

응시번호 :

성명 :

제 1 문. 다음 글을 영어로 옮기시오. (30점)

생물학자들은 먹이사슬이라는 용어를 그다지 좋아하지 않는다. 사슬은 선형(線形)적이지만 자연은 다차원적이다. 대신 생물학자들은 먹이그물이라는 용어를 사용하며 먹이그물은 한 뉴욕 고층 아파트에 사는 이웃들처럼 다른 유기체들과 공유하는 수많은 영양단계(trophic levels)를 가지고 있다. 먹이사슬의 제일 밑바닥을 차지하는 생명체는 조류(藻類)와 다세포 식물로 제1 영양단계에 속한다. 이들은 광합성을 통해 스스로 먹이를 생산하는 독립영양생물(autotrophs)이다. 제2 영양단계는 토끼를 비롯한 초식동물로 이루어지며 이들은 식물을 섭취해서 영양을 얻는다.

그러나 여기서부터 영양단계 숫자가 복잡해진다. 많은 종이 동물성과 식물성 단백질을 섞어서 섭취한다. 여우를 예로 들어보자. 만일 여우가 토끼만 잡아 먹는다면 3단계에 속한다고 할 수 있지만 과일도 먹는다. 따라서 그들의 영양 단계는 온전히 3단계에 속한다고 보기 힘들다. 동시에 어떤 동물들은 다른 육식 동물을 잡아먹기도 한다. 아마도 이런 것들은 4단계라고 말하고 싶을 수도 있다. 그러나 여우의 예를 들어보면 이들은 과일과 초식동물을 먹을 뿐만 아니라 3단계의 두더지와 식충동물(insectivores)도 잡아먹는다.

지금까지 과학은 인간의 영양단계를 완전히 확정하지 않았다. 모든 종 가운데 가장 다채롭고 광범위하며 잡식성인 인간의 영양단계를 정하는 것은 쉽지 않다.

제 2 문. 다음 글을 우리말로 옮기시오.

(30점)

Policy decisions should be based on rigorous and accurate uses of scientific evidence. However, even when evidence is abundant and clear, it is often ignored as we enter a 'post-truth' era where the opinions of experts are viewed with scepticism and populist solutions predominate. For example, a 140 character tweet can brand a piece of sound scientific evidence as 'fake news.' The ready availability and sharing of information through the internet and social media, which in some sense democratise evidence by increasing the diversity of inputs, should be a positive and welcome development. Some suggest that 'larger groups make better decisions' and that more, and diverse, input leads to better 'collective intelligence.' Thus, the increase in diverse information should foster 'the wisdom of crowds' towards 'the better argument.' However, online content is personalized through the use of algorithms aimed to harvest and respond to existing preferences. Thus, the internet often fosters an 'echo chamber' effect that limits cognitive diversity and increases 'group think' by providing and linking information based solely on the entrenched preferences of the internet user and like-minded individuals. In addition, there is a view that scientific investigation is not clear, takes place outside the public sphere and is often perceived as purposefully elitist. This gives rise to conspiracies about who produced the evidence and for what purpose, eroding epistemic authority. As a result, highly personalized preferences are reinforced by selective information, despite the fact that this information might amount to misinformation, exaggeration, falsehood and degraded or 'cherry-picked' evidence.

제 3 문. 다음 글을 읽고 물음에 답하시오. (총 40점)

In 2015 doctors announced the discovery of a completely new type of antibiotic—teixobactin—to which bacteria have no resistance as yet. Some scholars believe teixobactin may prove to be a game-changer in the fight against highly resistant germs. Scientists are also developing revolutionary new treatments that work in radically different ways to any previous medicine. For example, some research labs are already home to nano-robots, which may one day navigate through our bloodstream, identify illnesses and kill pathogens and cancerous cells. Microorganisms may have 4 billion years of cumulative experience fighting organic enemies, but they have exactly zero experience fighting bionic predators, and would therefore find it doubly difficult to evolve effective defenses.

So while we cannot be certain that some new Ebola outbreak or an unknown flu strain won't sweep across the globe and kill millions, we will not regard it as an inevitable natural calamity. Rather, we will see it as an inexcusable human failure and demand the heads of those responsible. When in late summer of 2014 it seemed for a few terrifying weeks that Ebola was gaining the upper hand over the global health authorities, investigative committees were hastily set up. An initial report published on 18 October 2014 criticised the World Health Organization for its unsatisfactory reaction to the outbreak, blaming the epidemic on corruption and inefficiency in the WHO's African branch. Further criticism was levelled at the international community as a whole for not responding quickly and forcefully enough. Such criticism assumes that humankind has the knowledge and tools to prevent plagues, and if an epidemic nevertheless gets out of control, it is due to human incompetence rather than divine anger. Similarly, the fact that AIDS continued to infect and kill millions in sub-Saharan Africa years after doctors had understood its mechanisms is rightly seen as the result of human failings rather than of cruel fortune.

- 1) 윗글을 100단어 내외의 영문으로 요약하시오. (20점)
- 2) 윗글을 바탕으로 전염병의 확산으로부터 사회를 보호하기 위한 정부의 역할에 대하여 본인의 견해를 200단어 내외의 영문으로 제시하시오. (20점)

인사혁신처 시험출제과장