-number emission self-sustained asymmetry and the SASI. The asymmetry of this process imparts a natal kick velocity. The chief physical mechanism for this process requires neutrino heating in the turbulent gain region. This process begins with a shock wave that eventually stalls due to the ram pressure of accreting material. Towards the end of this process, the rate of the decline from the “plateau” phase to the “radioactive tail” phase on (\*) light curves is governed by nickel-56 abundance. When temperatures reach 10 billion Kelvin during this process, photodisintegration occurs. Supernovae that occur via this process can form neutron stars and black holes, unlike those that occur when a white dwarf exceeds the Chandrasekhar mass. For 10 points, what process is the implosion of the center of a massive star?**

ANSWER: **core collapse** [or **core-collapse** supernovae; prompt on **collapse**; prompt on **CCSNe**; prompt on stellar **explosions** or **supernovae** or **SNe** or Type Ib (“one-B”) **supernovae** or Type Ic (“one-C”) **supernovae** or Type II (“two”) **supernovae** or Type II-P **supernovae** or Type II-L **supernovae** or Type IIb **supernovae** by asking “what physical process is the mechanism for the supernova?” until “supernova” is read; reject “Type Ia (“one-A”) supernovae” or “thermonuclear explosions” or “thermal runaway”] (SASI stands for standing accretion shock instability.)  
<Jonathen Settle, Astronomy>

14. **This region was compared to Lake Avernus and Sodom as places devoid of animals in the official account of a survey of it, which was also documented by the same author in a “Secret History” of the expedition. Sylviane A. Diouf argued that this region’s population was lower than the thousands reported by Herbert Aptheker. People in this region healed wounds with “Oak of Jerusalem” according to Moses Grandy, who reported his life here as a “waterman.” Frederick Law Olmsted interviewed a lumberman about this panther-stalked region’s tracking dogs. William (\*) Byrd II’s cursory 1728 survey of this region inspired plans to shrink it with a canal that began with the “Washington ditch.” Milly’s gospel singing convinces Dred not to revolt in a novel titled for this area by Harriet Beecher Stowe. For 10 points, many maroons escaped to what North Carolina and Virginia wetland?**

ANSWER: Great **Dismal Swamp** [accept **Lake Drummond**; accept *Dred: A Tale of the Great Dismal Swamp*; accept **Dismal Swamp** Canal Company; prompt on **swamp** or **wetland** until “wetland” is read; prompt on **North Carolina**, **NC**, **Virginia**, or **VA** until each is read by asking “what natural area in that state?” prompt on the **Tidewater** or **Chesapeake** or **Albemarle**; reject “marsh”]  
<Nick Jensen, US History>

15. In the 1980s, a pop artist from this country painted a series depicting the colorful dresses worn by fruit sellers. This country's name appears in the Coca-Cola font in works by a pop artist who played on his name with the phrase "everything is expensive." An artist from this country was inspired to adopt his most famous motif upon painting a mandolin with a tiny sound hole. The wooden artworks of an artist from this country include a cabin made from hundreds of trees and thousands of (\*) chairs stacked between two buildings. An artist from this home country of Ana Mercedes Hoyos and Antonio Caro depicted a man with closed eyes holding a gun up to the sky as his body is riddled with bullets. That artist from this country also created a series inspired by the abuses at Abu Ghraib. For 10 points, name this home country of Doris Salcedo where plump, bulbous bodies are the trademark of artist Fernando Botero.

ANSWER: Colombia [or Republic of Colombia or República de Colombia] (The painting of the man holding the gun is Botero's "The Death of Pablo Escobar.")

<Ani Perumalla, Visual Fine Arts>

16. The time derivative of the amount of product of this process, estimated with either La Manno et al.'s 2018 steady state model or Bergen et al.'s 2020 dynamical approach, strongly correlates with flow along low-dimensional cellular state space. The software *cuff-diff* estimates read uncertainty due to a type of this process with a beta distribution, which contrasts with the Bayesian approach of the MISO model. The ratio of molecules that have and have not undergone this process gives the (\*) "velocity" used to predict the future states of cells. Analyses of a form of this process are either count-based or isoform-based depending on whether they entail a full transcript reconstruction. Single-cell RNA sequencing reports a form of this process in terms of differential exon usage. For 10 points, name this process whose "alternative" form can produce multiple transcripts depending on which introns are excised.

ANSWER: RNA splicing [accept alternative splicing; accept word forms of splicing like splice]

<Adam Fine, Biology>

17. This thinker wrote an allegorical criticism of neoliberalism featuring a knight-errant beetle named Don Durito. Following backlash, the US National Endowment for the Arts canceled funding for a children's book about the Mayan creation myth by this thinker entitled *The Story of the Colors*. In 2006, this thinker went on a rare public tour of his country as part of The Other Campaign, during which he called himself (\*) Delegate Zero. To honor a murdered teacher, this thinker announced that he was "ceasing to exist" in 2014, adopting the new pseudonym "Galeano." Born Rafael Sebastián Guillén Vicente, this thinker was a philosophy professor at UAM before debuting as his most famous persona during a 1994 uprising against NAFTA. For 10 points, a black ski mask and a pipe are the trademarks of what pseudonymous figurehead of the Zapatistas?

ANSWER: Subcomandante Marcos [accept Rafael Sebastián Guillén Vicente until read; accept Subcomandante Galeano until "Galeano" is read]

<Corry Wang, Other Academic>

18. Et-Tell and El-Araj are two contending sites for a city on this body of water sometimes called Julias. Matthew Silver's two-part history of this body of water describes the 1986 finding of a 1st-century fishing boat. This body of water conventionally names 363 and 749 CE earthquakes, which respectively destroyed Nabratein and Decapolis cities like Hippos. A historian who governed a province with the same name as this body of water criticized a "fourth sect" from nearby Gamla and contested that province with John of (\*) Giscala. A figure who worked around this body of water was apocryphally the subject of Julian the Apostate's last words. Around 350 CE, Joseph of Tiberias founded the Church of the Multiplication along this body of water. For 10 points, Jesus is said to have walked upon what lake in northern Israel?

ANSWER: Sea of Galilee [or Sea of Kinneret or Yam Kinneret; or Thalassan tēs Galilaias; accept Sea of Tiberias, Lake Tiberias, Thalassan tēs Tiberiados, or Buḥayret Tabariyyā until "Tiberias" is read; accept Lake Hula, Sea of Sumchi, Agam ha-Hula, Buheirat el Huleh, Samchuna, Semechonitis, Yam Sumchi, or Hulata; accept 363 Galilee earthquake or 749 Galilee earthquake; accept Sea of Galilee Boat] (The site in the first line is better known as Bethsaida. The historian was Josephus, who wrote about the First Jewish–Roman War. Julian supposedly said "Vicisti, Galilae," or "You win, Galilean.")

<Nick Jensen, Other History>

19. This industry titles a novel in which a tycoon's life is narrated by his resentful son Jasper, his wife Snow, and the English drifter Peter Wormwood. In a story titled for this industry, Lotus sabotages her neighbors by treacherously throwing some elements of it in a stream. The Communist Johnny operates this industry's Harmony factory in the debut novel by Tash Aw. This Sisyphean industry ruins Old Tōng Bǎo in a story that precedes "Autumn Harvest" and "Winter Ruin" in the *Village Trilogy* by (\*) Máo Dùn ("mao dwin"). This industry names an analog of steampunk that Ken Liu coined for fantasy novels inspired by Chinese culture. In one novel, a town hosts a movie night in an old building once used for this industry, which ends in disaster as Yoko falls from a balcony. For 10 points, a warehouse formerly used in what industry catches fire at the end of *Snow Country*? ANSWER: silk industry [or sericulture; or sīchóu or sīxiàn; accept silkworms or silk moth or cán; accept silkpunk; accept *Spring Silk*worms or *Chūn Cán*; accept *The Harmony Silk* Factory; prompt on clothing, clothes, textiles, thread, fibers, dress, or fashion; prompt on mulberry or mulberries]  
<Nick Jensen, World Literature>

20. Anthony DiLorenzo composed *Chimera* for an all-female one of these ensembles named Seraph and an orchestra or concert band. The "American" one of these ensembles hosts a yearly training seminar at the Aspen Music Festival. A civil engineering professor wrote an early set of four pieces for this ensemble, whose first original repertoire also includes 12 pieces by Jean-François Bellon. Chuck Daellenbach is the only founding member left in one of these ensembles that was the first group of Western musicians to perform in China after the Cultural Revolution. Robert (\*) Nagel pioneered this ensemble's modern format in New York. One of these ensembles that plays in suits and white sneakers performs comedic arrangements such as "Flight of the Tuba Bee" and was founded in Toronto. For 10 points, cornets or flugelhorns may replace the highest-pitched instruments in what chamber ensembles that include one named "Canadian"? ANSWER: brass quintets [prompt on brass ensembles] (Ironically, the ABQ's brass quintet seminar at Aspen is on sabbatical for 2023; the civil engineering professor is Victor Ewald; the Canadian Brass were the first Western musicians to perform in China following the Cultural Revolution.)  
<Jacob Egol, Classical Music and Opera>

## Bonuses

1. John Austin's command theory was an early version of this approach, which a later theorist criticized for failing to distinguish laws from the threats of a gunman. For 10 points each:

[e] Name this approach to legal philosophy championed by H. L. A. Hart, which contends that legal facts are determined by social facts, rather than moral or natural law.

ANSWER: legal **positivism**

[h] This Yale legal philosopher defended a version of legal positivism based on Michael Bratman's theory of practical rationality called the "planning theory of law" in his 2011 book *Legality*.

ANSWER: Scott **Shapiro** [or Scott Jonathan **Shapiro**]

[m] Ronald Dworkin presented his "semantic sting" argument against legal positivism in this 1986 book that contrasts the competing philosophies of the two fictional jurists Judge Hercules and Judge Hermes.

ANSWER: **Law's Empire**

<Caleb Kendrick, Philosophy>

2. A seminal work on this concept has been rebutted by Nicholas Orme and Geoffrey Elton, with one of the criticisms by the latter being the uncaredful use of portraits. For 10 points each:

[m] A 1960 book by Philippe Ariès ("ahr-YESS") claims that what concept was invented in the early modern period?

ANSWER: **childhood** [or equivalents such as being a **kid**, **boyhood**, **girlhood**, or **children**; accept **childlore**; accept *Centuries of Childhood* or *The Child and Family Life in the Ancien Régime* or *L'enfant et la vie familiale sous l'ancien régime*; prompt on **youth**, being **young**, **adolescence**, **development** or **life stages**; reject "babyhood" or "infancy"]

[e] The book *Race After Hitler* argues that children of Black soldiers who were pejoratively called "Mischlingskinder" became "German" after the adoption of this stable currency, which ushered in the Wirtschaftswunder ("veert-shafts-VOON-duh").

ANSWER: Deutsche **Mark** [or German **mark**; or D-**mark** or **DM**; accept Deutsch**mark**; reject "Reichsmark"] (Heide Fehrenbach wrote *Race After Hitler*.)

[h] Poor "children of the road" from this Germanic minority group were abducted from their families to become indentured Verdingkinder in Switzerland. Many "ragmen" in Luxembourg came from this itinerant group.

ANSWER: **Yenish** [or **Jenische**, **Yéniche**, d'**Jéinesch**; prompt on **Travellers**]

<Nick Jensen, European History>

3. A character of this name declares himself to be "a dreamer with whom it is rather difficult to deal" and "the Old Man of the Forest" in a triumphant speech to his uncle Kaspar of Auersperg. For 10 points each:

[m] Give this name of the title character of a "dramatic prose poem" by Villiers de l'Isle-Adam. Another character with this name encounters mastodons and dinosaurs while on a scientific expedition with his uncle Otto Lidenbrock.

ANSWER: **Axel** [or **Axël**] (The second character is from *Journey to the Center of the Earth*, whose influence critics like André Lebois have argued is reflected in the preponderance of underground scenes in *Axël*.)

[e] The pioneering Symbolist drama *Axël* heavily influenced this Belgian playwright, who wrote of a fatal love triangle involving the grandsons of King Arkël in *Pelléas and Mélisande*. This author wrote *The Blue Bird*.

ANSWER: Maurice **Maeterlinck** [or Maurice Polydore-Marie-Bernard **Maeterlinck** or Comte **Maeterlinck**]

[h] In this other Symbolist drama, an actress impersonates Queen Mary to keep her husband from being appointed Viceroy of England. This absurdly long philosophical play by Paul Claudel centers on Rodrigo and Prouhèze ("proo-EZ").

ANSWER: *The **Satin Slipper***; or, *the worst is not the surest* [or *Le **Soulier de satin***; ou, *le pire n'est pas toujours sûr*]

<Arya Karthik, European Literature>

4. Kingma and Welling's paper introducing variational autoencoders provides an analytical formula for this quantity in the case of an approximately standard normal prior and approximately normal posterior. For 10 points each:

[m] Name this measure of difference between two probability distributions,  $P$  and  $Q$ , that equals the cross entropy of  $P$  and  $Q$ , minus the entropy of  $P$ .

ANSWER: **Kullback–Leibler divergence** [or **KL divergence**, or **relative entropy**, or **I-divergence**]

[h] The paper introduces the AEVB algorithm to calculate the SGVB estimator for this quantity that equals the conditional log-prior minus the KL divergence. Variational Bayesian methods seek to maximize this quantity when the marginal posterior is intractable.

ANSWER: **evidence lower bound** [or **ELBO**; accept **variational lower bound** or **negative variational free energy**; prompt on lower **bound**]

[e] Gibbs' inequality gives this value as a lower bound of the KL divergence. The Cramér–Rao bound approaches this value for the lower bound of the variance of an estimator as the Fisher information approaches infinity.

ANSWER: **zero**

<Adam Fine and David Bass, Other Science - Mathematics>

5. In a notoriously ugly Nuremberg sculpture inspired by this artist, a huge hare with a golden eye topples off a box. For 10 points each:

[e] Name this artist of the remarkably realistic 1502 watercolor *The Young Hare*, which is similar to his unfinished preparatory sketches like *Praying Hands*.

ANSWER: Albrecht **Dürer**

[m] In 2020, an excavation above a cathedral gift shop in this city revealed an underdrawing by Dürer, despite there being no record of him visiting. *The Young Hare* is one of over 100 Dürer works held in this city's Albertina Museum.

ANSWER: **Vienna** [or **Wien**] (The cathedral is St. Stephen's Cathedral.)

[h] Another Nuremberg sculpture depicts a skeleton and a dog as tributes to Dürer's woodcuts for this literary work as a journeyman in Basel. Anonymous artists like the "Master of the Haintz Narr" are credited for the third of this work's illustrations not by Dürer.

ANSWER: **Ship of Fools** [or *Das **Narrenschiff***; or **Stultifera Navis**; or *Daß **Narrenschyff** ad Narragoniam*]

<Ani Perumalla, Visual Fine Arts>

6. Ophelia Settle Egypt's manuscript *Raggedy Thorns* includes an entire chapter titled for this custom. For 10 points each:

[m] Name this custom popularized in the modern-day by the miniseries *Roots*. The words "til death or distance" are said during this ritual practiced by antebellum slaves, which, in part, symbolized a wife's commitment to her new household.

ANSWER: **jumping the broom** [accept similar answers; accept **besom** in place of broom; accept **broomstick weddings** and similar; prompt on partial answer; prompt on informal or irregular **marriage**; prompt on slave **marriage**]

[h] It has been suggested that the broom's reversal recreated this line that separates our world from the ancestral plane on the Kongo cosmogram. Though it is named for the fiery spark of creation, this line is described as a river.

ANSWER: **Kalûnga** Line

[e] Tyler D. Parry's book on the surprising multicultural origins of broomstick marriages traced it back to Romani communities in this country. St. David is the patron saint of this country, whose myths make up the Mabinogion.

ANSWER: **Wales** [prompt on **United Kingdom** or **UK**]

<Nick Jensen, Beliefs>



7. This molecule's initial 37-amino acid form is cleaved and amidated in the brain stem to form its active 30- or 31-amino acid form. For 10 points each:

[m] Name this incretin that is mimicked by a class of type 2 diabetes drugs that includes semaglutide, which has recently gained popularity as an off-label weight loss drug.

ANSWER: **GLP-1** [or **glucagon-like peptide 1**; accept **GLP-1** receptor agonists or **glucagon-like peptide-1** receptor agonists or **GLP-1-RAs**]

[h] Semaglutide's substitution of AIB for alanine prevents it from being acted on by an incretin-degrading member of this protease family. Cathepsin C is also a member of this family.

ANSWER: **dipeptidyl peptidases** [or **DPPs**; accept either answer followed by an integer between 1 and 8 inclusive]

[e] Both GLP-1 and semaglutide promote the production of this hormone responsible for lowering blood glucose levels.

ANSWER: **insulin**

<Adam Fine, Biology>

8. A 2023 report by a royal commission investigating this program found that multiple welfare recipients committed suicide after wrongly being told to pay back their benefits. For 10 points each:

[h] Name this illegal debt assessment program run by Services Australia that automatically crosschecked welfare payment records with income data. This program issued at least 470,000 incorrect debt notices from 2016 to 2020.

ANSWER: **Robodebt** scheme

[e] This politician launched the Robodebt scheme while Minister for Social Services. This politician's term as prime minister included the 2019-2020 bushfire season and a notably slow vaccine rollout.

ANSWER: Scott **Morrison** [or Scott John **Morrison**]

[m] A similar Dutch algorithm wrongly flagged thousands of immigrants as fraudulently claiming benefits for this service. Germany provides this service in generally free-of-charge institutions called Kitas.

ANSWER: **childcare** [accept **childcare benefits**, **daycare**, **preschool**, **pre-K**, or **nursery**; reject "schooling"; reject "education"; reject "kindergarten"]

<Henry Atkins, Modern World>

9. When prefixed by "gaṇa," this term describes a deliberative ancient Indian system of government, typified by Malla ("MUHL-luh"), which was semi-democratic but often dominated by tribal oligarchies. For 10 points each:

[e] Give this Pāli or Sanskrit term. This term's use with the assembly of the Licchavi tribe may have inspired its application to the community of Buddhist monastics.

ANSWER: **saṅgha** ("SUN-guh") [or **samgha**; accept gaṇa-**saṅgha**]

[h] A gaṇa-saṅgha at Vaishālī governed this *mahājanapada* located north of its foe Magadha ("MUH-guh-duh"). Vassakāra supposedly asked the Buddha how to defeat this confederation of eight or nine clans, including the Videhas and Mahāvīra's Jñātrikas ("GN'YAH-trih-kuhs").

ANSWER: **Vajji** [or **Vajjika**, **Vrijji**, **Vrji**, **Vrijika**, or **Vrijka**] (Vassakara's exchange with the Buddha is reported in the *Mahāparinibbāna Sutta*.)

[m] Not all of the *mahājanapadas* were democratic, such as this kingdom, the farthest north and west. The region ruled by this kingdom later became the center of Greco-Buddhist art, which created the first human representations of the Buddha.

ANSWER: **Gandhāra**

<Nick Jensen, World History>

10. Rajat Neogy launched *Transition Magazine* among writers at this university, where Isaac and the narrator lead a “paper revolution” in the novel *All Our Names*. For 10 points each:

[h] Name this university where Mugezi studies in the novel *Abyssinian Chronicles*. This alma mater of Peter Nazareth and Timothy Wangusa hosted a 1962 conference on anglophone writing organized by Es’kia Mphahlele (“um-pah-LEH-leh”).

ANSWER: **Makerere** University [or **Makerere** College; accept **MAK** or **Makerere** Conference; prompt on University of **East Africa**] (Dinaw Mengestu wrote *All Our Names*. The conference is also called the African Writers Conference.)

[e] Austin Bukenya’s novel *The People’s Bachelor* satirizes Makerere under this leader, whose regime was fictionalized by Moses Isegawa’s *Snakepit* and Giles Foden’s *The Last King of Scotland*.

ANSWER: Idi **Amin** [or Idi **Amin** Dada or Idi **Amin** Dada Oumee]

[m] In a Johannes Anyuru novel titled “A Storm Blew in from” this place, Idi Amin’s coup leads the pilot P. to be detained. Yusuf trades in the interior as Uncle Aziz’s debt slave in an Abdulrazak Gurnah novel titled for this place.

ANSWER: **paradise** [accept *A Storm Blew in from* **Paradise**; reject putative equivalents like “heaven”]

<Nick Jensen, World Literature>

11. Answer the following about the intertwined history of agriculture in the Middle East and Arizona, for 10 points each:

[e] Natalie Koch’s book *Arid Empire: The Entangled Fates of Arizona and Arabia* describes how this petroleum company founded by Chevron brought American alfalfa and dairy farmers to Al Kharj for Prince Saud.

ANSWER: **Aramco** [or Saudi **Aramco**, **Arāmū** as-Su’ūdiyyah, **Saudi Arabian Oil** Group, or **Saudi Arabian Oil** Company, or **Arabian-American Oil** Company, **California-Arabian Standard Oil**, or **CASOC**; prompt on **Standard Oil** of California, **SoCal**, or **CalSo**]

[m] A monument in Quartzsite marks the grave of Hi Jolly, an Ottoman Christian who was recruited for a failed military initiative involving these animals. In 1855, Jefferson Davis sent a ship to Smyrna and Tunis to supply these animals, which eventually furnished Ringling Bros. Circus.

ANSWER: **camels** [accept **Dromedary** camels or *Camelus dromedarius*; accept Bactrian **camels** or *Camelus bactrianus*; accept United States **Camel** Corps]

[h] The Pima cotton of Arizona’s Salt River Valley derives from Egyptian cotton introduced by this botanist. Daniel Stone wrote a biography of this “food explorer,” who brought dates from Baghdad to the Coachella Valley.

ANSWER: David **Fairchild** [or David Grandison **Fairchild**]

<Nick Jensen, US History>

12. These materials have been studied for potential use in OLEDs, including as emissive layer host materials, due to their highly-ordered nature and tunability. For 10 points each:

[m] Name these highly porous materials that consist of metal ions or clusters coordinated to organic ligands.

ANSWER: **metal-organic frameworks** [or **MOFs**]

[h] One of the most common “struts” used in MOFs is this straight, rigid organic molecule that, with zinc and oxygen, forms MOF-5, which has high volumetric storage density because of partial charges on its surface.

ANSWER: **benzene-1,4-di-carboxylic acid** [or **1,4-benzene-di-carboxylic acid**; or **terephthalic acid**; or **para-phthalic acid**; or **BDC**; or **TPA**; or **PTA**; accept any of these answers ending with the suffix “-ate” instead of “-ic acid”]

[e] MOFs are currently mainly researched for their potential in capturing and storing greenhouse gasses, including this simplest alkane.

ANSWER: **methane** [or **CH4**]

<Jason Cheng, Chemistry>

13. In this novel, the “Old-Grey-Fellow” organizes a *feis* (“fesh”) in honor of the Gaelic language, attracting men who take names like “The Gaelic Daisy,” “Eight Men,” and “The Dative Case.” For 10 points each:

[h] Name this novel, which ends with two men “recognizing” each other as father and son because they are both “named” Jams O’Donnell. This novel satirizes the “Gaelicism” of Gaeltacht authors like Tomás Ó Criomhthain (“KREE-hen”).

ANSWER: *The **Poor Mouth*** [or *An **Béal Bocht***]

[e] This author published *The Poor Mouth* under the name Myles na gCopaleen (“GOH-pah-leen”). A 1996 translation of *The Poor Mouth* was issued by Dalkey Archive Press, which is named for a novel by this author of *The Third Policeman*.

ANSWER: Flann **O’Brien** [or Brian **O’Nolan**]

[m] English translations of *The Poor Mouth* contain illustrations by this artist, who collaborated with Hunter Thompson on *The Kentucky Derby is Decadent and Depraved*.

ANSWER: Ralph **Steadman** [or Ralph Idris **Steadman**]

<Richard Yu, European Literature>

14. Quito’s Church of La Compañía (“kohm-pahn-YEE-ah”) houses a rare surviving one of these instruments, which Alonso Morón taught in colonial Cuba. For 10 points each:

[m] Name this early instrument taught using Enríquez de Valderrábano’s book *Silva de Sirenas*, which eclipsed the lute in the Iberian Peninsula. It shares its name with a high-pitched counterpart of the guitarrón in Mariachi bands.

ANSWER: **vihuela** (“vee-WAY-lah”) [accept **vihuela** de mano or **viola de mão**; accept **vihuela** de arco; accept **vihuela** de péñola; accept **vihuela** mexicana or Mexican **vihuela**; reject “viola” alone]

[h] The vihuelist Luis de Narváez influenced this blind 16th-century composer, whose *Obras de música para tecla, arpa y vihuela* includes some of the first Iberian keyboard music. This organist composed many *tientos*.

ANSWER: Antonio de **Cabezón**

[e] Miguel de Fuenllana (“fwen-YAH-nah”), another blind composer and vihuelist, wrote his *Orphénica Lyrica* for this monarch. This late-Renaissance monarch originally built the namesake palace of Joaquín Rodrigo’s *Concierto de Aranjuez* (“ah-rah-n-HWAYS”).

ANSWER: **Philip II** of Spain [accept **Philip** the **Prudent**, or **Philip I of Portugal**; accept “**Felipe**” in place of “**Philip**”; accept el **Prudente** in place of “the Prudent”; prompt on **Philip** or **Felipe**]

<Nick Jensen, Classical Music and Opera>

15. James N. Butcher helped develop content scales quantifying behavior that can be used with this test, which underwent its third revision in 2020. For 10 points each:

[m] Name this psychometric test that is reported as a combination of two or three code-types. This test consists of 567 questions and also comes in a shorter -RF version.

ANSWER: **MMPI** [or **Minnesota Multiphasic Personality Inventory**; accept **MMPI-2** or **MMPI-3**; accept **MMPI-RF** or **MMPI-A**]

[e] Because MMPI results are self-reported, the test is designed to handle overreporting of this type of symptom. Hypochondriacs are diagnosed with a disorder named for this type of symptom due to their distress over bodily sensations.

ANSWER: **somatic** symptoms [accept **somatic** symptoms disorder; accept **psychosomatic** disorders; accept **somatoform** disorders]

[h] The MMPI includes several of these measures that quantify improper test taking. Examples include K, which measures defensiveness, and FBS, which measures an individual’s attempt to “fake bad.”

ANSWER: **validity** scales

<Aseem Keyal, Social Science>

16. *Ballet and choreographer required.* Jennifer Homans's history *Apollo's Angels* describes how this ballet production's choreographer told Lynn Seymour to imagine herself as a "lump of dead meat" for part of her role. For 10 points each:

[h] Name this ballet production whose choreographer was disappointed by David Webster's decision to have Margot Fonteyn and Rudolf Nureyev dance the two lead roles in its premiere.

ANSWER: Kenneth **MacMillan**'s version of *Romeo and Juliet* [accept *Romeo i Dzhulyetta* in place of "Romeo and Juliet"] (The ballet is by Sergei Prokofiev.)

[e] The choice of Fonteyn and Nureyev led MacMillan to leave this ballet company and head to Germany. MacMillan later served as artistic director and principal choreographer of this British ballet company founded by Ninette de Valois.

ANSWER: **Royal** Ballet [accept **Vic-Wells** Ballet or **Sadler's Wells** Ballet]

[m] MacMillan's *Mayerling* set Crown Prince Rudolf's murder-suicide to music by this composer. Frederick Ashton's *Marguerite and Armand*, which was choreographed for Fonteyn and Nureyev, sets a piano sonata by this composer.

ANSWER: Franz **Liszt** [or **Liszt** Ferenc, **Liszt** Ferencz, or Franz Ritter von **Liszt**] (Specifically, it is his *Piano Sonata in B minor*.)

<Aseem Keyal, Other Fine Arts>

17. This thinker analogized defenses of capitalism to "Tadpole Philosophy," in which frogs lucky enough to have survived to adulthood speak of how "tadpoles of character and capacity can rise to be frogs." For 10 points each:

[h] Name this early Labour Party figure who attacked capitalism on Christian moral grounds in the books *The Acquisitive Society* and *Equality*. The 1922 tract *Secondary Education For All* elaborates on this person's contributions to the Young Report.

ANSWER: R. H. **Tawney** [or Richard Henry **Tawney**]

[e] Specifically, Tawney led this society within the Labour Party for 10 years. This gradualist society was named for a Roman general and included members like H. G. Wells and George Bernard Shaw.

ANSWER: **Fabian** Society [prompt on Quintus **Fabius** Maximus Verrucosus]

[m] The Fabian Society's politics were heavily influenced by this earlier Christian socialist's book *Unto This Last*. This critic advocated for historical preservation in a work titled for "seven lamps."

ANSWER: John **Ruskin**

<Arya Karthik, Other History>

18. In a foreword to *Doña Barbara*, Larry McMurtry compared Venezuela's Llanos ("YAH-nos") to the Llano Estacado that inspired his novels in this genre, such as *Lonesome Dove*. For 10 points each:

[e] Name this genre of Elmore Leonard's *Hombre*, Owen Wister's *The Virginian*, and Jack Schaefer's *Shane*.

ANSWER: **Westerns** [or **Western** literature or **Western** fiction; accept revisionist **Western** or anti-**Western**; prompt on adventure novels]

[m] The polyglot outlaw Francisco Morez pretends not to understand English in this Western novel set in Nevada. Two cowboys join a lynch mob in response to cattle rustling in this novel by Walter Van Tilburg Clark.

ANSWER: *The **Ox-Bow Incident***

[h] This Baja California-born author prefigured both Western and Chicana literature in the 1872 novel *Who Would Have Thought It?* This author examined the results of the Treaty of Guadalupe Hidalgo in *The Squatter and the Don*.

ANSWER: María **Ruiz** de Burton [or María Amparo **Ruiz** de Burton or María Amparo Maytorena **Ruiz**; prompt on de **Burton** or **Maytorena**]

<Nick Jensen, American Literature>

19. This model establishes a cutoff frequency equal to speed of sound times the radius of a sphere with the same volume as the Brillouin (“bree-WANN”) zone. For 10 points each:

[e] Name this model in which heat capacity goes with the cube of temperature at low temperatures, unlike the Einstein model, which incorrectly predicts exponential temperature dependence.

ANSWER: **Debye** model [or **Debye** approximation]

[m] The Einstein model behaves badly at low temperature because it does not account for the presence of these quasiparticles whose branch of the dispersion curve goes to zero at zero wavenumber.

ANSWER: **acoustic phonons** [prompt on **phonons**]

[h] The Debye approximation can be used to calculate deformation potentials that describe an interaction between electrons and acoustic phonons with this property. An interaction between electrons and optical phonons with this property in polar semiconductors is named for Herbert Fröhlich.

ANSWER: **longitudinal** [accept **longitudinal** acoustic phonons or **longitudinal** optical phonons; prompt on **LA** phonons or **LO** phonons]

<Arya Karthik, Physics>

20. Worshippers of a god who shares his name with these creatures offer him leather sandals as he protects villages throughout Goa while on his nightly travels. For 10 points each:

[m] Name these malevolent, vampire-like creatures that, like the *pishācha* and *bhūta*, are known to terrorize charnel grounds using reanimated corpses. In a set of 25 tales, King Vikramāditya is questioned by one of these creatures.

ANSWER: **vetāla** [or **vethāla**; accept **Betāl**, **Betaal**, **Baitāl**, or **Vetāl**; accept **Vetoba**; accept **Betāl Pachīsi** or **Vetāla Panchavimshati** or **Vetāla Tales**; accept *Vikram-Vetāla* or *Vikram-Betāl*; prompt on **ghost**; reject “Vithōbā” or “Vitthala”]

[h] In the *Vetāla Tales*, the gazes of various figures are likened to the chakora, a partridge known to feast on this stuff. The Romanian *iele* (“YAY-leh”) danced while immersed in this stuff, frequent exposure to which could cause blindness.

ANSWER: **moonbeams** [accept **moonlight** or **rays** of the **moon**; prompt on **moon**]

[e] A *vetāla* acted as the mount of this goddess’s “Bhadra” form after she emerged from Shiva’s third eye to engage Darika in battle. A garland of heads adorns the neck of this goddess who emerged from Durgā’s forehead.

ANSWER: **Kālī** [or **Kālikā**; accept Bhadrakālī; accept Mahākālī]

<Kevin Thomas, Beliefs>