14-1 fermentation

As people began to settle in one place instead of ranging over wide areas in search of food, they began to realize that in order to have food year-round, methods of storing food had to be developed. One of the first methods was the storage of fruit juice, such as grape juice. They noticed that as the juice began to spoil a change occurred in the juice. **This process later became known as fermentation.** They discovered that if the fermentation process could be halted at the correct time, the juice could be stored in a usable state. This was the beginning of the wine industry. As with the processing of cheese, new methods born from these discoveries led to newer and better products.

✔ Translation

사람들이 식량을 찾아 넓은 지역을 떠도는 대신에 한 곳에 정착하기 시작하면서, 그들은 일 년 내내 식량을 갖기 위해서는 식량을 저장하는 방법이 개발되어야 한다는 것을 깨닫기 시작했다. 최초의 방법들 중 하나는 포도즙과 같은 과즙의 저장이었다. 그들은 그 즙이 상하기 시작할 때 그 즙에 어떤 변화가 일어난다는 것을 알아챘다. 이 과정은 후에 발효로 알려지게 되었다. 그들은 발효 과정이 제 때에 멈춰질 수 있다면, 그 즙을 사용할 수 있는 상태로 저장할 수 있음을 발견했다. 이것이 포도주 산업의 시작이었다. 치즈 가공에서와 같이 이 발견으로부터 나온 새로운 방법들이 더 새롭고 더 좋은 제품들을 낳았다.

✔ Note

✓Voca

✓핵변

They noticed that as the juice began to spoil a change occurred in the juice.

As people began to settle in one place instead of ranging over wide areas in search of food, they began to realize that in order to have food year-round, methods of storing food had to be developed. (①) One of the first methods was the storage of fruit juice, such as grape juice. (②) This process later became known as fermentation. (③) They discovered that if the fermentation process could be halted at the correct time, the juice could be stored in a usable state. (④) This was the beginning of the wine industry. (⑤) As with the processing of cheese, new methods born from these discoveries led to newer and better products.

✓Reminding

As people began to settle in one place instead of ranging over wide areas in search of food, they began to realize that in order to have food _____, methods of storing food had to be developed. One of the first methods was the storage of fruit juice, such as grape juice. They noticed that as the juice began to spoil a change occurred in the juice. This process later became known as _____. They discovered that if the fermentation process could be halted at the correct time, the juice could be stored in a usable state. This was the beginning of the _____ industry. As with the processing of cheese, new methods born from these discoveries led to newer and better products.

14-2 first steps / just for fun

Psychologist Benjamin Bloom found that the first steps toward high achievement begin when parents expose their children to music, swimming, scientific ideas, and so forth, "just for fun." At first, many of the children had very ordinary skills. One Olympic swimmer, for instance, remembers repeatedly losing races as a 10-year-old. At some point, however, the children began to actively cultivate their abilities. Before long, parents noticed the child's rapid progress and found an expert instructor or coach. After more successes, the young people began "living" for their talent and practiced many hours daily. This continued for many years before they reached truly outstanding heights of achievement.

✔ Translation

심리학자 Benjamin Bloom은 높은 성취로 가는 첫 번째 단계는 부모가 자녀를 음악, 수영, 과학적 아이디어 등등에 '단지 재미 삼아' 접하게 할 때 시작된다는 것을 알아냈다. 처음에는 그 아이들의 상당수가 매우 평범한 기술을 가지고 있었다. 예를 들면, 한 올림픽 수영선수는 열 살 때 경기에서 여러 차례 진 것을 기억한다. 하지만 어느 시점에서 그 아이들은 자신의 능력을 적극적으로 기르기 시작했다. 머지않아, 부모는 아이의 급속한 발전을 알아채고 전문 강사나 코치를 찾았다. 더 많은 성공 후에, 그 아이들은 자신의 재능을 위해 '살기' 시작했고 매일 많은 시간을 연습했다. 이것은 그들이 정말로 뛰어난 성취의 단계에 도달하기 전까지 여러 해 동안 지속되었다.

✔ Note

✓Voca

- expose 접하게 하다
- and so forth … 등등
- outstanding 뛰어난
- height (더 큰 성취를 이루는) 단계
- repeatedly 여러 차례, 되풀이하여
- rapid 급속한
- instructor 강사, 지도자

✓햇변

At some point, however, the children began to actively cultivate their abilities.

Psychologist Benjamin Bloom found that the first steps toward high achievement begin when parents expose their children to music, swimming, scientific ideas, and so forth, "just for fun." (①) At first, many of the children had very ordinary skills. (②) One Olympic swimmer, for instance, remembers repeatedly losing races as a 10-year-old. (③) Before long, parents noticed the child's rapid progress and found an expert instructor or coach. (④) After more successes, the young people began "living" for their talent and practiced many hours daily. (⑤) This continued for many years before they reached truly outstanding heights of achievement.

✓Reminding

Psychologist Benjamin Bloom found that the first steps toward high achievement begin when parents expose their children to music, swimming, scientific ideas, and so forth, "just for _____." At first, many of the children had very ordinary skills. One Olympic swimmer, for instance, remembers repeatedly losing races as a 10-year-old. At some point, however, the children began to actively cultivate their abilities. Before long, parents noticed the child's rapid progress and found an expert instructor or coach. After more successes, the young people began "living" for their talent and practiced many hours daily. This continued for many years before they reached truly outstanding heights of achievement.

14-3 need to belong / evolutionary

Many things motivate human beings: the need for food, the need for shelter, the need to eat ice cream while watching late-night television (obviously some needs are more fundamental than others). **After primary needs such as food and shelter are satisfied, the need to belong is among the strongest of human motivations.** People go to extraordinary lengths to connect with others, be liked by others, and belong to groups. **These needs might have arisen from evolutionary pressures**; our ancestors who were excluded from social groups often died because they found it difficult to hunt, gather, and defend themselves against predators with only an army of one. In addition, people excluded from groups were, almost by definition, unlikely to reproduce themselves. Thus the solitary hunters were, most likely, no one's ancestors, even if they did manage to live out a normal lifespan.

✔ Translation

많은 것들이 인간에게 동기를 주는데, 음식에 대한 욕구, 거처에 대한 욕구, 심야 텔레비전을 보는 동안 아이스크림을 먹으려는 욕구 등이다(분명 어떤 욕구는 다른 것에 비해 더 근본적이다. 음식과 거처와 같은 제1차적인 욕구가 충족된 후에는 소속 욕구가 인간의 동기 중 가장 강력한 것에 속한다. 사람들은 다른 사람들과 관계를 맺고, 다른 이들에게 호감을 사며, 집단에 속하기 위해 엄청난 노력을 기울인다. 이러한 필요는 진화적 압박으로부터 생겼을지도 모르는데 사회 집단으로부터 추방된 우리의 조상들은 한 사람만으로는 사냥하고, 채집하고, 육식 동물로부터 스스로를 방어하는 것이 어려웠기 때문에 흔히 죽었다. 게다가, 집단으로부터 추방된 사람들은 거의 당연히 번식을 할 가능성이 없었다. 따라서 설령 외톨이 사냥꾼이 정말 용케도 정상적인 수명을 다했다 하더라도 필시 그 어느 누구의 조상도 되지 못했을 것이다.

✔ Note

✓Voca

- motivate ~에게 동기를 주다
- shelter 거처, 주거지
- fundamental 근본적인
- by definition 당연히
- reproduce oneself 번식[생식]하다
- solitary 외톨이의, 고독한
- lifespan 수명

- arise 생기다
- predator 육식 동물, 포식동물
- primary 제 1차적인
- go to extraordinary lengths 엄청난 노력을 기울이다

✓햇변

Many things motivate human beings: the need for food, the need for shelter, the need to eat ice cream while watching late-night television (obviously some needs are more fundamental than others). After primary needs such as food and shelter are satisfied, _____ is among the strongest of human motivations. People go to extraordinary lengths to connect with others, be liked by others, and belong to groups. These needs might have arisen from evolutionary pressures; our ancestors who were excluded from social groups often died because they found it difficult to hunt, gather, and defend themselves against predators with only an army of one. In addition, people excluded from groups were, almost by definition, unlikely to reproduce themselves. Thus the solitary hunters were, most likely, no one's ancestors, even if they did manage to live out a normal lifespan.

① the need to belong
② the pursuit of intelligence
③ winning in endless competitions
④ finding the true self
⑤ securing the stability of living

✓Reminding

Many things motivate human beings: the need for food, the need for shelter, the need to eat ice cream while watching late-night television (obviously some needs are more fundamental than others). After primary needs such as food and shelter are satisfied, the need to _____ is among the strongest of human motivations. People go to extraordinary lengths to connect with others, be liked by others, and belong to groups. These needs might have arisen from _____ pressures; our ancestors who were excluded from social groups often died because they found it difficult to hunt, gather, and defend themselves against predators with only an army of one. In addition, people excluded from groups were, almost by definition, unlikely to reproduce themselves. Thus the solitary hunters were, most likely, no one's ancestors, even if they did manage to live out a normal lifespan.

14-4 perceptually subjective view / connection

A perceptually subjective view gives the audience a closer awareness of what a character is experiencing. Filmmakers may use this technique if they want the audience to feel a stronger sense of connection with a character. For example, in Joel and Ethan Coen's gangster drama Miller's Crossing, creative editing makes the audience experience the sudden disorientation of being knocked out and then waking up in a confused state. The entire screen goes black as the lead character, Tom Reagan, is knocked unconscious, so that the audience is effectively 'blacked out' as well. The rest of the scene is not shown until Tom comes around. The audience therefore has a degree of perceptual subjectivity in this scene because it sees only what Tom sees and not the events that occur while he is unconscious.

✔ Translation

지각적 주관은 관객으로 하여금 등장인물이 경험하고 있는 것을 더 면밀히 인식하게 해준다. 관객이 등장인물과 더 강한 유대감을 느끼기를 영화 제작자들이 원할 경우 이 기법을 사용할 수도 있다. 예를 들면, Joel과 Ethan Coen의 갱스터 극인 'Miller's Crossing'에서, 창의적 편집을 통해 관객은 정신을 잃었다가 혼란스러운 상태로 깨어나는 돌연한 정신적 혼미 상태를 경험하게 된다. 주인공인 Tom Reagan이 의식을 잃은 상태가 되었을 때, 전체 스크린은 암흑상태가 되고, 따라서 관객 또한 사실상 '암흑 상태'가 된다. Tom이 의식을 차리고 나서야 그 나머지 장면이 보인다. 그러므로 관객은 이 장면에서 어느 정도의 지각적 주관성을 가지게 되는데 (그것은) 관객이 Tom이 보는 것만 보고 Tom이 의식을 잃은 동안 일어나는 사건은 못 보기 때문이다.

✔ Note

✓Voca

- subjective view 주관
- state 상태
- knock ~한 상태가 되게 만들다
- unconscious 의식을 잃은
- black out ~을 깜깜하게 만들다
- come around 의식을 회복하다
- knock out ~의 의식을 잃게 하다
- confused 혼란스러운

✓Reminding

A perceptually subjective view gives the audience a _____ awareness of what a character is experiencing. Filmmakers may use this technique if they want the audience to feel a stronger sense of _____ with a character. For example, in Joel and Ethan Coen's gangster drama Miller's Crossing, creative editing makes the audience experience the sudden disorientation of being knocked out and then waking up in a confused state. The entire screen goes black as the lead character, Tom Reagan, is knocked unconscious, so that the audience is effectively '_____ out' as well. The rest of the scene is not shown until Tom comes around. The audience therefore has a degree of perceptual subjectivity in this scene because it sees only what Tom sees and not the events that occur while he is unconscious.
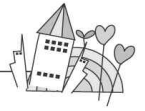
14-5 exam tension / impact on performance

Let's move on to the concept of how we create our own reality. A good example is exam tension. This is a very common stress that has a clear cause: mild tension or anxiety is normal during an exam. It helps students improve their focus and pace. But when this stress is severe, students may experience negative thoughts or beliefs such as 'I will fail' or 'I can't remember anything.' These thoughts can often create physical symptoms such as fear, sleep loss, lack of appetite, nausea, restlessness, frequent urination, headaches, aggression, irritability and dizziness. This can in turn have a severe impact on performance. For some, the fear will become real and they will indeed fail the exam and thus confirm their negative beliefs. In other words, fear can create precisely what we don't want.

✔ Translation

어떻게 우리가 자신의 현실을 만드는가에 대한 개념으로 옮겨가보자. 좋은 예는 시험과 관련된 긴장감이다. 이것은 명확한 원인을 가진 매우 흔한 스트레스인데, 약간의 긴장감이나 불안감은 시험 중에 나타나는 정상적인 반응이다. 그것은 학생들이 자신들의 집중력과 속도를 향상하는 데 도움을 준다. 하지만 이 스트레스가 심해지면, 학생들은 '나는 실패할 거야. 또는 '나는 어떤 것도 기억할 수가 없어.'와 같은 부정적인 사고나 믿음을 겪게 될 수도 있다. 이러한 사고는 흔히 두려움, 수면 손실, 식욕 부진, 메스꺼움, 안절부절못함, 빈뇨, 두통, 공격성, 신경과민, 어지러움과 같은 신체적 증상을 유발할 수 있다. 이것은 결과적으로 수행에 심각한 영향을 끼칠 수 있다. 어떤 사람들에게, 그 두려움은 현실적인 것이 될 것이고 그들은 실제로 시험에 실패하여 자신의 부정적인 믿음을 확인하게 될 것이다. 다시 말하면, 두려움이 바로 우리가 원하지 않는 것을 만들어 낼 수 있는 것이다.

✔ Note

✓Voca

- tension 긴장(감)
- in turn 결국
- confirm 확인하다
- precisely 바로, 꼭
- symptom 증상
- restlessness 안절부절못함
- aggression 공격성

- irritability 신경과민, 화를 잘 냄
- dizziness 어지러움, 현기증

✓해변

But when this stress is severe, students may experience negative thoughts or beliefs such as 'I will fail' or 'I can't remember anything.'

Let's move on to the concept of how we create our own reality. A good example is exam tension. This is a very common stress that has a clear cause: mild tension or anxiety is normal during an exam. (①) It helps students improve their focus and pace. (②) These thoughts can often create physical symptoms such as fear, sleep loss, lack of appetite, nausea, restlessness, frequent urination, headaches, aggression, irritability and dizziness. (③) This can in turn have a severe impact on performance. (④) For some, the fear will become real and they will indeed fail the exam and thus confirm their negative beliefs. (⑤) In other words, fear can create precisely what we don't want.

14-7 science / evidence-based explanation

We often think of science as exploration and experiment. **Classrooms that represent only this view of science, however, fail to catch an essential feature of science: evidence-based explanation.** When scientists encounter patterns in the world, they construct theories to explain them. What does it mean to explain something in science? Explanation is more than summarizing the data that have been collected. Explanations tell why phenomena occur. They involve a leap of imagination. Scientists explain by building and testing models of how the world works. Scientific explanations emphasize evidence and employ accepted principles. For example, different states of matter are explained by the arrangement and movement of molecules. The best explanations are the simplest and take into account the most evidence. **The central role of explanation in science should be part of the classroom activities.**

✓ Translation

우리는 흔히 과학을 탐구와 실험이라고 생각한다. 하지만 과학에 대한 이러한 관점만을 반영하는 교실은 증거에 바탕을 둔 설명이라는 과학의 본질적인 특성을 포착하지 못한다. 과학자는 세상에 존재하는 패턴과 마주치면 그것을 설명하기 위해 이론을 구성한다. 과학에서 무언가를 설명한다는 것이 무슨 뜻인가? 설명이란 수집된 자료의 요약을 넘어서는 것이다. 설명은 현상이 왜 일어나는지를 알려준다. 그것(설명)은 상상의 비약을 수반한다. 과학자는 세상이 어떻게 작동하는지에 대한 모형을 만들고 실험을 해서 설명한다. 과학적 설명은 증거를 강조하고 일반적으로 인정된 원리를 이용한다. 예를 들어, 물질의 여러 다른 상태는 분자의 배열과 운동으로 설명된다. 최고의 설명은 가장 단순한 것이고 가장 많은 증거를 고려한다. 과학에서 설명이 차지하는 중심적인 역할이 교실활동의 일부가 되어야 한다.

✓ Note

✓Voca

- exploration 탐구
- experiment 실험
- represent 반영하다
- feature 특성
- involve 수반하다
- leap 비약, 도약
- employ 이용하다, 고용하다

- encounter 마주치다
- phenomenon 현상 (pl.phenomena)
- occur 일어나다, 발생하다
- arrangement 배열

✓핵변

We often think of science as exploration and experiment. Classrooms that represent only this view of science, _____(A)_____, fail to catch an essential feature of science: evidence-based explanation. When scientists encounter patterns in the world, they construct theories to explain them. What does it mean to explain something in science? Explanation is more than summarizing the data that have been collected. Explanations tell why phenomena occur. They involve a leap of imagination. Scientists explain by building and testing models of how the world works. Scientific explanations emphasize evidence and employ accepted principles. _____(B)_____, different states of matter are explained by the arrangement and movement of molecules. The best explanations are the simplest and take into account the most evidence. The central role of explanation in science should be part of the classroom activities.

✓Reminding

We often think of science as exploration and experiment. Classrooms that represent only this view of science, however, _____ to catch an essential feature of science: evidence-based explanation. When scientists encounter patterns in the world, they construct theories to explain them. What does it mean to explain something in science? Explanation is _____ than summarizing the data that have been collected. Explanations tell why phenomena occur. They involve a leap of imagination. Scientists explain by building and testing models of how the world works. Scientific explanations emphasize evidence and employ accepted principles. For example, different states of matter are explained by the arrangement and movement of molecules. The best explanations are the simplest and take into account the most evidence. The central role of explanation in science should be part of the classroom activities.

14-8 Descartes' mind-body dualism

Rene Descartes is the French philosopher who wrote the famous line "I think, therefore I am." Fortunately for psychology, this was not his only contribution. In Descartes' time, many people assumed that human behavior was governed entirely by free will or "reason." **Descartes disputed this notion and proposed a dualistic model of human nature**. On the one hand, he claimed, we have a body that functions like a machine and produces automatic, involuntary behaviors in response to external stimulation (such as coughing in response to dust). **On the other hand, we have a mind that has free will and produces behaviors that we regard as voluntary** (such as choosing what to eat for dinner). Thus, Descartes' notion of mind-body dualism proposes that some human behaviors are automatic reactions that are driven by external stimulation, while other behaviors are freely chosen and controlled by the mind.

✓ Translation

르네 데카르트(René Descartes)는 "나는 생각한다, 고로 나는 존재한다."라는 유명한 말을 쓴 프랑스 철학자이다. 다행히도 심리학에는 이것이 그의 유일한 기여는 아니었다. 데카르트 시대의 많은 사람들은 인간의 행동은 전적으로 자유 의지, 즉 '이성'에 의해 지배된다고 생각했다. 데카르트는 이 개념을 반박하고 인간 본성의 이원론적인 표본을 제안했다. 한편으로 우리에게는 기계처럼 작동하고 외부의 자극에 대한 반응으로 자동적이고, 비자발적인 행동(먼지에 대한 반응으로 기침하는 것과 같은)을 하는 신체가 있다고 그는 주장했다. 다른 한편으로, 우리에게는 자유 의지를 가지고 자발적이라고 여겨지는 행동(저녁으로 무엇을 먹어야 하는지를 선택하는 것과 같은)을 하는 마음이 있다. 그러므로 심신(心身) 이원론이라는 데카르트의 개념은 인간의 어떤 행동은 외부의 자극에 의해 만들어지는 자동적인 반응인 반면에, 또 어떤 행동은 마음에 의해서 자유롭게 선택되고 조절되는 것이라고 제안한다.

✓ Note

✓Voca

✓햇변

On the other hand, we have a mind that has free will and produces behaviors that we regard as voluntary (such as choosing what to eat for dinner).

Rene Descartes is the French philosopher who wrote the famous line "I think, therefore I am." (①) Fortunately for psychology, this was not his only contribution. (②) In Descartes' time, many people assumed that human behavior was governed entirely by free will or "reason." (③) Descartes disputed this notion and proposed a dualistic model of human nature. (④) On the one hand, he claimed, we have a body that functions like a machine and produces automatic, involuntary behaviors in response to external stimulation (such as coughing in response to dust). (⑤) Thus, Descartes' notion of mind-body dualism proposes that some human behaviors are automatic reactions that are driven by external stimulation, while other behaviors are freely chosen and controlled by the mind.

✓Reminding

Rene Descartes is the French philosopher who wrote the famous line "I think, therefore I am." Fortunately for psychology, this was not his only contribution. In Descartes' time, many people assumed that human behavior was governed entirely by free will or "reason." Descartes disputed this notion and proposed a _____ model of human nature. _____, he claimed, we have a body that functions like a machine and produces automatic, involuntary behaviors in response to external stimulation (such as coughing in response to dust). _____, we have a mind that has free will and produces behaviors that we regard as _____ (such as choosing what to eat for dinner). Thus, Descartes' notion of mind-body dualism proposes that some human behaviors are automatic reactions that are driven by _____ stimulation, while other behaviors are freely chosen and controlled by the mind.