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新第二套

Listen to a conversation between a student and a professor of his Music Theater course

【公众号“四箭齐发托福”】(woman) So, Peter, how's that outline coming?

(man) That's not due till Friday, right?

(woman) That's right. As I recall you're doing research on the music of George Gershwin? You need to narrow your topic down; give it more focus.

(man) I'm getting to that later this week, uh, but, well, what I wanted to ask about was, well, remember I told you I'd be visiting my hometown to see my sister perform in a community theater production?

(woman) You mentioned that last week. I'm delighted to see so many theater-goers in class. I mean, it's fine to take a course on musical theater, learn its history, but I hope it also enhances your appreciation when you see new musicals.

(man) It does. And whenever I talk to friends about a musical they've seen and I chime in with information about it, they're so impressed. In fact, some of them told me they'll be signing up for your course next semester.

(woman) That's great to hear.

(man) Anyway, like I was saying, this musical play I just saw, it's called *Crazy for You*, and wow! What a great performance! My sister practically stole the show. But, well, I was really confused because the program said the music was by George Gershwin, but I've already started my research on Gershwin. This was before you told me I had to narrow down my topic and I don't remember seeing any Gershwin's musicals with that title.

(woman) Good point. This actually ties in with something we'll discuss during our unit on contemporary trends. It's called a jukebox musical.

(man) **Jukebox musical**? Let me write that down. That's jukebox, like that old machine we found in the musical department storage room?

(woman) Probably, the jukebox was popular in the 1940s and 50s. It's a machine that stores phonographic records and lets users select the songs to be played.

(man) Like what I do with my MP3 player?

(woman) Or many other electronic devices today, the term "jukebox musical" was going to refer to musicals where an original storyline is written to accommodate a set of pre-existing songs.

(man) So, you mean, those songs in *Crazy for You* were composed before the play was written?

(woman) Long before, in the 1930s, and the storyline of the play, which was written around those songs, wasn't written until 1992.

(man) Hmm, 1992, is that when jukebox musical started, you know, being popular?

(woman) Actually, jukebox style musical movies have been around since the 1940s. But the real jukebox musicals on stage and with a strong plot, well developed characters and so on, those didn't take off until the early 2000s.

(man) Hmm, so, maybe, you know, if I researched this and how the genre became popular,

(woman) Yes, and define it, its basic elements, perhaps give examples.

(man) Like *Crazy for You* and include something about Gershwin's songs.

(woman) But remember,

(man) I know. Keep it focused. I'll have that outline ready Friday.

1. Why does the man go to see his professor?
 - A) To ask about a topic that she mentioned in class
 - B) To show her an outline he is working on
 - C) To discuss a play that he recently saw
 - D) To get approval for a research topic
2. What was the man's reaction toward the production he saw in his hometown? [choose two answers]
 - A) He was amused by its use of an old jukebox.
 - B) He was confused by the complicated plot.
 - C) He was pleased by his sister's performance.
 - D) He was surprised that the music was by George Gershwin.
3. Why does the man mention the music department storage room?
 - A) To explain why he was not able to attend the last class
 - B) To check his understanding of a term that the professor uses
 - C) To describe an area where he used to rehearse music
 - D) To describe where he found some old recording of musical plays
4. What does the professor say about the story line of the musical, *Crazy for You*?
 - A) It was written later than the songs in the musical.
 - B) It was better developed than that of most musicals at the time.
 - C) It was based on a film produced in the 1940s.
 - D) It inspired George Gershwin to compose new music.
5. At the end of the conversation, what can be inferred about the man?
 - A) He has decided to modify the topic of his paper.
 - B) He knows enough about Gershwin to revise his outline without doing more research.
 - C) He probably needs extra time to complete the outline.
 - D) He does not want to include all of the professor's suggestions in his paper.

Listen to part of a lecture in a Biology class

【公众号“四箭齐发托福”】(female professor) Fossil records have helped us trace the ancestry of many animals. But we don't always have a complete picture. For example, take birds. Fossil records suggest that birds are descended from dinosaurs. Now, in evolutionary terms, flight is pretty much the defining characteristic of birds. But how did flight begin?

The evolutionary origins of flight have been the subject of an ongoing debate. Were the ancestors of birds originally earthbound? Or did they start as tree dwellers? Controversy's been swirling

around this topic for years. An important step in developing a hypothesis about the evolution of bird flight is establishing bird's evolution lineage. Can we identify their ancestors? One step toward the answer to this question was a discovery of the first fossil specimens of **Archaeopteryx** in Germany in the mid-1800s.

Like dinosaurs, Archaeopteryx had teeth, scales and a long bony tail. But like birds, it had wings and feathers. And recent 3D reconstructions of Archaeopteryx's brain indicated that it also had the sight, balance, and coordination necessary for flight. Therefore, Archaeopteryx was seen by many as the evolutionary link between birds and dinosaurs, irrefutable proof that modern birds evolved from dinosaurs. But while evidence of this link is valuable, Archaeopteryx doesn't tell us how or why some dinosaurs evolved the ability to fly in the first place. In fact, fossils show us that Archaeopteryx had wings that were almost identical to those of modern birds. What that means is that wings had already been around for a while by the time of Archaeopteryx.

So, to find out more about the origins of flight, we need to go farther back in time to the ancestors of Archaeopteryx. But, unfortunately, the fossil record has generally been less than helpful about what came before Archaeopteryx. So, it was only possible to speculate about how and why flight evolved. OK, so, until very recently, there have been two dominant hypotheses of how flight may have evolved in the ancestors of Archaeopteryx: an **arboreal** scenario and a cursorial one.

The arboreal hypothesis proposes that early birds like Archaeopteryx are descended from tree-dwelling dinosaurs that evolved feathered limbs in order to better propel themselves from tree to tree. So the assumption is that bird flight evolved from the activity of jumping and gliding or parachuting down the branches of trees. In the process, wing flapping developed as a means of steering and to aid gliding.

The **cursorial** camp, on the other hand, contends that the ancestors of birds were ground-dwelling, uh, fast-moving two legged predators. The cursorial hypothesis is that flight evolved from the ground up, as these dinosaurs developed wing-like adaptations that increased their power and control while running and making long leaps in pursuit to prey.

Now, the overwhelming consensus used to be that Archaeopteryx was arboreal, a tree dweller, which would lead us to believe that its ancestors probably were too. However, newer evidence, fossils of what looked like feathered dinosaurs, suggest that Archaeopteryx might actually be a descendant of those cursorial, two-legged, ground dinosaurs I mentioned. This would mean Archaeopteryx could have come from a line of ground dwellers whose flight originated in a ground upward direction. For a long time, the pendulum had swung between the cursorial and arboreal hypotheses. One would get popular then we would find evidence supporting the other. To complicate things there is now another hypothesis of how flight originated the **pouncing hypothesis**.

The pouncing hypothesis suggests that the truth might be somewhere in the middle between the cursorial and arboreal ones. According to the pouncing hypothesis, flight evolved from terrestrial hunting behaviors. Similar to what cursorial hypothesis suggests. But those hunting behaviors

involved pouncing on prey from elevated positions, jumping over rock or tree branch, for example. And this aspect of jumping downward from above is related to the arboreal hypothesis.

And yet another twist, more recently, we found the fossils of another bird-like species that is even older than Archaeopteryx. What about those animals? Were they arboreal, cursorial, or did they pounce? There's definitely a lot of research still to do.

1. What is the lecture mainly about?
 - A) An argument in support of a well-known hypothesis
 - B) Differences between dinosaurs and birds
 - C) Scientific debates about an aspect of bird evolution
 - D) Ways of analyzing the fossil record
2. What point does the professor emphasize when she mentions the wings of an Archaeopteryx?
 - A) They were not as efficient as modern bird wings are.
 - B) They answer an important question about the ancestors of Archaeopteryx.
 - C) They help explain the size difference between dinosaurs and birds.
 - D) They do not provide useful new information about the origin of flight.
3. What does the cursorial hypothesis suggest about the evolution of flight in birds?
 - A) That flight evolved as early birds jumped from tree to tree
 - B) That flight originated among fast-moving land dinosaurs
 - C) That all dinosaurs with feathers were readily flying birds
 - D) That birds might have evolved from animals other than dinosaurs
4. What does the professor imply about the hypothesis that Archaeopteryx lived in trees?
 - A) It is the most valid hypothesis to date.
 - B) It has neither been proved nor disproved.
 - C) It is contradicted by all available evidence.
 - D) It is based on faulty logic.
5. What is an aspect of the pouncing hypothesis that is also part of the arboreal hypothesis?
 - A) Running along the ground
 - B) Hopping over large objects
 - C) Jumping down from above
 - D) Gliding from tree to tree
6. What does the professor imply about a bird-like species that is older than Archaeopteryx?
 - A) It has been studied extensively.
 - B) Researchers have not determined whether the older species actually had feathers.
 - C) Researchers have not determined whether the older species was ground dwelling or tree dwelling.
 - D) The older species must have hunted the same type of prey that Archaeopteryx did.

Listen to part of a lecture in an Anthropology class

【公众号“四箭齐发托福”】(*female professor*) OK, you read an article for today's class about the early history of metallurgy. So, what is metallurgy? Frank

(*male student*) It's, uh, everything having to do with metals, like, lead, copper, you know, mining it, refining it, mixing it with other metals, making things with it, with or without the use of complex technology.

(*female professor*) OK, now the article says that basic rudimentary metallurgy started between 11,000 and 9,000 BCE in southwest Asia. So during that time people must have been wondering how they could utilize the metals they came upon from time to time in nature. So one big question has been, "Did these people first think to make practical objects with it, say, things they might need like sharp objects or other useful implements?" In other words, was metallurgy born out of necessity?

(*male student*) Well, according to the article, metallurgy probably began as a way to satisfy aesthetic interests, because the oldest metal objects we found are necklace beads and such, things used to decorate, adorn the body. So, it seems people's first thought was to make beautiful things with it, not necessarily practical things.

(*professor*) Right, and this idea's widely accepted now by anthropologists. The idea actually came from a science historian named **Cyril Stanley Smith**. Smith theorized decades ago that the origin of techniques or processes for working with new materials almost always stemmed from aesthetic pursuits.

For example, as Frank alluded, prehistorical metallurgists made jewelry from hammered metal way before making useful metal knives. And welding, well, welding's where you use heat to join pieces of metal. OK, so, welding was first used in sculpture to join parts of bronze sculptures together. And Smith had a lot of additional examples of how aesthetics drove discoveries in fields other than metallurgy.

So, as I said, most anthropologists agree with Smith's idea. But there is debate over how metallurgy came to appear throughout Europe and Asia after it initially came to be practiced in southwest Asia. Central to this debate is how sophisticated metallurgical process called smelting came to be widespread.

OK, so what's smelting? In nature metals are often embedded in rock, right? And rock containing metal is called an ore. Smelting involves first heating the ores so you can extract metal from it and then purifying the metal so that you can make things with it. Long before smelting, metals that weren't embedded in rock were used in metallurgy but it was difficult to find large amounts of these metals. So smelting was a significant technological event. Now, the first evidence of copper smelting dates to 5,000 BCE in southwest Asia. And within four thousand years smelting came to be practiced throughout Europe and Asia. And what does the article you read say about how this

came to be, Claire?

(female student) One hypothesis is that smelting was invented independently in a bunch of places in Europe and Asia, like without anyone from one region teaching the process to people in the other regions. But smelting's a really complex process. Why would anyone think that it could just spring up in so many different places at virtually the same time?

(professor) Good question. What you just described can be called the **multiple points of origin hypothesis**. The multiple points of origin hypothesis assumes that people all over the world are similar enough in their cognitive makeup, uh, their basic mental processes that every society will eventually undergo a common and inevitable series of advancements over time. Smelting would be one of those advancements. That said, there's not much evidence that smelting rose independently in multiple places.

And wouldn't it make more sense for there to be a direct transfer of knowledge of the process from one community to the next? I mean, Claire's right. Smelting's not simple. Before extracting metal from ore, you first have to know where to look for the right kind of ore; find fuel for fires that burn hot enough to heat the ore et cetera. I mean, you'd almost certainly have to be taught the process. To me, an alternate hypothesis, the **diffusion hypothesis**, makes more sense.

The diffusion hypothesis states that smelting was invented in a single place and subsequently spread, diffused, from region to region. This diffusion would involve the movement of skilled metal workers into settled communities who taught the people there the process.

1. What two aspects of metallurgy is the discussion mainly about? [choose two answers]
 - A) Why it came to be practiced
 - B) The types of metals that were used to make prehistoric objects
 - C) Ideas regarding how smelting became widespread
 - D) Smelting practices in various European communities
2. What point does a student make when he mentions necklace beads?
 - A) Prehistoric people considered metal beads to be prettier than beads made from other materials.
 - B) Metallurgy probably developed from a desire to create beautiful objects.
 - C) It is surprising that relatively few prehistorical beads have been found.
 - D) It was probably easier to make beads from metals than from other materials.
3. What point does the science historian Cyril Stanley Smith make about the process of welding?
 - A) It was performed in Europe before it was performed in Asia.
 - B) It did not exist in prehistoric times.
 - C) It spread across Europe and Asia more quickly than the process of smelting did.
 - D) It was first employed in the creation of sculptures.
4. The professor discusses finding enough fuel for fire and the right kind of ore for smelting. Why

does she discuss this information?

- A) To provide an explanation for why prehistoric people preferred copper over other metals
- B) To assert that smelting is too complex to be explained by the multiple points of origin hypothesis
- C) To show how the technology used to process metals has changed over time
- D) To support the argument that metallurgy originated in Europe rather than in southwest Asia

5. According to the professor, what assumption is the multiple points of origin hypothesis based on?

- A) People from all societies share the same cognitive processes.
- B) Most prehistoric settlements had easy access to large quantities of ore.
- C) Some prehistoric people used metal objects for ritual purposes.
- D) Prehistoric communities were typically situated within a few days' travel of one another.

6. What is the professor's opinion about the diffusion hypothesis?

- A) It makes sense only if prehistoric societies shared similar belief systems.
- B) It explains similarities among prehistoric beads found in Asia and Europe.
- C) It makes sense if smelting was treated as a well-guarded secret.
- D) It is the most logical explanation of how smelting appeared throughout Asia and Europe.

Listen to a conversation between a student and a university housing official

【公众号“四箭齐发托福”】(man) Hi, um, this is university housing, right? I need to talk to someone about changing residence halls.

(woman) OK, let me give you an application to fill out.

(man) I already did that last week. But I haven't heard anything so I thought I should come by and see what's going on with it.

(woman) Oh, OK, uh, your name?

(man) Eric Palmer.

(woman) OK, Eric, let's see. The system says you're currently at 212, Harris Hall. Is that right? Hey, didn't you and your roommate recently win the room decorating contest?

(man) Oh, wow, you heard about that?

(woman) Oh, yes, we keep up on all the news of residence life. Congratulations.

(man) Thank you.

(woman) OK, so, I see here that you want to change to Bradford Hall. Why is that? I mean, you must like your current dorm. You went to a lot of trouble to decorate your room.

(man) Yeah, but my brother and I share a car and he lives in Bradford, I have to walk all the way over there whenever I need to use it.

(woman) Your parking permit should allow you to park near your building as well.

(man) Yeah, that's gonna happen! You don't know my brother. Anyway, he needs the car for an evening job off campus so it's got to be at his place overnight.

(woman) I see. Well, the problem is that Bradford Hall was overbooked this semester.

(man) Overbooked?

(woman) Yes, each year, there are a lot of students to apply to the residence halls and then at the

last minute end up, uh, taking a semester off from school or deciding to go to an entirely different university, whatever the case. Anyway, usually if we don't overbook, we end up with a lot of empty rooms.

(man) But not there aren't enough rooms.

(woman) Yes, once in a while, more students show up than we expect. That's what happened here. We'd have to put some students three to a room until we can move them to other halls.

(man) Hmm, so I can't get into Bradford Hall. What about the next building over, Smith Hall?

(woman) Well, because of the overbooking, students moving out of Bradford Hall have priority. That means applications submitted for other reasons such as yours will have to wait.

(man) Do you have any idea how long it might be?

(woman) We hope to be able to resolve the overbooking by the end of this month. Then we can look at other requests to change residence halls.

(man) Do you think it'll happen before the weather gets cold? I'm not looking forward to walking through snow and ice to get to the car.

(woman) Well, I can't make any guarantees. We still have to look at a lot of applications. Tell you what, check back in a couple of weeks and we'll see how things look then.

(man) OK, thanks.

1. Why does the man go to see the women?

- A) To ask why residence halls are overcrowded
- B) To check on an application he submitted
- C) To pick up a parking permit for a different residence hall
- D) To apply for a job in the university housing office

2. What does the man imply about Bradford Hall?

- A) It is far from his current residence hall.
- B) It has inadequate parking facilities.
- C) It is near the center of campus.
- D) It has fewer rooms than other residence halls.

3. What is the man's primary motivation for wanting to move?

- A) He wants to be closer to his off-campus job.
- B) He wants to have easier access to his car.
- C) He wants to share a room with his brother.
- D) He is having difficulties getting along with his roommate.

4. What does the man imply about parking near his own building?

- A) He does not believe there are enough parking spaces near his own building for him to park there.
- B) He doubts that his parking permit will let him park near his own building.
- C) He strongly prefers to park the car near his brother's building.
- D) He believes his brother will prevent him from parking near his own building.

5. What does the woman say about the man's application?

-
- A) It was submitted too late to be considered.
 - B) It has already been approved for Smith Hall.
 - C) It has a lower priority than other applications.
 - D) It is missing some key information.

Listen to part of a lecture in an Art History class

【公众号“四箭齐发托福”】(male professor) So, let's continue our discussion on the arts and crafts movement in United States in late nineteenth century. Remember that this was an artistic movement in response to industrialization. Artists were increasingly frustrated with mass-produced low quality household items of the industrial era. These artists really wanted to get back to the idea of quality work made by skilled craftspeople. And coincidentally, because of industrialization, many people in the United States were finding they had a lot more leisure time. And some people took up art as a hobby. So, suddenly, there were many amateur artists, you know, people making their own art but not as a profession. You also had art exhibition showing up in major cities across the United States, which exposed people to art from all over the world.

Today we're going to focus on a really beautiful art form that came out of this period, china decoration, which was actually a very popular hobby for women at this time. China decoration involved painting porcelains such as plates, bowls, and vases. Now, it was kind of interesting how this particular art form became popular. It was a combination of several factors, really, some that I just mentioned. Also around this time, home decorating magazines and books were becoming quite popular. Americans were really caught up in the idea of art as a part of everyday life. So, everyday cups and bowls, for instance, could be beautiful as well as practical.

Then, in the middle of this artistic fever, we have the 1876 Centennial Exhibition in Philadelphia, which was essentially a huge fair, showcasing new inventions and notable art. It was a very big deal at that time. It attracted people from all over the country. Where else could you see Alexander Graham Bell demonstrate the telephone for the first time or Thomas Edison present his famous automatic telegraph?

Here was an event at the forefront of new advancements in technology. But the Centennial Exhibition was also significant because it essentially triggered the china decorating movement. A few prominent women artists who had been studying china painting had their work displayed at the Exhibition. Not only did this inspire a nationwide interest in china decoration, some of these amateur artists eventually went on to become quite successful professional artists.

Uh, let's get back to the amateurs. Across the country women began forming china painting clubs and they studied this form of painting quite seriously. It's important to keep in mind that while this artistic pursuit was large a leisure activity, decorating china required a high level of technical skill. In big cities women had the advantage of being able to take classes offered by professional artists or to invite these artists to visit their clubs. Obviously, this wasn't an option in more rural areas. But, fortunately, some of the most well-known china painters at that time published their own books on this subject, which were great educational resources for anyone who wanted to study the


art form.

Now, I'd like to talk briefly about perhaps the most prominent artist to emerge from this movement, **Adelaide Alsop Robineau**. Robineau was a gifted artist and designer. She began as a painter, self-taught actually, but she eventually moved to New York to continue her studies. She went on to teach china painting and she published a very successful monthly magazine about china decoration. But it's her porcelain making that's so amazing. Here was someone who didn't just paint blank porcelain pieces premade by someone else, which was what most china painters did. She actually worked with her porcelain through the entire process: from creating the pieces to painting them.

Her work was so extraordinary it was displayed at the Metropolitan Museum of Art in New York City, an appropriate honor for such an incredible artist. Now, by the 1920s, the arts and crafts movement had basically ended and with it the popularity of china decoration. It seems there was just no escaping the machine age and the conveniences of modern technology. The arts and crafts movement had promoted this old fashioned ideal that didn't seem to have a place anymore in such a modern world.

Hand crafted pieces for the home were just too expensive for most people. So they turned, once again, to mass-produced goods. Well, you get what you paid for I guess. These items may be affordable but their poor quality does little to bring beauty to our everyday lives.

1. What is the lecture mainly about?
 - A) Common china decoration techniques in the nineteenth-century United States
 - B) Why china painters were not considered professional artists in the nineteenth-century United States
 - C) How china decoration differed from other popular art forms of the nineteenth-century United States
 - D) How china decoration became popular in the nineteenth century in the United States
2. According to the professor, what were two reactions to the increase in industrialization in the nineteenth century? **[choose two answers]**
 - A) Artists objected to the poor quality of mass-produced items.
 - B) People used their newly found free time to pursue hobbies.
 - C) Women became eager to develop professional skills.
 - D) People were increasingly critical of art exhibitions.
3. Why does the professor mention inventions of Alexander Graham Bell and Thomas Edison?
 - A) To provide examples of how technology influenced art in the nineteenth century
 - B) To demonstrate why the Centennial Exhibition was an important event
 - C) To suggest that people in the nineteenth century were more interested in technology than art
 - D) To explain why the students already should have heard of the Centennial Exhibition
4. What does the professor imply about china painters who did not live in large cities?

-
- A) They were more likely to study china decoration by reading books.
B) They were unaware of the widespread popularity of china decoration.
C) They had more leisure time than painters who lived in cities.
D) They often invited professional artists to their clubs to teach china painting.
5. According to the professor, how did Adelaide Alsop Robineau differ from other artists of her time?
A) She was the first woman to paint on china.
B) She used a new process for painting porcelain.
C) She both created and painted her own china.
D) She published several books about china painting.
6. What can be inferred about the professor when he says this: 
A) He thinks that handcrafted items should not be expensive.
B) He cares more about the quality of an item than the price.
C) He does not think that handcrafted items are worth purchasing.
D) He wonders why machine-made items are so expensive.

Listen to part of a lecture in an Astronomy class

【公众号“四箭齐发托福”】(male professor) So, we've been searching for stars similar to our Sun, what we might call sun-like stars, since presumably planets orbiting such stars are the most likely to have liquid water, a requirement for life as we know it. And what mostly determines whether liquid water can exist, of course, is the planet's temperature. Too hot or too cold and any water would either vaporize or freeze. OK, but this assumption that stars with habitable planets must be sun-like, radiating huge amounts of thermal nuclear energy, this might not be actually necessary. Yes, Stephanie?

(female student) Where would the planet get its heat then?

(professor) One possibility is that it could orbit a different kind of star, a white dwarf. Do you remember what a white dwarf is?

(female student) It's a dead star, like the ember that's left after a star has burned up all its fuel but it's cooler and dimmer than sun-like stars, right? And much smaller.

(professor) True. But there are still enough energy in their core to generate some heat. Now, to get enough heat for liquid water, a planet would need to orbit its white dwarf very tightly.

(female student) But before becoming a white dwarf, doesn't a star first expand and then collapse? And wouldn't the expansion phase destroy any planets closest to it?

(professor) Yes, but, some outer planets could survive and move closer in. Or new planets could

form after the star collapses. White dwarfs exist for many billions of years. So there's plenty of time for such changes to occur.

(female student) There aren't that many white dwarfs in the universe, though. Are there?

(professor) Actually, we're finding that they are plentiful in the universe. We detect them in an indirect way. When a planet passes in front of its host star, this transit eclipses some of the star's light. By measuring this periodic dimming, we infer the existence of a planet. Since white dwarfs are only slightly bigger than Earth, a planet might block out 50 percent of the white dwarf's light, which is observable through a ground-based telescope. The transit of a planet orbiting a sun-like star produces just a miniscule change in luminosity.

Now, what if a planet could get sufficient heat from a source other than a star? One idea that's been proposed involves dark matter, specifically heat from the annihilation, the destruction of dark matter particles. The basic idea behind dark matter, right, is that we know how much mass there should be in the universe to jibe with all of our observations. But visible matter, everything we can see, accounts for only a fraction of that mass. This missing mass we call dark matter.

We know that these mysterious particles exist but we can't see them because they don't interact with light. But they do interact with gravity. And we expect that dark matter is denser in certain regions in space, like near the center of the Milky Way. We also predict that these particles would move relatively slowly in such environments. It's all theoretical. But imagine a large rocky planet, a super Earth without a host star, in a region of densely packed slow moving particles of dark matter.

Some physicists say that the gravity of this super Earth would attract significant amounts of dark matter particles into the planet's interior. There the particles would collide and annihilate each other releasing energy; this energy be absorbed by the surrounding rock, heating it up all the way to the planet's surface. So if enough dark matter accumulated in the planet's core this way, on a sustained basis, enough heat could be generated to allow for liquid water on the planet's surface.

(female student) So is this all happening inside Earth? Is dark matter generating any heat for us?

(professor) A negligible amount, perhaps, of course, we really don't know yet exactly what dark matter is. So proponents of this idea had to make some assumptions about how these particles behave. And given the limits of our current knowledge, well, those are pretty optimistic assumptions. But if nothing else, these possibilities suggest a vast potential for liquid to exist on other planets.

Earth has oceans of liquid water and is bathed in sunlight, thanks to its perfect distance from our host star. Other planets might be bathed in oceans and starlight, too. But others might not be and still support life nevertheless.

1. What is the lecture mainly about?

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- A) Factors that might allow liquid water to exist on planets outside our solar system
B) Methods that can detect Sun-like stars outside our solar system
C) A recent discovery about the behavior of dark matter
D) Types of life forms that might exist on other planets
2. Why does the student talk about how a white dwarf forms?
A) To demonstrate her familiarity with the life cycle of stars
B) To speculate about the ultimate fate of the Sun
C) To suggest a topic to explore in a future class discussion
D) To question a hypothesis described by the professor
3. What factor makes it relatively easy to detect planets orbiting a white dwarf?
A) The planets typically reflect a significant amount of light.
B) The planets block a significant amount of the star's light during transit.
C) The planets have a higher mass than the white dwarfs that they orbit.
D) Planets around white dwarfs have very slow orbits.
4. How might particles of dark matter generate heat on a large planet?
A) By transmitting energy to the planet from nearby stars
B) By colliding with one another in the center of the planet and releasing energy
C) By preventing heat from the planet's interior from escaping into space
D) By colliding with particles of regular matter on the planet's surface
5. What can be inferred about the professor when he discusses dark matter?
A) He is cautious about accepting some researchers' conclusions given what is known about dark matter.
B) He is optimistic that current ideas about dark matter will be proven in the near future.
C) He is hopeful that dark matter can someday be used as a source of energy on Earth.
D) he is doubtful that dark matter can be studied using ground-based telescopes.
6. At the end of the lecture, what does the professor indicate about planets that could support life?
A) The current approach to detecting them is very reliable.
B) They must orbit either a Sun-like star or a white dwarf.
C) Most of them are probably covered by oceans.
D) Many of them may be very different from Earth.