

**直播讲解文章回顾**

**Passage1:** Although social learning (the acquisition of specific behaviors by observing other individuals exhibiting those behaviors) is well documented among fish, few studies have investigated social learning within a developmental context in these taxa. Rather than investigating the development of a particular skill, Chapman, Ward, and Krause investigated the role of group density during development in later foraging success in laboratory-housed guppies. When raised with a small number of conspecifics (members of the same species), guppies were quicker to locate food by following a trained adult guppy than were guppies raised in large groups. This counterintuitive finding is explained by the fact that guppies reared in the high-density condition were less likely to shoal (swim in a group) with others and, therefore, were less likely to learn the benefits of social learning. Instead, fish reared in low-density situations may learn that conspecifics are to be viewed as competitors, rather than as potential sources of adaptive information. This finding suggests that at least for guppies, the early social environment may have an effect on the capacity for social learning, if not on the socially learned behaviors themselves.

1. The primary **purpose of the passage** is to

- A. note a flaw in a scientific finding
- B. describe a particular scientific study
- C. present an interpretation of a finding
- D. note a difference between two scientific findings
- E. contrast two conditions in which a particular phenomenon has been observed

2. Regarding research on **fish**, it can be **inferred** from the passage that

- A. research studies of the acquisition of important skills by fish have only recently begun to document the role of conspecifics in the learning process
- B. research on social learning in guppies suggests that guppies differ in important ways from most other fish in the means by which they learn particular skills
- C. research on social learning in fish has generally focused on the acquisition of skills other than foraging
- D. research has established that social learning occurs in some fish species without investigating the development context in which it occurs.
- E. research to investigate social learning has been done more extensively on fish than on other aquatic animals.

**Passage2:** Although many hypotheses have been proposed to explain why some plant communities are more susceptible than others to invasion by nonnative species, results from field studies have been inconsistent and no general theory of invasibility has yet emerged. However, a theory based on fluctuating resource availability could integrate most existing hypotheses and successfully resolve many of the apparently conflicting and ambiguous results of previous studies. The suggested theory is that a plant community becomes more susceptible to invasion whenever there is an increase in the amount of unused resources.

The diversity in the range of resource-release mechanisms could partly explain the absence of consistent ecological correlates of invasibility. In particular, the theory predicts that there will be no necessary relationship between the species diversity of a plant community and its susceptibility to invasion, since near-complete exploitation can each occur in both species-rich and species-poor communities. Though Lonsdale found a positive association between species richness and invasion, this may arise from the tendency of diverse plant communities to be nutrient poor and therefore more responsive to the effects of human-caused influxes of nutrients.

1. The passage is **primarily concerned** with

- A. assessing the empirical success of a theory
- B. explaining why no consistent theoretical account of a phenomenon has been possible
- C. advocating a potential solution to a theoretical impasse
- D. deducing testable predictions from a proposed theory
- E. describing the difficulties involved in explaining certain empirical results

2. It can be **inferred** that the author would most likely agree with which of the following assessments of **the results from field studies**

- A. Many of the results contradicted predictions of susceptibility to invasion that are based on the availability of resources unused by the community.
- B. If fluctuating resource availability were taken into account, many of the apparent inconsistencies among the results could be explained.
- C. The apparent inconsistencies and ambiguities in the results are caused by trying to make them fit an inadequate general theory of invasibility.
- D. No general theory of invasibility has emerged because none of the studies has been able to assess the degree of an invasion accurately.
- E. The results tend to show a degree of susceptibility to invasion that is lower than would be expected given the prevalence in the wild of nonnative species.

**Passage3:** Although some skeptics points to Arctic places such as the high latitudes of Greenland, where temperatures seem to have fallen, a recent scientific report concludes that in recent decades average temperatures have increased faster in the Arctic than elsewhere. Scientists have long suspected that several factors lead to greater temperature swings at Earths polar regions than elsewhere. First, most of the Arctic is covered in snow and ice, which are highly reflective; if snow and ice melt, the exposed soil, which absorbs heat, serves to accelerate warming. Second, the polar atmosphere is thin, so little energy is required to warm it. Third, less solar energy is lost in evaporation at the frigid poles than in the tropics.

1. Consider each of the choices separately and select all that apply.

The passage mentions which of the following as **factors** that might lead to **large temperature swings** in Earths polar regions?

- A. the amount of energy lost due to evaporation at the poles
- B. soil exposure due to melting snow
- C. the relatively thin atmosphere at the poles

2. In pointing to the apparent temperature change in the high latitudes of Greenland, **the skeptics** mentioned in the passage intend to raise as a question whether

- A. Greenland is less likely to experience extreme temperature changes than are other areas of the Arctic.
- B. Those more localized temperature drops might indicate an important trend not captured by the upward trend of average Arctic temperatures.
- C. There might be a reversal of the temperature trend in the high latitudes of Greenland.
- D. The factors that cause temperature change in the high latitudes of Greenland are different from those that affect the rest of the Arctic.
- E. Greenland has more ice and snow on the ground than do other areas of the Arctic.

## 任务作业 1

**Passage1:** Astronomers have had difficulty accounting for certain planets discovered outside our solar system. They are called hot Jupiters because each is similar in mass to Jupiter, the largest solar-system planet, but orbits its parent star at a fraction of the distance at which Earth, let alone Jupiter, orbits the Sun. In the standard, solar-system-based theory of planetary formation, such a massive planet could not form so close to a star. So most attempts to explain a hot Jupiter's existence envision it forming farther away, then migrating inward. According to one hypothesis, the planet's gravitational field tugs on the protoplanetary disk of dust and gas from which it formed. The disk exerts its own gravitational tug, and this interplay of forces robs the planet of momentum in its orbital path, forcing it to spiral in toward the star. According to another hypothesis, the planet's gravitational field is so strong that it creates a groove in the disk, partitioning it into inner and outer regions; the resulting gravitational interactions between the planet and these regions cause the planet to lose orbital momentum and spiral inward. Another question remains: what prevents the planet from continuing its spiral until it collides with the star?

1. The author of the passage mentions "Earth" primarily in order to
  - A. stress the massive size of a hot Jupiter
  - B. emphasize the proximity of a hot Jupiter to its parent star
  - C. imply that hot Jupiters are unlikely to harbor extraterrestrial life
  - D. point out differences between Earth and Jupiter with regard to their orbital distance from the Sun
  - E. illustrate how hot Jupiters might fit into the standard theory of planetary formation
2. Which of the following elements is part of one but not both of the hypotheses discussed in the passage?
  - A. an interplay of gravitational forces
  - B. a loss of orbital momentum
  - C. a protoplanetary disk composed of dust and gas
  - D. a protoplanetary disk divided into two regions.
3. It can be inferred from the passage that the "attempts" share which of the following goals?
  - A. to explain how a Jupiter-sized planet could form so close to its parent star.

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- B. to explain what prevents a hot Jupiter from colliding with its parent star.
  - C. to determine whether a hot Jupiter is formed from a protoplanetary disk of dust and gas.
  - D. to determine whether a hot Jupiter's gravitational field is strong enough to create a groove in its protoplanetary disk
  - E. to account for hot Jupiters in a way that is not inconsistent with the standard theory of planetary formation.

**Passage2:** Archaeologists studying Bonito phase (ca. A.D. 900-1140) Native American ceramics from Chaco Canyon, New Mexico, observed that many pots had been altered after firing to revise their decorative designs — usually, intricate geometric patterns painted in black on white slipped surfaces. In some cases, a new design was imposed over an earlier one; less often, the original design was simply covered with white slip. Crown and Wills doubt that the alterations were made to correct design errors. Many Chaco pots with design errors were left unaltered. Furthermore, when errors were corrected, revisions were made prior to firing — either by painting directly over the error or by scraping off designs and applying new slip and paint, which is a less time-consuming method than repainting and refiring flawed pots.

1. The author of the passage mentions Crown and Wills primarily in order to
  - A. Distinguish among different factors that might have caused Chaco potters to alter their pots' decorative designs.
  - B. Introduce new evidence related to the question of why Chaco potters altered their pots' decorative designs.
  - C. Show how one potential explanation for the alteration of Chaco pots has been discounted.
  - D. Present a hypothesis about why Chaco pots were altered to revise their decorative designs.
  - E. Explain how archaeologists discerned the method by which Chaco pots were originally decorated.
2. According to the passage, which of the following is true of Bonito phase Chaco pots?
  - A. Relatively few of them have original designs concealed beneath white surfaces.
  - B. Relatively few of them were altered after firing.
  - C. Many of their alterations increased the intricacy of their painted designs.
  - D. Many of them have some flaw in their shape or structure.
  - E. Many of them were altered more than once.

**Passage3:** When studying shrimp feeding from hydro-thermal vents at the bottom of the ocean, biologists were surprised that the shrimps' reproductive cycles followed seasonal patterns. Far beyond the reach of sunlight, and with food abundant around the vents all year round, why should such animals reproduce seasonally? The answer might involve their offspring, which in their larval form drift in the currents to colonize new vents. The larvae must feed during their trip, and their springtime release coincides with a peak in algae raining down from surface waters. So far, researchers have found no evidence of seasonal breeding among vent-dwelling species that provide their offspring with yolk to sustain them or among vent-dwelling species found in areas of the ocean with not seasonal algae blooms.

1. Which of the following best describes the function of the highlighted sentence?

- A. It casts doubt on the accuracy of earlier observations of seasonal breeding among shrimp species living near hydro-thermal vents.
- B. It undermines the explanation proposed for seasonal breeding among some shrimp species living near hydro-thermal vents.
- C. It suggests that alternative theories are needed to explain seasonal breeding among shrimp species living near hydro-thermal vents.
- D. It describes the survival benefits to shrimp of mating in parts of the ocean where algae blooms rain down abundantly.
- E. It supports the explanation proffered for the seasonal breeding observed among some shrimp species living near hydro-thermal vents.

**Passage4:** There is mounting evidence that the frequency and magnitude of landsliding is changing in many parts of the world in response to climate change. This is not surprising, given that precipitation is one of the two external triggering mechanisms -- the other being seismic activity -- involved in the formation of landslides. Evidence from the past clearly indicates that cycles of elevated landslide activity have been followed by cycles of low activity, and that these are correlated with climate fluctuations over a variety of timescales.

What sets current changes in landslide activity apart is the likely influence of anthropogenic [i.e., human-caused] factors, either acting alone or in concert with climate, which can further modify the process of landsliding and the nature of ecosystem responses. Among these factors, deforestation and land-use change have the potential to influence the frequency and magnitude of landsliding because of their direct effects on vegetation attributes that influence slope stability. The extent and conditions under which mountain ecosystems are resilient to these changes -- that is, the amount of disturbance they can absorb before changing into states with different structure and function -- are not known. Addressing this issue is crucial for the long-term conservation of mountainscapes.

1. The author of the passage cites “evidence from the past” in order to

- A. support a partial explanation
- B. concede a potential objection
- C. dismiss an apparent counterexample
- D. highlight a scientific consensus
- E. account for a historical anomaly

2. The passage makes which of the following claims?

- A. A rise in precipitation resulting from human factors has increased the frequency and magnitude of landsliding.
- B. Human factors have led to greater changes in landsliding activity than have cyclical climate fluctuations.
- C. Decreases in landsliding activity have historically been accompanied by changes in climate.
- D. Slope stability is more influenced by seismic activity than it is by human factors
- E. Changes in land-use patterns in mountain ecosystems are generally correlated with changes in climate.

Consider each of the choices separately and select all that apply.

3. The author of the passage suggests which of the following about the role of human factors in landsliding activity?

- A. Human factors can intensify or alter the effects of climate change on landsliding activity.
- B. It is likely that human factors affect landsliding activity more than climate change does.
- C. Until recently, human factors did not have much impact on landsliding activity.

**Passage5:** There have been numerous well-documented extinctions of indigenous species caused by the introduction of non-indigenous predators and pathogens. However, surprisingly few extinctions of indigenous species can be attributed to competition from introduced species. For example, during the past 400 years, 4,000 plant species have been introduced into North America, and these non-indigenous plants currently account for nearly 20 percent of North America's plant species. Yet that no evidence exists that any indigenous North American plant species became extinct as a result of competition from new species could mean that such extinctions take longer to occur than scientists initially believed or, alternatively, that extinctions are rarely caused by competition from non-indigenous species.

1. The passage is primarily concerned with

- A. pointing out that a particular type of species extinction is rarely known to occur.
- B. proposing a possible explanation for conflicting data about a particular type of species extinction.
- C. resolving a debate about the frequency of a particular type of species extinction.
- D. comparing two theories regarding possible causes of a particular type of species extinction.
- E. refuting a proposed explanation for the increasingly rare occurrence of a particular type of species extinction.

2. The author introduces statistics about North America's non-indigenous plant species primarily in order to

- A. undermine a proposed explanation for the absence of any evidence for the occurrence of a particular phenomenon
- B. contrast the effect of introduced plant species in North America with the effect that introduced animal species have had
- C. suggest that North America's indigenous plants are a domain in which there has been ample scope for a particular effect to have occurred
- D. emphasize how much the ecology of North America has been affected over the past 400 years by the introduction of non-indigenous species
- E. substantiate a claim about the overall effect that the introduction of non-indigenous species tends to have on indigenous populations