

2021학년도

EBS 수능특강 영어

# 16강

문단 요약

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VOCABULARY

[ 16강 GATEWAY ]

- reunite 재결합하다
- primate 영장류
- elaborate 정교한
- bond 유대
- long-standing 오래된, 오랫동안에 걸친
- tear up 눈물이 가득 차다
- equivalent 같은, 동등한
- theatrical 극적인
- display 표현, 표시
- intimacy 친밀함
- strike a familiar chord 공감을 불러일으키다
- be reminded of ~이 생각나다

[ 16강 01번 ]

- passive 수동적인, 소극적인
- suppose 생각하다, 추정하다
- investigate 조사하다
- simulate 모의실험하다, 가장하다
- beech 너도밤나무
- roe deer 노루
- saliva 침
- presence 존재, 참석
- browse (읽 등을) 뜯어 먹다
- bud 싹, 꽃봉오리
- drip 똑똑 떨어뜨리다
- salicylic acid 살리실산
- compound 화합물, 혼합물
- apply 바르다
- perceive 감지[인지]하다, ~을 (~로) 여 기다

[ 16강 02번 ]

- linguist 언어학자
- make an estimate 추정하다
- ancestral 조상의
- descend 유래하다, 내려오다
- genetics 유전학
- remnant 자취, 나머지
- indicate 보여 주다, 나타내다
- path 경로
- migration 이주, 이동
- allow for ~을 허락하다, ~을 가능하게 하다
- be descended from ~에서 유래되다, ~와 관련되다

[ 16강 03번 ]

- parental 부모의
- disdain 경멸
- take place 일어나다, 발생하다
- defensively 방어적으로
- fuss 소란
- negative 부정적인
- originate 비롯되다, 유해하다
- hostility 적대감
- formative years 성격 형성기[어린 시절]
- decline 퇴보, 쇠퇴, 감소
- constant 불변하는 것, 상수
- fundamentally 근본적으로
- gadget (작고 유용한) 도구[장치]

[ 16강 04번 ]

- conduct 수행하다
- in the interests of ~을 위하여
- national defense 국방
- sponsorship (재정적) 후원[협찬]
- application 적용
- common ownership 공유권
- publication 공개(물)
- suspend 유보(유예)하다
- innumerable 무수한
- outstanding 두드러진, 눈에 띄는
- inventory 목록
- genome 게놈(세포나 생명체의 유전자 총체)
- sequence 연속체
- constitute 구성하다
- sector 부분
- rage 맹렬히 계속되다, (계속) 맹위를 떨치다
- patent 특허
- compromise 타협하다
- joint 공동의, 합동의
- controversy 논쟁
- violation 위반
- on-going 계속 진행중인
- dispute 분쟁, 분규, 논란

## MACRO READING

### [ 16강 GATEWAY ] 코끼리의 발전된 인사 행동

- Because elephant groups break up and reunite frequently reunions are more important. ⇨ The species has evolved elaborate greeting behaviors the form of which represents the strength of their social bonds. ⇨ The fact the intensity of the reunion represents the duration of separation suggests elephant have a sense of time.

### [ 16강 01번 ] 나무의 자기 방어 행동

- Recent research has shown trees are not as passive as we once thought. ⇨ Researchers simulated roe deer grazing by cutting off buds or leaves and leaving behind roe deer saliva. ⇨ Observations of the simulation showed the "attacked" trees produced salicylic acid in response to the "attacks" whereas trees that simply had their leaves removed without the application of saliva produced no such acid.

### [ 16강 02번 ] 역사언어학

- Historical linguists study modern languages to make estimates of the ancestral languages from which they descend. ⇨ In linguistics as well as genetics we assume present data give us remnants of earlier communities. ⇨ Each language has one parent. ⇨ A person has more and more ancestors the further back one traces their lineage. ⇨ Due to the single parent nature of the linguistic "tree model", language gives more evidence of early human migration.

### [ 16강 03번 ] 변화에 대한 부모와 자녀의 상이한 태도

- The one thing that has remained the same is parental disdain for the world around them. ⇨ This world is only new to those who have lived long enough to see it change. ⇨ Children haven't lived long enough to see that same change and so this is the only world they know it is what they consider normal. ⇨ Most adults consider their early years as normal and what comes after is a decline.

### [ 16강 04번 ] 과학 연구 결과의 공개

- The norms of scientific research are often suspended which has led to conflicts in scientific circles. ⇨ One example of this is the publishing of the human genome. ⇨ Two research teams raced to be the first to publish, yet arguments against the private sector claimed they were trying to establish patents of human genetic sequence, a violation of the norm of openness. ⇨ Eventually, a compromise was reached, however, the controversy and legal battles over issuing patents have continued.

#### ■ [ SUMMARY ]

The evolved greeting behaviours of elephants can serve as an indicator of how much they are socially tied and how long they have been parted.

#### ■ [ SUMMARY ]

Recent research has shown that trees can recognize predator attacks, and for protection against them produce foul-tasting chemicals.

#### ■ [ SUMMARY ]

Historical linguistics is like genetics in how it traces the present stage back to earlier ones but differs in that it uses a single entity at each stage from which descendants originate.

#### ■ [ SUMMARY ]

Parents tend to have a negative attitude toward change, which their children, being unaware of change itself, do not understand.

#### ■ [ SUMMARY ]

As in the case of the publication of the human genome map and inventory, publicly and privately funded research on the same topic may trigger heated debates over the exclusive ownership of research findings.

READING COMPREHENSION

[ VOCABULARY ]

- reunite
- primate
- elaborate
- bond
- long-standing
- tear up
- equivalent
- theatrical
- display
- intimacy
- strike a familiar chord
  
- be reminded of

1. [ 16강 GATEWAY ] 다음 빈칸에 들어갈 말로 가장 적절한 것은?1)

Because elephant groups break up and reunite very frequently — for instance, in response to variation in food availability — reunions are more important in elephant society than among primates. And the species has evolved elaborate greeting behaviors, the form of which reflects the strength of the social bond between the individuals (much like how you might merely shake hands with a long-standing acquaintance but hug a close friend you have not seen in a while, and maybe even tear up). Elephants may greet each other simply by reaching their trunks into each other's mouths, possibly equivalent to a human peck on the cheek. However, after long absences, members of family and bond groups greet one another with incredibly theatrical displays. The fact that the intensity reflects the duration of the separation as well as the level of intimacy suggests \_\_\_\_\_. To human eyes, these greetings strike a familiar chord. I'm reminded of the joyous reunions so visible in the arrivals area of an international airport terminal.

- ① that elephants have a sense of time as well
- ② that elephants behave like all the other primates
- ③ that greeting is an important part of their social lives
- ④ that elephants do not care about how others treat them
- ⑤ that elephants have stronger social bonds among their family

[ SUMMARY ]

■ elephants groups break up and reunite very frequently  
 ↓  
 evolved elaborate greeting behaviors  
 = reflects the \_\_\_\_\_<sup>2)</sup> of the social bond

↓  
**AFTER LONG ABSENCES**  
 greet one another with incredibly theatrical displays  
 - the \_\_\_\_\_<sup>3)</sup> reflects the duration of the separation  
 = \_\_\_\_\_<sup>4)</sup>

[ TRANSLATION ]

■ 코끼리 집단은, 예컨대 먹이를 얻을 가능성의 변화에 대응하여, 매우 자주 헤어지고 재회하기 때문에 코끼리 사회에서는 영장류들 사이에서보다 재회가 더 중요하다. 그래서 이 종은 정교한 인사 행동을 발전시켜 왔는데, 그것의 형태는 (마치 여러분이 오래전부터 알고 지내온 지인들과는 단지 악수만 하지만 한동안 보지 못했던 친한 친구는 껴안고, 어쩌면 심지어 눈물이 가득 차는 것과 매우 비슷하게) 개체들 사이의 사회적 유대감의 강도를 반영한다. 코끼리는 단순히 코를 서로의 입 안으로 갖다 넣으면서 인사를 할 수도 있는데, 이것은 아마도 사람들이 뺨에 가볍게 입 맞추는 것과 같을 것이다. 그러나 오랜 부재 후에 가족과 유대 집단의 구성원들은 믿음 수 없을 정도로 극적인 표현을 하며 서로에게 인사한다. 그 강도가 친밀도뿐만 아니라 떨어져 있었던 시간의 길이도 반영한다는 사실은 코끼리들이 시간적 감각도 가지고 있음을 보여 준다. 사람들의 눈에 이런 인사 행위는 공감을 불러일으킨다. 나는 국제공항 터미널 도착 구역에서 흔히 볼 수 있는 즐거운 상봉 장면이 생각난다.

1) ①  
 2) strength  
 3) intensity  
 4) elephants have a sense of time(= 코끼리들에겐 시간 감각이 있다)

2. [ 16강 01번 ] 다음 빈칸에 들어갈 말로 가장 적절한 것은?5)

Recent research has shown that trees are not as passive as we long supposed. To investigate this further, European scientists simulated attacks on small beeches and maples. Whenever a roe deer takes a bite out of the top growth of a young tree, it leaves a little saliva behind in the wound, and it soon became clear that wounded trees can clearly detect the presence of this saliva. To simulate browsing by roe deer, the researchers cut off buds or leaves and dripped roe deer saliva onto the damaged areas. What they noticed was that in response the little trees produced salicylic acid, which in turn led to an increased production of bad-tasting defensive compounds, which discouraged the roe deer from eating them. \_\_\_\_\_, when the scientists simply broke off new growth without applying any saliva, all the beeches and maples produced were hormones to heal the damage as quickly as possible.

- ① Thus
- ② Hence
- ③ However
- ④ Moreover
- ⑤ In addition

[ SUMMARY ]

■ trees are not as \_\_\_\_\_6) as we long supposed  
 ↓  
 cut off buds or leaves and dripped roe deer saliva onto the damaged areas  
 → the little trees produced salicylic acid  
 → an \_\_\_\_\_7) production of bad-tasting defensive compounds  
 = \_\_\_\_\_8) the roe deer from eating  
 ↓  
 \_\_\_\_\_9)  
 without applying the saliva  
 → hormones to \_\_\_\_\_10) the damage

“ Unlike how trees are often perceived as passive, trees actively respond to any attacks on them. ”

[ TRANSLATION ]

■ 최근의 연구는 나무들이 우리가 오랫동안 생각했던 것만큼 수동적인 것은 아님을 보여 주었다. 이를 더 조사하기 위하여 유럽의 과학자들은 작은 너도밤나무와 단풍나무에 공격 모의실험을 했다. 그 노루가 어린나무의 맨 꼭대기에 자란 부분을 물어뜯어 먹을 때마다 노루는 상처 부위에 약간의 침을 남기는데, 상처 입은 나무들이 이 침의 존재를 분명히 감지할 수 있다는 것이 곧 분명해졌다. 노루가 뜯어 먹는 것을 모의실험하기 위해 연구자들은 **싹이나 잎을 잘라 내고는 그 손상된 부위에 노루 침을 떨어뜨렸다.** 그들이 알게 된 것은 **그 작은 나무들이** 이에 반응하여 **살리실산을 만들어 냈고** 이것이 결과적으로 **맛이 안 좋은 방어 화합물 생산의 증가로** 이어졌으며, 이것이 **노루가 그것들을 먹는 것을 막았다는** 것이다. **그러나** 과학자들이 **침을 전혀 바르지 않고** 새로 자란 부분을 단지 부러뜨리기만 했을 때는 너도밤나무와 단풍나무가 생산한 것은 가능한 한 빨리 손상 부위를 **치료하기 위한 호르몬**이었다.

[ VOCABULARY ]

- passive
- suppose
- investigate
- simulate
- beech
- roe deer
- saliva
- presence
- browse
- bud
- drip
- salicylic acid
- compound
- apply
  
- perceive

- 5) ③
- 6) passive
- 7) increased
- 8) discouraged
- 9) however(= 그러나)
- 10) heal

[ VOCABULARY ]

- linguist
- make an estimate
- ancestral
- descend
- genetics
- remnant
- indicate
- path
- migration
- allow for
  
- be descended from

3. [ 16강 02번 ] 다음 빈칸에 들어갈 말로 가장 적절한 것은?<sup>11)</sup>

Historical linguists study the languages spoken today, and from them make estimates about the ancestral languages from which they descended. Where possible, linguists also work from written records on languages in earlier times. For linguistics as for genetics, we assume that present data give us the remnants of earlier communities. But the definition of "earlier community" is different in each case. For language, it is assumed that each language has one parent. In genetics a person has more and more ancestors as one goes to earlier generations, while a language has a single ancestor at each stage. The "tree model" of languages presents \_\_\_\_\_, and indicates relationships with other languages descended from the same ancestor. Because of the single-ancestor characteristics of the linguistic "tree model", language gives more evidence on path of early human migration than does genetics, because it allows for fewer possibilities.

- ① how pronunciation has evolved over time
- ② various usages of English in different areas
- ③ the historical events that affected many languages
- ④ the range of languages descended from an ancestor
- ⑤ the difference between romantic languages and germanic languages

[ SUMMARY ]

■ genetics

→ a person has \_\_\_\_\_<sup>12)</sup> ancestors as one goes to earlier generations

vs.

the "tree model" of languages

→ presents \_\_\_\_\_<sup>13)</sup>

→ indicates relationships with other languages descended from the same ancestor



the single-ancestor characteristics of the linguistic "tree model"

→ \_\_\_\_\_<sup>14)</sup> evidence on path of early human migration because it allows for \_\_\_\_\_<sup>15)</sup> possibilities

“ Unlike the genetics, language history presents single-ancestor characteristics providing more information about human migration history than what genetics can provide. ”

[ TRANSLATION ]

■ 역사언어학자들은 오늘날 사용되고 있는 언어들을 연구하고, 그것들로부터 그것들이 유래한 조상어(語)에 관해 추정한다. 가능한 상황에서라면, 언어학자들은 또한 옛날의 언어에 관한 기록된 자료로부터 연구하기도 한다. 언어학의 경우(유전학의 경우와 마찬가지로), 우리는 현재의 자료가 우리에게 옛날 공동체들의 자취를 제공한다고 여긴다. 그러나, '옛날 공동체'의 정의는 각각의 경우에 서로 다르다. 언어의 경우, 각각의 언어는 하나의 조상을 갖는다고 여겨진다. 하나의 언어는 각 단계에서 하나의 조상만을 가지는 반면, 유전학의 경우에 한 사람은 더 이전 세대로 올라갈수록 점점 더 많은 조상들을 가진다. 언어의 '가계도 모형'은 하나의 조상으로부터 유래된 언어들의 범위를 제시해 주고, 동일한 조상으로부터 유래된 다른 언어들과의 관계를 보여 준다. 이 언어학적 '가계도 모형'의 단일 조상의 특성 때문에, 언어는 옛 인류의 이주 경로에 관해 유전학이 제공하는 것보다 더 많은 증거를 제공해 주는데, 이는 그것이 더 적은 (다른) 가능성을 허락하기 때문이다.

11) ④

12) more and more

13) the range of languages descended from an ancestor(= 하나의 조상으로부터 유래된 언어들의 범위)

14) more

15) fewer

4. [ 16강 03번 ] 다음 빈칸에 들어갈 말로 가장 적절한 것은?16)

The more things change, the more they stay the same. One thing that has remained the same over the centuries is parental disdain for \_\_\_\_\_. This world is only new to us, and it's the only one our children know. They haven't lived long enough to see the kind of social change that has taken place in the last twenty or thirty years. For them, what they see around them is "normal," and they have nothing to compare it with until they start to learn about history. It has always been this way. Parents feel the changes in the world; kids don't. Parents often react defensively, and children do not understand what all the fuss is about. Negative parental reactions often originate in hostility toward change. Most adults tend to see their own formative years as normal and what comes afterward as a decline. The only constant is change, and parents and their children experience this in fundamentally different ways.

- ① school policy about parents
- ② new gadgets that are popular around kids
- ③ any disrespectful behavior of their children
- ④ the new kind of world they see around them
- ⑤ change in subjects that their children will learn

[ SUMMARY ]

■ parental disdain for \_\_\_\_\_ 17)



this world is only new to us, and it's the only one our children know



parents feel the \_\_\_\_\_ 18) in the world; kids don't

→ Parents often react \_\_\_\_\_ 19), and children do not understand what all the fuss is about



parents and their children experience this(= \_\_\_\_\_ 20) in fundamentally \_\_\_\_\_ 21) ways

“ Parents often behave defensively towards changes whereas the children do not even realize it is a change. ”

[ TRANSLATION ]

■ 많이 변할수록 더 많이 그대로 남는다. 수 세기 동안 변함이 없는 한 가지는 부모들이 자기 주변에서 보는 새로운 종류의 세계에 대해 가지는 경멸이다. 이러한 세상은 우리에게 단지 새로울 뿐이고, 그것은 우리의 자녀들이 알고 있는 유일한 세상이다. 그들은 지난 20년 혹은 30년 동안 일어난 그런 사회 변화를 목도할 만큼 충분히 오래 살지 않았다. 그들에게는 자기 주변에서 보는 것이 '정상'이고, 역사에 관해 배우기 시작할 때까지는 그것을 비교해 볼 대상이 아무것도 없다. 늘 이런 식이었다. 부모들은 세상의 변화를 느끼지만, 자녀들은 그러지 못한다. 부모들은 흔히 방어적으로 반응하고, 자녀들은 그 모든 소란이 무엇에 관해서인지 이해하지 못한다. 부모의 부정적인 반응은 흔히 변화에 대한 적대감에서 비롯된다. 대부분의 성인은 자기 자신의 성격 형성기[어린 시절]를 정상이라고 간주하고, 그 이후의 시기는 퇴보라고 간주하는 경향이 있다. 유일하게 불변하는 것은 변화이고, 부모와 자녀는 이것을 근본적으로 다른 방식으로 경험한다.

[ VOCABULARY ]

- parental
- disdain
- take place
- defensively
- fuss
- negative
- originate
- hostility
- formative years
- decline
- constant
- fundamentally
  
- gadget

16) ④

17) the new kind of world they see around them(= 그들이 자기 주변에서 보는 새로운 세계)

18) changes

19) defensively

20) change

21) different



[ VOCABULARY ]

- conduct
- in the interests of
- national defense
- sponsorship
- application
- common ownership
- publication
- suspend
- innumerable
- outstanding
- inventory
- genome
- sequence
- constitute
- sector
- rage
- patent
- compromise
- joint
- controversy
  
- violation
  
- on-going
- dispute

5. [ 16강 04번 ] 다음 빈칸에 들어갈 말로 가장 적절한 것은?22)

Because scientific research is so often conducted in the interests of national defense or under the sponsorship of private firms that hope to profit from applications of the findings, the norms of common ownership and publication are often suspended. Such situations have led to innumerable conflicts in scientific circles. An outstanding example is the race to publish the complete map and inventory of the human genome — all the sequences of human DNA that constitute our genes. In 2001, two rival groups raced to be the first to complete the research, one in the private sector, the Celera Genomics Corporation, led by J. Craig Venter, and the other a government-funded laboratory headed by Francis Collins. An argument raged over whether the private corporation was trying to establish patents on human genetic sequences, \_\_\_\_\_. The public laboratory had, or claimed to have, no such business interest. Eventually the competing teams compromised and issued a joint publication of the map, but the controversy and legal battles over issuing patents for genetic material have continued.

- ① a debatable topic of research
- ② an exceptional research finding
- ③ a violation of the norm of openness
- ④ a controversial issue in the related field
- ⑤ important information for the common benefit

[ SUMMARY ]

- the norms of common ownership and publication are often \_\_\_\_\_ 23)  
→ led to innumerable conflicts  
↓  
establish patent = \_\_\_\_\_ 24)

“ There is an on-going dispute over whether a private firms are allowed to gain profit by suspending the publication which is a violation of norms of openness. ”

[ TRANSLATION ]

- 과학 연구는 매우 빈번하게 국방을 위해 수행되거나 혹은 그 연구 결과의 적용으로부터 이익을 얻기를 바라는 민간 회사의 후원하에 수행되기 때문에, **공유권과 공개라는 규범은 흔히 유보된다.** 그런 상황은 과학계에서 **무수한 갈등을 야기**해 왔다. 이 하나의 두드러진 사례는 인간 게놈, 즉 우리의 유전자를 구성하는 인간 DNA의 모든 연속체의 전체 지도와 목록을 공개하기 위한 경쟁이다. 2001년에 라이벌인 두 집단은 그 연구를 최초로 완수하기 위해 경쟁했는데, 한 집단은 J. Craig Venter가 이끈 민간 부문인 Celera Genomics 회사였고, 다른 하나는 Francis Collins가 이끌었던 정부가 자금을 지원한 연구소였다. 민간 회사가 인간의 유전자 연속체에 대한 **특허를 확보**하려 하는지, 즉 **공개 규범의 위반**인지 아닌지에 대해 논쟁이 맹렬하게 계속되었다. 공공 연구소는 그런 사업상의 이해관계를 전혀 가지고 있지 않았고, 혹은 그렇다고 (즉, 가지고 있지 않다고) 주장했다. 결국, 경쟁팀들은 타협하고 그 지도에 대한 공개물을 공동으로 발행했지만 유전 물질에 대한 특허를 발급하는 것에 대한 논쟁과 법적인 싸움이 진행되어왔다.

22) ③  
23) suspended  
24) a violation of the norm of openness(= 공개 규범의 위반)



MICRO READING

[ 16강 GATEWAY ] 코끼리의 발전된 인사 행동

① Because **S elephant groups** **V1 break up and** **V2 reunite / very frequently** — / [ for instance, / in response to variation in food availability ] / — **S reunions** **V** are **C more important** / [ in elephant society / than among primates ].

코끼리 집단은 헤어지고 재결합하기 때문에 / 매우 자주 / 예를 들어 / 먹이 이용 가능성의 변화에 대응하여 / 재결합은 더욱 중요하다 / 코끼리 사회에서 / 영장류들 사이에서보다

② [ 영작 ] And **S the species** / **V has evolved** **C elaborate greeting behaviors**, / [ the form of **which(= elaborate greeting behaviors) reflects / the strength of the social bond** / between the individuals / ( [ much like { **S** how **S** you **V1** might merely shake **C** hands / < with a long-standing acquaintance > / but **V2** hug **C** < a close friend << ( **that = a close friend** ) you have not seen in a while >>, / and **V3** maybe even tear up } ] ).

그래서 이 종은 / 정교한 인사 행동을 진화시켜 왔는데 / 그 형태는 반영한다 / 사회적 유대감의 강도를 / 개체들 사이의 / 마치 여러분이 단지 악수만 하지만 / 오래 알고 지낸 지인들과는 / 친한 친구는 께안고 / 한동안 보지 못했던 / 어쩌면 심지어 눈물을 흘리듯

③ Elephants may greet each other / simply by reaching their trunks into each other's mouths, / possibly equivalent to a human peck on the cheek.

코끼리는 서로 인사를 할 수도 있는데 / 단순히 그들의 코를 서로의 입 안으로 갖다 대면서 / 이것은 아마도 같을 것이다 / 사람들이 뺨에 가볍게 입 맞추는 것과

④ However, / **after long absences**, / members of family and bond groups / **greet one another / with incredibly theatrical displays**.

그러나 / [ 빈칸 ] 오랜 부재 후에 / 가족이나 친밀 집단의 구성원들은 / 서로에게 인사한다 / 엄청나게 극적인 모습을 보이며

⑤ [ 영작 ] **S** [ The fact / { **that(= 접속사) S the intensity** **V reflects** **C < the duration of the separation** / as well as the level of intimacy > } ] **V** / suggests / **C** [ **that(= 접속사) S elephants** **V** have **C a sense of time { as well }** ].

사실은 / 격렬함이 떨어져 있던 시간의 길이도 반영한다는 / 친밀함의 정도뿐만 아니라 / 암시한다 / [ 빈칸 ] 코끼리들에게도 시간 감각이 있다는 것을

⑥ To human eyes, / these greetings strike a familiar chord.

사람들의 눈에 / 이런 인사 행위는 친숙한 느낌을 준다

⑦ I'm reminded of the joyous reunions / [ so visible / in the arrivals area of an international airport terminal ].

나는 즐거운 재회 장면이 생각난다 / 흔히 볼 수 있는 / 국제공항 터미널 도착 구역에서

- reunite 재결합하다
- primate 영장류
- elaborate 정교한
- bond 유대
- long-standing 오래된, 오랫동안에 걸친
- tear up 눈물이 가득 차다
- equivalent 같은, 동등한
- theatrical 극적인
- display 표현, 표시
- intimacy 친밀함
- strike a familiar chord 공감을 불러일으키다
- be reminded of ~이 생각나다

■ [ NOTE ] B as well as A : A뿐만 아니라 B도  
\*B의 내용이 중요한 내용!

- passive 수동적인, 소극적인
- suppose 생각하다, 추정하다
- investigate 조사하다
- simulate 모의실험하다, 가장하다
- beech 너도밤나무
- roe deer 노루
- saliva 침
- presence 존재, 참석
- browse (잎 등을) 뜯어 먹다
- bud 싹, 꽃봉오리
- drip 똑똑 떨어뜨리다
- salicylic acid 살리실산
- compound 화합물, 혼합물
- apply 바르다
  
- perceive 감지[인지]하다, ~을 (~로) 여 기다

■ [ NOTE ] 식물의 자기 방어

: 독일 생물학자 베티나 오제를 비롯한 연구자들은 독특한 실험 결과를 보고했다. 유럽노루가 유럽에 널리 분포하는 활엽수인 너도밤나무와 개버즘단풍나무의 어린 잎을 뜯어먹을 때 나무에 어떤 생리 변화가 나타나는지 알아봤더니 노루의 침을 알아차리고 대응하더라는 것이다. 식물은 상대가 노루이든 곤충이든 간에 몸체에 손상이 생기면 '부상 호르몬'인 자스모네이트를 분비한다. 성장을 촉진해 상처 부위를 복구하는 것이다. 이 호르몬은 동시에 이웃 나무에 위험이 닦쳤음을 알리는 경계경보 구실도 한다. 그런데 노루가 눈이나 싹을 뜯어먹으면서 잎 위에 침을 남기면 나무는 자스모네이트에 더해 살리실산의 생산을 늘리는 호르몬을 분비하는데, 살리실산은 다시 타닌이라는 쓴 물질 생산을 늘리도록 작용한다. 어린 잎을 먹던 노루가 갇자기 씹쓰름해진 뒷맛에 더는 잎을 뜯어 먹을 기분이 나지 않도록 하는 것이다.

[ 16강 01번 ] 나무의 자기 방어 행동 ☆☆

① ㉠ Recent research ㉡ has shown / ㉢ [ that(= 접속사) ㉣ trees ㉤ are not ㉥ [ as passive / as we long supposed ].

최근의 연구는 보여 주었다 / 나무들이 [ 어휘 ] 수동적인 것은 아님을 / 우리가 오랫동안 생각했던 것만큼  
 \*as 형용사 as = 형용사 덩어리 vs. as 부사 as = 부사 덩어리

② To investigate this further, / ㉠ European scientists ㉡ simulated ㉢ attacks / [ on small beeches and maples ].

이를 더 조사하기 위하여 / 유럽의 과학자들은 공격 모의실험을 했다 / 작은 너도밤나무와 단풍나무에

[ 글의 순서 A ] 모의실험 설명

③ Whenever ㉠ a roe deer ㉡ takes ㉢ a bite / [ out of the top growth of a young tree ], / ㉣ it( = a roe deer) ㉤ leaves ㉥ a little saliva behind [ in the wound ], / and 가 ㉦ it ㉧ soon became ㉨ clear / 진 ㉩ [ that(= 접속사) ㉪ wounded trees ㉫ can clearly detect / ㉬ the presence of this saliva ].

그 노루가 물어뜯어 먹을 때마다 / 어린나무의 맨 꼭대기에 자란 부분을 / 노루는 약간의 침을 남기는데 / 상처 부위에 / 곧 분명해졌다 / 상처 입은 나무들이 분명히 [ 어휘 ] 감지할 수 있다는 것이 / 이 침의 존재를

[ 글의 순서 B ] 모의실험 진행-결과 : with 노루 침

④ To simulate browsing by roe deer, / ㉠ the researchers ㉡ 1 cut off ㉢ buds or leaves / and ㉣ 2 dripped ㉤ roe deer saliva / [ onto the damaged areas ].

노루가 뜯어 먹는 것을 모의실험하기 위해 / 연구자들은 싹이나 잎을 잘라 내고는 / 노루 침을 떨어뜨렸다 / 그 손상된 부위에

⑤ [ 영작 ] ㉠ [ ㉢ What(= 관계사) ㉣ they ㉤ noticed ] / ㉥ was ㉦ [ that(= 접속사) { in response } / ㉧ the little trees ㉨ produced ㉩ { salicylic acid, / < which(= salicylic acid) << in turn >> led to an increased production / of bad-tasting defensive compounds, / << which(= bad-tasting defensive compounds) discouraged the roe deer from eating them >> > } ].

그들이 알게 된 것은 / 이에 반응하여 / 그 작은 나무들이 살리실산을 만들어 냈고 / 이것이 결과적으로 생산의 [ 어휘 ] 증가로 이어졌으며 / 맛이 안 좋은 방어 화합물 / 이것이 [ 빈칸 / 어휘 ] 노루가 그것들을 먹는 것을 막았다는 것이다

\*discourage A from -ing = A가 ~하는 것을 막다

[ 글의 순서 C ] 모의실험 진행-결과 : without 노루 침

⑥ However, [ when ㉠ the scientists ㉡ simply broke off ㉢ new growth / { without applying any saliva } ], / ㉣ [ all { ( that = all ) the beeches and maples produced } ] / ㉤ were ㉥ [ hormones / { to heal the damage / as quickly as possible } ].

그러나 과학자들이 새로 자란 부분을 단지 부러뜨리기만 했을 때는 / 침을 전혀 바르지 않고 / 너도밤나무와 단풍나무가 생산한 모든 것은 / 호르몬뿐이었다 / 손상 부위를 [ 어휘 ] 치료하기 위한 / 가능한 한 빨리



[ MAIN IDEA ]

Unlike how trees are often perceived as passive, trees actively respond to any attacks on them.

[ 16강 02번 ] 역사언어학 ☆☆

① [ 영작 ] ㉓ Historical linguists ㉖1 study ㉔ [ the languages / { spoken today } ], / and [ from them(= the languages spoken today) ] / ㉖2 make ㉔ [ estimates / { about the ancestral languages / < from which(= the ancestral languages) they descended > } ].  
 역사언어학자들은 언어들 연구한다 / 오늘날 사용되고 있는 / 그것들로부터 / 추정한다 / 조상어(語)에 관해 / 그것들이 유래한

② Where ( it is ) possible, / linguists also work / from written records / on languages in earlier times.  
 가능한 상황에서라면 / 언어학자들은 또한 연구하기도 한다 / 기록된 자료로부터 / 옛날의 언어에 관한

[ 글의 순서 A ] 언어학과 유전학의 공통점 및 차이점 - 언어학

③ For linguistics / (as for genetics), / ㉓ we ㉖ assume / ㉔ [ that(= 접속사) ㉓ present data ㉖ give ㉔ us / ㉔ the remnants of earlier communities ].  
 언어학의 경우 / (유전학의 경우와 마찬가지로) / 우리는 여긴다 / 현재의 자료가 우리에게 제공한다고 / 옛날 공동체들의 자취를

■ [ NOTE ] ③ 언어학과 유전학의 공통점 ⇨ ④ 그러나 = 흐름 전환 = [ 문장 삽입 ]

④ But the definition of "earlier community" / is different in each case.  
 그러나, '옛날 공동체'의 정의는 / 각각의 경우에 서로 [ 어휘 ] 다르다  
 ⑤ For language, / 가 ㉓ it ㉖ is assumed / 진 ㉓ [ that(= 접속사) ㉓ each language ㉖ has ㉔ one parent ].  
 언어의 경우 / 여겨진다 / 각각의 언어는 하나의 조상을 갖는다고

■ 언어학과 유전학의 경우

[ 글의 순서 B ] 언어학과 유전학의 차이점 - 유전학

⑥ In genetics / a person has more and more ancestors / as one goes / to earlier generations, / while a language has a single ancestor / at each stage.  
 유전학의 경우에 / 한 사람은 점점 더 많은 조상들을 가진다 / 올라갈수록 / 더 이전 세대로 / 하나의 언어는 하나의 조상만을 가지는 반면 / 각 단계에서

⑦ [ 영작 ] ㉓ The "tree model" of languages / ㉖1 presents ㉔ [ the range of languages / { descended from an ancestor } ], / and ㉖2 indicates ㉔ [ relationships with other languages / { descended from the same ancestor } ].  
 언어의 '가계도 모형'은 / [ 빈칸 ] 언어들의 범위를 제시해 준다 / 하나의 조상으로부터 유래된 / 다른 언어들과의 관계를 보여 준다 / [ 어휘 ] 동일한 조상으로부터 유래된

[ 글의 순서 C ] 언어의 '가계도 모형'의 특성의 결과

⑧ Because of the single-ancestor characteristics / of the linguistic "tree model", / ㉓ language ㉖ gives ㉔ [ more evidence / { on path of early human migration } / than does(= gives evidence on path of early human migration) genetics ], / because ㉓ it(= language) ㉖ allows for ㉔ fewer possibilities.

[ 빈칸 ] 단일 조상의 특성 때문에 / 이 언어학적 '가계도 모형'의 / [ 빈칸 / 어휘 ] 언어는 더 많은 증거를 제공해 준다 / 옛 인류의 이주 경로에 관해 / 유전학이 제공하는 것보다 / 이는 그것이 [ 빈칸 / 어휘 ] 더 적은 (다른) 가능성을 허락하기 때문이다

\*대동사 do = 일반동사(구) vs. 대동사 be = 상태동사(구)

- linguist 언어학자
- make an estimate 추정하다
- ancestral 조상의
- descend 유래하다, 내려오다
- genetics 유전학
- remnant 자취, 나머지
- be descended from ~에서 유래되다, ~와 관련되다
- indicate 보여 주다, 나타내다
- path 경로
- migration 이주, 이동
- allow for ~을 허락하다, ~을 가능하게 하다

■ [ NOTE ] family tree model(가계도 모형)  
 : 언어의 분화 발전을 인간이나 새물계의 가족의 개념과 가계도처럼 기술한 것으로, 생물이 자손을 낳아서 개체로 분리 발전되듯이 언어도 각 개체로 나누어지고 분기된다는 설명을 마치 나무에서 가지가 뿔어 나가는 것처럼 도식화해서 보여 주는 모델이다. 이러한 가설은 한 어족 또는 한 그룹의 언어들이 서로 어떤 관계를 가지는지를 명료하게 보여 주는 장점이 있다.

⇨  
 [ MAIN IDEA ]  
 Unlike the genetics, language history presents single-ancestor characteristics providing more information about human migration history than what genetics can provide.

- parental 부모의
- disdain 경멸
- take place 일어나다, 발생하다
- defensively 방어적으로
- fuss 소란
- negative 부정적인
- originate 비롯되다, 유해하다
- hostility 적대감
- formative years 성격 형성기[어린 시절]
- decline 퇴보, 쇠퇴, 감소
- constant 불변하는 것, 상수
- fundamentally 근본적으로

[ 16강 03번 ] 변화에 대한 부모와 자녀의 상이한 태도 ☆

- ① [ 영작 ] **The more** S things V change, / **the more** S they(= the things) V stay C the same.  
 많이 변할수록 / 더 많이 그대로 남는다
- ② [ 영작 ] S [ One thing { that(= one thing) has remained the same over the centuries } ] / V is C [ **parental disdain** { for the new kind of world / < ( that = the new kind of world ) S they V see << around them >> > } ].  
 수 세기 동안 변함이 없는 한 가지는 / 부모들이 [ 빈칸 ] 새로운 종류의 세계에 대해 가지는 [ 어휘 ] 경멸이다 / 그들이 자기 주변에서 보는
- ③ S **This world** V is C **only new to us**, / and S V **it(= this world's)** C [ **the only one(= world)** / { ( that = the only one ) our children know } ].  
 이러한 세상은 우리에게는 단지 새로울 뿐이다 / 그리고 그것은 [ 어휘 ] 유일한 세상이다 / 우리의 자녀들이 알고 있는
- ④ S They V haven't lived long **enough** / [ **to see** the kind of social change / { that(= the kind of social change) has taken place < in the last twenty or thirty years > } ].  
 그들은 충분히 오래 살지 않았다 / 그런 사회 변화를 목도할 만큼 / 지난 20년 혹은 30년 동안 일어난
- ⑤ For **them(= our children)**, / S [ O **what** S they V see { around them } ] V is C "**normal**," / and S they V have O [ nothing { to compare **it(= what they see around them)** with } ] / [ **until** S they V start to learn about history ].  
 그들에게는 / 자기 주변에서 보는 것이 '[ 어휘 ] 정상'이다 / 그리고 그들에게는 그것을 비교해 볼 대상이 아무것도 없다 / 그들이 역사에 관해 배우기 시작할 때까지는
- ⑥ It has always been **this way**.  
 늘 [ 의미 ] 이런 식이었다
- ⑦ **Parents feel the changes in the world; / kids don't** ( feel the changes in the world ).  
 부모들은 세상의 변화를 느끼지만 / 자녀들은 그러지 못한다
- ⑧ [ 영작 ] S **Parents** V often react **defensively**, / and S **children** V do not understand / O [ O **what** S all the fuss V is { about } ].  
 부모들은 흔히 [ 어휘 ] 방어적으로 반응한다 / 그리고 자녀들은 이해하지 못한다 / 그 모든 소란이 무엇에 관해서인지  
 \*what = 전치사 about의 목적어
- ⑨ S Negative parental reactions V often originate / [ in **hostility toward change** ].  
 부모의 부정적인 반응은 흔히 비롯된다 / [ 빈칸 / 어휘 ] 변화에 대한 적대감에서
- ⑩ S Most adults V tend to **see** / O1 [ their own formative years **as normal** ] / and O2 [ < S **what** V comes afterward > **as a decline** ].  
 대부분의 성인은 간주하는 경향이 있다 / 자기 자신의 성격 형성기[어린 시절]를 [ 어휘 ] 정상이라고 / 그리고 그 이후의 시기는 [ 어휘 ] 퇴보라고
- ⑪ S The only constant V is C **change**, / and S **parents and their children** V **experience** O **this(= change)** / [ in **fundamentally different ways** ].  
 유일하게 불변하는 것은 [ 빈칸 / 어휘 ] 변화이다 / 그리고 부모와 자녀는 이것을 [ 빈칸 / 어휘 ] 경험한다 / 근본적으로 다른 방식으로



[ MAIN IDEA ]

Parents often behave defensively towards changes whereas the children do not even realize it is a change.

■ [ NOTE ] formative years(성격 형성기)  
 : 성격이 형성되는 시기로 통상 어린 시절을 말한다.

[ 16강 04번 ] 과학 연구 결과의 공개 ☆☆

① Because ㉠ scientific research ㉡ is so often conducted / [ { in the interests of national defense } / or { under the sponsorship of private firms < that(= private firms) hope to profit from applications of the findings > } ], / ㉢ [ the norms of common ownership and publication ] ㉣ are often suspended.

과학 연구는 매우 빈번하게 수행되거나 / 국방을 위해 / 혹은 그 연구 결과의 적용으로부터 이익을 얻기를 바라는 민간 회사의 후원하에 수행되기 때문에 / [ 빈칸 ] 공유권과 공개라는 규범은 흔히 유보된다

[ 글의 순서 A ] 공유권과 공개라는 규범이 유보되는 상황-사례 설명

② Such situations have led / to innumerable conflicts in scientific circles.

그런 상황은 야기해 왔다 / 과학계에서 무수한 갈등을

③ ㉠ An outstanding example ㉡ is / ㉢ [ the race { to publish the complete map and inventory of the human genome } ] / — [ all the sequences of human DNA { that(= human DNA) constitute our genes } ].

이 하나의 두드러진 사례는 ~이다 / 인간 게놈의 전체 지도와 목록을 공개하기 위한 경쟁 / 즉 우리의 유전자를 구성하는 인간 DNA의 모든 연속체의

[ 글의 순서 B ] 사례 설명

④ In 2001, / ㉠ two rival groups ㉡ raced / [ to be the first { to complete the research } ], / one in the private sector, the Celera Genomics Corporation, led by J. Craig Venter, / and the other a government-funded laboratory headed by Francis Collins.

2001년에 / 라이벌인 두 집단은 경쟁했는데 / 그 연구를 최초로 완수하기 위해 / 한 집단은 J. Craig Venter가 이끈 민간 부문인 Celera Genomics 회사였고 / 다른 하나는 Francis Collins가 이끌었던 정부가 자금을 지원한 연구소였다

⑤ [ 영작 ] ㉠ An argument ㉡ raged / [ over { whether ㉢ the private corporation ㉣ was trying / to establish ㉤ < patents on human genetic sequences >, / < ( which is ) a violation of the norm of openness > } ].

논쟁이 맹렬하게 계속되었다 / 민간 회사가 ~하려 하는지 / [ 빈칸 ] 인간의 유전자 연속체에 대한 특허를 확보하려 하는지 / 즉 [ 빈칸 ] 공개 규범의 위반인지 아닌지에 대해

\*[ 동격 ] establish patents on human genetics sequence = a violation of the norm of openness

[ 글의 순서 C ] (사례의) 결론

⑥ ㉠ The public laboratory ㉡ [ had, or claimed to have ], / ㉢ no such business interest.

공공 연구소는 전혀 가지고 있지 않았고, 혹은 그렇다고(즉, 가지고 있지 않다고) 주장했다 / 그런 사업상의 이해관계를

⑦ Eventually / ㉠ the competing teams ㉡ compromised / and ㉢ issued ㉣ a joint publication of the map, / but ㉤ [ the controversy and legal battles { over issuing patents for genetic material } ] / ㉥ have continued.

결국 / 경쟁팀 들은 타협하고 / 그 지도에 대한 공개물을 공동으로 발행했지만 / 유전 물질에 대한 특허를 발급하는 것에 대한 논쟁과 법적인 싸움이 / 진행되어 왔다

- conduct 수행하다
- in the interests of ~을 위하여
- national defense 국방
- sponsorship (재정적) 후원[협찬]
- application 적용
- common ownership 공유권
- publication 공개(물)
- suspend 유보(유예)하다
- innumerable 무수한
- outstanding 두드러진, 눈에 띄는
- inventory 목록
- genome 게놈(세포나 생명체의 유전자 총체)
- sequence 연속체
- constitute 구성하다
- sector 부분
- rage 맹렬히 계속되다, (계속) 맹위를 떨치다
- patent 특허
- violation 위반
- compromise 타협하다
- joint 공동의, 합동의
- controversy 논쟁
- on-going 계속 진행중인
- dispute 분쟁, 분규, 논란

■ [ NOTE ] human genome project(인간 게놈 프로젝트)

: 인간 게놈의 모든 염기 서열을 해석하는 프로젝트이다. 이것은 1990년에 미국 에너지부(DOE; Department of Energy)와 보건부(NIH; the National Institutes of Health)에서 발족했고, 15년 안에 완료될 계획이었다. 그러나 실제 2000년에 게놈의 기본 드래프트가 완성되었고 2003년 4월 14일에 완성된 드래프트가 공개되었다. 셀레라 지노믹스(Celera Genomics)사에 의한 상업적 인간게놈프로젝트와의 비교분석과정이 수반된 점이 연구 시간을 단축시킨 요인으로 꼽히고 있다.

⇒

[ MAIN IDEA ]

There is an on-going dispute over whether a private firms are allowed to gain profit by suspending the publication which is a violation of norms of openness.



## 16강 PRACTICE

### 1. [ 16강 GATEWAY ]<sup>25)</sup>

그래서 이 종은 정교한 인사 행동을 발전시켜 왔는데, 그것의 형태는 (마치 여러분이 오래 전부터 알고 지내온 지인들과는 단지 악수만 하지만 한동안 보지 못했던 친한 친구는 껴안고, 어쩌면 심지어 눈물이 가득 차는 것과 매우 비슷하게) **개체들 사이의 사회적 유대감의 강도를 반영한다.**

( bond / the / individuals / the / which / strength / form / reflects / between / greeting / species / social / the / the / of / evolved / elaborate / has / the / behaviors / of / , )

And \_\_\_\_\_  
\_\_\_\_\_

(much like how you might merely shake hands with a long-standing acquaintance but hug a close friend you have not seen in a while, and maybe even tear up).

**그 강도가 친밀도뿐만 아니라 떨어져 있었던 시간의 길이도 반영한다는 사실은 코끼리들이 시간적 감각도 가지고 있음을 보여 준다.**

( the / have / well / the / the / the / as / a / duration / intimacy / of / of / suggests / intensity / the / time / separation / that / sense / fact / well / as / that / as / level / of / elephants / reflects )

### 2. [ 16강 01번 ]<sup>26)</sup>

**최근의 연구는 나무들이 우리가 오랫동안 생각했던 것만큼 수동적인 것은 아님을 보여 주었다.**

( has / as / are / trees / shown / supposed / that / recent / long / research / we / as / passive / not )

그들이 알게 된 것은 그 작은 나무들이 이에 반응하여 살리실산을 만들어 냈고 **이것이 결과적으로 맛이 안 좋은 방어 화합물 생산의 증가로 이어졌으며, 이것이 노루가 그것들을 먹는 것을 막았다는 것이다.**

( bad-tasting / turn / which / an / eating / in / which / from / increased / roe / led / the / of / production / defensive / to / deer / them / discouraged / compounds / , )

What they noticed was that in response the little trees produced salicylic acid,

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_.

25)

- the species has evolved elaborate greeting behaviors, the form of which reflects the strength of the social bond between the individuals

- The fact that the intensity reflects the duration of the separation as well as the level of intimacy suggests that elephants have a sense of time as well.

26)

- Recent research has shown that trees are not as passive as we long supposed.

- which in turn led to an increased production of bad-tasting defensive compounds, which discouraged the roe deer from eating them

3. [ 16강 01번 ]<sup>27)</sup>

Recent research has shown that trees are not as passive as we long supposed. To investigate this further, European scientists simulated attacks on small beeches and maples.

( A ) To simulate browsing by roe deer, the researchers cut off buds or leaves and dripped roe deer saliva onto the damaged areas. What they noticed was that in response the little trees produced salicylic acid, which in turn led to an increased production of bad-tasting defensive compounds, which discouraged the roe deer from eating them.

( B ) Whenever a roe deer takes a bite out of the top growth of a young tree, it leaves a little saliva behind in the wound, and it soon became clear that wounded trees can clearly detect the presence of this saliva.

( C ) However, when the scientists simply broke off new growth without applying any saliva, all the beeches and maples produced were hormones to heal the damage as quickly as possible.

4. [ 16강 01번 ]<sup>28)</sup>

■ detect / heal / increased / passive / discouraged

Recent research has shown that trees are not as \_\_\_\_\_ as we long supposed. To investigate this further, European scientists simulated attacks on small beeches and maples. Whenever a roe deer takes a bite out of the top growth of a young tree, it leaves a little saliva behind in the wound, and [ **that / it** ] soon became clear that wounded trees can clearly \_\_\_\_\_ the presence of this saliva. To simulate browsing by roe deer, the researchers cut off buds or leaves and dripped roe deer saliva onto the damaged areas. What they noticed was that in response the little trees produced salicylic acid, [ **which / what** ] in turn led to an \_\_\_\_\_ production of bad-tasting defensive compounds, which \_\_\_\_\_ the roe deer from eating them. However, when the scientists simply broke off new growth without applying any saliva, all the beeches and maples produced were hormones to \_\_\_\_\_ the damage as [ **quickly / quick** ] as possible.

■ [ HINT ] 진주어를 찾아라!

■ [ HINT ]  
 선행사 O = which  
 선행사 X = what

■ [ HINT ]  
 as 형용사 as = 형용사 덩어리  
 as 부사 as = 부사 덩어리

27) ( B ) - ( A ) - ( C )  
 28)  
 - [ 빈칸 ] passive / detect / increased / discouraged / heal  
 - [ 어법 ] it / which / quickly



5. [ 16강 02번 ]<sup>29)</sup>

But the definition of "earlier community" is different in ❶ **each case**.

Historical linguists study the languages spoken today, and from them make estimates about the ancestral languages from which they descended. Where possible, linguists also work from written records on languages in earlier times. ① For linguistics as for genetics, we assume that present data give us the remnants of earlier communities. ② For language, it is assumed that each language has one parent. ③ In genetics a person has more and more ancestors as one goes to earlier generations, while a language has a single ancestor at each stage. ④ The "tree model" of languages presents the range of languages descended from an ancestor, and indicates relationships with other languages descended from the same ancestor. ⑤ Because of the single-ancestor characteristics of the linguistic "tree model", language gives more evidence on path of early human migration than does genetics, because it allows for fewer possibilities.

■ ❶ **each case** :

6. [ 16강 02번 ]<sup>30)</sup>

역사언어학자들은 오늘날 사용되고 있는 언어들을 연구하고, 그것들로부터 그것들이 유래한 조상어(語)에 관해 추정한다.

( estimates / descended / which / about / languages / from / from / the / them / make / they / ancestral )

Historical linguists study the languages spoken today, and \_\_\_\_\_  
\_\_\_\_\_.

언어의 '가계도 모형'은 하나의 조상으로부터 유래된 언어들의 범위를 제시해 주고, 동일한 조상으로부터 유래된 다른 언어들과의 관계를 보여 준다.

( same / other / an / of / descended / the / ancestor / from / descended / indicates / relationships / languages / from / ancestor / the / presents / languages / and / with / range / , )

The "tree model" of languages \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_.

29) ② / ❶ each case = 언어학과 유전학의 경우

30)

- from them make estimates about the ancestral languages from which they descended

- presents the range of languages descended from an ancestor, and indicates relationships with other languages descended from the same ancestor

7. [ 16강 02번 ]<sup>31)</sup>

■ more / same / different / fewer

Historical linguists study the languages spoken today, and from them make estimates about the ancestral languages [ **which / from which** ] they descended. Where [ **possibly / possible** ], linguists also work from written records on languages in earlier times. For linguistics as for genetics, we assume that present data give us the remnants of earlier communities. But the definition of "earlier community" is \_\_\_\_\_ in each case. For language, it is assumed that each language has one parent. In genetics a person has more and more ancestors as one goes to earlier generations, while a language has a single ancestor at each stage. The "tree model" of languages presents the range of languages descended from an ancestor, and [ **indicates / indicating** ] relationships with other languages descended from the \_\_\_\_\_ ancestor. Because of the single-ancestor characteristics of the linguistic "tree model", language gives \_\_\_\_\_ evidence on path of early human migration than [ **is / does** ] genetics, because it allows for \_\_\_\_\_ possibilities.

8. [ 16강 02번 ]<sup>32)</sup>

Historical linguists study the languages spoken today, and from them make estimates about the ancestral languages from which they descended. Where possible, linguists also work from written records on languages in earlier times.

( A ) Because of the single-ancestor characteristics of the linguistic "tree model", language gives more evidence on path of early human migration than does genetics, because it allows for fewer possibilities.

( B ) For linguistics as for genetics, we assume that present data give us the remnants of earlier communities. But the definition of "earlier community" is different in each case. For language, it is assumed that each language has one parent.

( C ) In genetics a person has more and more ancestors as one goes to earlier generations, while a language has a single ancestor at each stage. The "tree model" of languages presents the range of languages descended from an ancestor, and indicates relationships with other languages descended from the same ancestor.

■ [ HINT ]

관계대명사 + 불완전한 구조

전치사 + 관계대명사 + 완전한 구조

■ [ HINT ]

주어 + be동사가 생략되었다?

■ [ HINT ]

병렬구조

■ [ HINT ]

대동사 - 반복되는 동사(구)를 찾아라!

31)

- [ 빈칸 ] different / same / more / fewer

- [ 어법 ] from which / possible / indicates / does

32) ( B ) - ( C ) - ( A )

9. [ 16강 03번 ]<sup>33)</sup>

많이 변할수록 더 많이 그대로 남는다.

( more / stay / more / same / they / things / change / the / the / the / , )

수 세기 동안 변함이 없는 한 가지는 부모들이 자기 주변에서 보는 새로운 종류의 세계에 대해 가지는 경멸이다.

( centuries / world / see / of / they / remained / kind / has / over / new / disdain / that / thing / one / is / the / the / them / same / for / parental / around / the )

부모들은 흔히 방어적으로 반응하고, 자녀들은 그 모든 소란이 무엇에 관해서인지 이해하지 못한다.

( what / and / do / is / about / children / react / not / often / all / understand / defensively / fuss / the / parents / , )

10. [ 16강 03번 ]<sup>34)</sup>

The more things change, the more they stay the same. One thing that has remained the same over the centuries is parental disdain for the new kind of world they see around them. This world is only new to us, and it's the only one our children know. They haven't lived long enough to see the kind of social change that has taken place in the last twenty or thirty years. For them, what they see around them is "normal," and they have nothing to compare it with until they start to learn about history. It has always been **① this way**. Parents feel the changes in the world; kids don't. Parents often react defensively, and children do not understand what all the fuss is about. Negative parental reactions often originate in hostility toward change. Most adults tend to see their own formative years as normal and what comes afterward as a decline. The only constant is change, and parents and their children experience this in fundamentally different ways.

■ **① this way** :

33)  
 - The more things change, the more they stay the same.  
 - One thing that has remained the same over the centuries is parental disdain for the new kind of world they see around them.  
 - Parents often react defensively, and children do not understand what all the fuss is about.

34) 아이들은 자신들이 살아가며 보는 세상과 비교해 볼만한 대상이 없기 때문에 역사를 배우기 전까지는 자신 주변에서 보는 것을 정상이라 믿는다. = 사회적 변화를 느낄 수 있을만큼 충분히 오래 살지 못했다.

11. [ 16강 03번 ]<sup>35)</sup>

■ different / disdain / change / normal / defensively / normal / only / decline / hostility

The more things change, the more they stay the same. One thing that has remained the same over the centuries [ is / are ] parental \_\_\_\_\_ for the new kind of world they see around them. This world is only new to us, and it's the \_\_\_\_\_ one our children know. They haven't lived long enough to see the kind of social change that has taken place in the last twenty or thirty years. For them, [ what / how ] they see around them is "\_\_\_\_\_", and they have nothing to compare [ them / it ] with until they start to learn about history. It has always been this way. Parents feel the changes in the world; kids [ don't / aren't ]. Parents often react \_\_\_\_\_, and children do not understand [ that / what ] all the fuss is about. Negative parental reactions often originate in \_\_\_\_\_ toward change. Most adults tend to see their own formative years as \_\_\_\_\_ and what comes afterward as a \_\_\_\_\_. The only constant is \_\_\_\_\_, and parents and their children experience this in fundamentally \_\_\_\_\_ ways.

12. [ 16강 03번 ]<sup>36)</sup>

The more things change, the more they stay the same.

( A ) For them, what they see around them is "normal," and they have nothing to compare it with until they start to learn about history. It has always been this way. Parents feel the changes in the world; kids don't. Parents often react defensively, and children do not understand what all the fuss is about.

( B ) Negative parental reactions often originate in hostility toward change. Most adults tend to see their own formative years as normal and what comes afterward as a decline. The only constant is change, and parents and their children experience this in fundamentally different ways.

( C ) One thing that has remained the same over the centuries is parental disdain for the new kind of world they see around them. This world is only new to us, and it's the only one our children know. They haven't lived long enough to see the kind of social change that has taken place in the last twenty or thirty years.

■ [ HINT ]

주어 동사 수일치

■ [ HINT ]

what + 불완전한 구조

how + 완전한 구조

■ [ HINT ]

비교대상의 단/복수를 따져라!

■ [ HINT ]

대동사 - 반복되는 동사(구) 찾기!

■ [ HINT ]

that + 완전한 구조

what + 불완전한 구조

35)

- [ 어법 ] is / what / it / don't / what

- [ 빈칸 ] disdain / only / normal / defensively / hostility / normal / decline / change / different

36) ( C ) - ( A ) - ( B )

■ [ HINT ]

선행사 O + that  
선행사 X + what

■ [ HINT ]

주어 동사 수일치

■ [ HINT ]

another = 또 다른 하나  
the other = 나머지 하나

13. [ 16강 04번 ]<sup>37)</sup>

Because scientific research is so often conducted in the interests of national defense or under the sponsorship of private firms [ **that / what** ] hope to profit from applications of the findings, the norms of common ownership and publication are often suspended. Such situations have led to innumerable conflicts in scientific circles. An outstanding example is the race to publish the complete map and inventory of the human genome — all the sequences of human DNA that [ **constitutes / constitute** ] our genes. In 2001, two rival groups raced to be the first to complete the research, one in the private sector, the Celera Genomics Corporation, led by J. Craig Venter, and [ **another / the other** ] a government-funded laboratory headed by Francis Collins. An argument raged over whether the private corporation was trying to establish patents on human genetic sequences, a violation of the norm of openness. The public laboratory had, or claimed to have, no such business interest. Eventually the competing teams compromised and issued a joint publication of the map, but the controversy and legal battles over issuing patents for genetic material have continued.

14. [ 16강 04번 ]<sup>38)</sup>

Because scientific research is so often conducted in the interests of national defense or under the sponsorship of private firms that hope to profit from applications of the findings, the norms of common ownership and publication are often suspended.

( A ) In 2001, two rival groups raced to be the first to complete the research, one in the private sector, the Celera Genomics Corporation, led by J. Craig Venter, and the other a government-funded laboratory headed by Francis Collins. An argument raged over whether the private corporation was trying to establish patents on human genetic sequences, a violation of the norm of openness.

( B ) Such situations have led to innumerable conflicts in scientific circles. An outstanding example is the race to publish the complete map and inventory of the human genome — all the sequences of human DNA that constitute our genes.

( C ) The public laboratory had, or claimed to have, no such business interest. Eventually the competing teams compromised and issued a joint publication of the map, but the controversy and legal battles over issuing patents for genetic material have continued.

37) that / constitute / the other

38) ( B ) - ( A ) - ( C )

15. [ 16강 04번 ]<sup>39)</sup>

민간 회사가 인간의 유전자 연속체에 대한 특허를 확보하려 하는지, 즉 공개 규범의 위반인지 아닌지에 대해 논쟁이 맹렬하게 계속되었다.

( whether / on / genetic / human / an / trying / argument / norm / sequences / raged / over / establish / of / violation / to / of / corporation / was / the / patents / a / openness / private / the / , )

39) An argument raged over whether the private corporation was trying to establish patents on human genetic sequences, a violation of the norm of openness.

## 16강 REVIEW

### 1. [ 16강 GATEWAY ] 다음 빈칸에 들어갈 말로 가장 적절한 것은?40)

Because elephant groups break up and reunite very frequently — for instance, in response to variation in food availability — reunions are more important in elephant society than among primates. And the species has evolved elaborate greeting behaviors, the form of which reflects the strength of the social bond between the individuals (much like how you might merely shake hands with a long-standing acquaintance but hug a close friend you have not seen in a while, and maybe even tear up). Elephants may greet each other simply by reaching their trunks into each other's mouths, possibly equivalent to a human peck on the cheek. However, \_\_\_\_\_, members of family and bond groups greet one another with incredibly theatrical displays. The fact that the intensity reflects the duration of the separation as well as the level of intimacy suggests that elephants have a sense of time as well. To human eyes, these greetings strike a familiar chord. I'm reminded of the joyous reunions so visible in the arrivals area of an international airport terminal.

- ① before breaking up
- ② after long absences
- ③ the lack of territory
- ④ in the presence of others
- ⑤ with the increase of poachers

### 2. [ 16강 01강 ] 다음 빈칸에 들어갈 말로 가장 적절한 것은?41)

Recent research has shown that trees are not as passive as we long supposed. To investigate this further, European scientists simulated attacks on small beeches and maples. Whenever a roe deer takes a bite out of the top growth of a young tree, it leaves a little saliva behind in the wound, and it soon became clear that wounded trees can clearly detect the presence of this saliva. To simulate browsing by roe deer, the researchers cut off buds or leaves and dripped roe deer saliva onto the damaged areas. What they noticed was that in response the little trees produced salicylic acid, which in turn led to an increased production of bad-tasting defensive compounds, which \_\_\_\_\_. However, when the scientists simply broke off new growth without applying any saliva, all the beeches and maples produced were hormones to heal the damage as quickly as possible.

- ① encouraged the roe deer to eat them
- ② discouraged the roe deer from eating them
- ③ allowed for the harvesting of these compounds
- ④ prevented the researchers from getting close to them again
- ⑤ was produced in response to the stimulation of roe deer eating them

#### ■ [ SUMMARY ]

Unlike how trees are often perceived as \_\_\_\_\_, trees \_\_\_\_\_ respond to any attacks on them.

40) ②

41) ②

[ SUMMARY ] passive / actively



### 3. [ 16강 02번 ] 다음 빈칸에 들어갈 말로 가장 적절한 것은?<sup>42)</sup>

Historical linguists study the languages spoken today, and from them make estimates about the ancestral languages from which they descended. Where possible, linguists also work from written records on languages in earlier times. For linguistics as for genetics, we assume that present data give us the remnants of earlier communities. But the definition of "earlier community" is different in each case. For language, it is assumed that each language has one parent. In genetics a person has more and more ancestors as one goes to earlier generations, while a language has a single ancestor at each stage. The "tree model" of languages presents the range of languages descended from an ancestor, and indicates relationships with other languages descended from the same ancestor. Because of the single-ancestor characteristics of the linguistic "tree model", language gives more evidence on path of early human migration than does genetics, because it \_\_\_\_\_.

- ① allows for more possibilities
- ② allows for fewer possibilities
- ③ has direct connections to the past
- ④ is provides easier data sets to work with
- ⑤ prevents the exploitation of methods considered unsavory

### 4. [ 16강 03번 ] 다음 빈칸에 들어갈 말로 가장 적절한 것은?<sup>43)</sup>

The more things change, the more they stay the same. One thing that has remained the same over the centuries is parental disdain for the new kind of world they see around them. This world is only new to us, and it's the only one our children know. They haven't lived long enough to see the kind of social change that has taken place in the last twenty or thirty years. For them, what they see around them is "normal," and they have nothing to compare it with until they start to learn about history. It has always been this way. Parents feel the changes in the world; kids don't. Parents often react defensively, and children do not understand what all the fuss is about. Negative parental reactions often originate in hostility toward change. Most adults tend to see their own formative years as normal and what comes afterward as a decline. The only constant is \_\_\_\_\_, and parents and their children experience this in fundamentally different ways.

- ① time
- ② decline
- ③ change
- ④ disdain
- ⑤ normality

#### ■ [ SUMMARY ]

Unlike the genetics, language history presents single-ancestor characteristics providing \_\_\_\_\_ information about human migration history than what genetics can provide.

#### ■ [ SUMMARY ]

Parents often behave \_\_\_\_\_ towards changes whereas the children do not even realize it is a \_\_\_\_\_.

42) ②

[ SUMMARY ] more

43) ③

[ SUMMARY ] defensively / change

■ [ SUMMARY ]

There is an on-going dispute over whether a private firms are allowed to gain profit by \_\_\_\_\_ the publication which is a \_\_\_\_\_ of norms of openness.

5. [ 16강 04번 ] 다음 빈칸에 들어갈 말로 가장 적절한 것은?<sup>44)</sup>

Because scientific research is so often conducted in the interests of national defense or under the sponsorship of private firms that hope to profit from applications of the findings, the norms of common ownership and publication are often suspended. Such situations have led to innumerable conflicts in scientific circles. An outstanding example is the race to publish the complete map and inventory of the human genome — all the sequences of human DNA that constitute our genes. In 2001, two rival groups raced to be the first to complete the research, one in the private sector, the Celera Genomics Corporation, led by J. Craig Venter, and the other a government-funded laboratory headed by Francis Collins. An argument raged over whether the private corporation was trying to \_\_\_\_\_, a violation of the norm of openness. The public laboratory had, or claimed to have, no such business interest. Eventually the competing teams compromised and issued a joint publication of the map, but the controversy and legal battles over issuing patents for genetic material have continued.

- ① prevent any other company from profiting
- ② protect their findings by not publishing them
- ③ establish patents of human genetic sequences
- ④ steal the research progress from the government-funded laboratory
- ⑤ advise the public on how they could manipulate their genome at home

6. [ 16강 02번 ] 다음 빈칸에 들어갈 말로 가장 적절한 것은?<sup>45)</sup>

Historical linguists study the languages spoken today, and from them make estimates about the ancestral languages from which they descended. Where possible, linguists also work from written records on languages in earlier times. For linguistics as for genetics, we assume that present data give us the remnants of earlier communities. But the definition of "earlier community" is different in each case. For language, it is assumed that each language has one parent. In genetics a person has more and more ancestors as one goes to earlier generations, while a language has a single ancestor at each stage. The "tree model" of languages presents the range of languages descended from an ancestor, and indicates relationships with other languages descended from the same ancestor. Because of the single-ancestor characteristics of the linguistic "tree model", \_\_\_\_\_, because it allows for fewer possibilities.

- ① predictions on later communities can easily be made
- ② historical records on earlier communities are uninterpretable
- ③ linguistics usually takes less time to study than does genetics
- ④ it is genetics that allows us to understand the history more accurately
- ⑤ language gives more evidence on path of early human migration than does genetics

44) ③

[ SUMMARY ] suspending / violation

45) ⑤

7. [ 16강 03번 ] 다음 빈칸에 들어갈 말로 가장 적절한 것은?<sup>46)</sup>

The more things change, the more they stay the same. One thing that has remained the same over the centuries is parental disdain for the new kind of world they see around them. This world is only new to us, and it's the only one our children know. They haven't lived long enough to see the kind of social change that has taken place in the last twenty or thirty years. For them, what they see around them is "normal," and they have nothing to compare it with until they start to learn about history. It has always been this way. Parents feel the changes in the world; kids don't. Parents often react defensively, and children do not understand what all the fuss is about. Negative parental reactions often originate in \_\_\_\_\_ toward change. Most adults tend to see their own formative years as normal and what comes afterward as a decline. The only constant is change, and parents and their children experience this in fundamentally \_\_\_\_\_ ways.

- ① offensiveness ... similar
- ② affirmation ... different
- ③ affirmation ... similar
- ④ hostility ... different
- ⑤ hostility ... similar

8. [ 16강 04번 ] 다음 빈칸에 들어갈 말로 가장 적절한 것은?<sup>47)</sup>

Because scientific research is so often conducted in the interests of national defense or under the sponsorship of private firms that hope to profit from applications of the findings, \_\_\_\_\_. Such situations have led to innumerable conflicts in scientific circles. An outstanding example is the race to publish the complete map and inventory of the human genome — all the sequences of human DNA that constitute our genes. In 2001, two rival groups raced to be the first to complete the research, one in the private sector, the Celera Genomics Corporation, led by J. Craig Venter, and the other a government-funded laboratory headed by Francis Collins. An argument raged over whether the private corporation was trying to establish patents of human genetic sequences, a violation of the norm of openness. The public laboratory had, or claimed to have, no such business interest. Eventually the competing teams compromised and issued a joint publication of the map, but the controversy and legal battles over issuing patents for genetic material have continued.

- ① understanding of human DNA is still limited
- ② fundraising for the research has never been easy
- ③ not many organizations are interested in taking part
- ④ there seems to be a serious deterioration of human rights
- ⑤ the norms of common ownership and publication are often suspended

46) ④

47) ⑤