I. 次の文章に関して、空欄補充問題と読解問題の二つがあります。まず、[1]から[20]の空所を埋めるのに、文脈的に最も適切な語を1から3の中から選び、その番号を解答欄（1）から（20）にマークしなさい。次に、内容に関する[21]から[30]の設問には、1から4の選択肢が付されています。そのうち、文章の内容からみて最も適切なものを選び、その番号を解答欄（21）から（30）にマークしなさい。

1 There are two big power shifts going on in the 21st century. One is among countries, from West to East, and the other is from governments to nongovernmental actors, regardless of whether it is East or West.

2 I call the first of these shifts "power transition" and the second, "power diffusion." The issue of power transition is sometimes called the rise of Asia, but it should more properly be called the *recovery* of Asia. If one looked at the world in 1750, one would see that Asia had more than half of the world's population, and represented more than half of the world's products. By 1900, Asia still had more than half of the world's population, [1](1. but 2. so 3. for) it had declined to only 20 percent of the world's products. What we have been seeing, and what we will see in the 21st century, is the recovery of Asia to its normal proportions, with more than half of the world's population and more than half of the world's products. This started, of course, with Japan after the Meiji Restoration in 1868, and it [2](1. coincided 2. worked 3. continued) with smaller countries like Korea, Singapore, Malaysia, and so forth. Now the trend has spread to China, but it is also going to include India. India now has growth rates of 8 to 9 percent a year. During the course of the century, we should [3](1. see 2. understand 3. recognize) Asia as a whole recovering to about what one would think would be normal proportions. And that is power transition.

3 Let me say a word about what I mean by power diffusion. That is best understood in terms of the way technologies, and particularly information technologies, are [4](1. increasing 2. sustaining 3. affecting) the costs of participating in international affairs. The price of computing power declined a thousand-fold from

1970 to 2000. That is an extraordinary number, so big that it is hard to know what it means. The best way to think of this would be that if the price of an automobile had declined as rapidly as the price of computing power, you should be able to buy an automobile today, for, let's say, 10,000 yen. It is [5](1. just 2. hardly 3. nonetheless) an extraordinary change. When the price of something declines that much, it removes the barriers to entry. Now others can do what previously was [6](1. prepared 2. reserved 3. preserved) for governments or big corporations. If you wanted to communicate instantaneously from Tokyo to New York to London to Johannesburg in 1970, you could do that. Technologically you could do it, but it was very, very expensive. [7](1. Still 2. Now 3. However), anybody can do it and it is virtually free. If you have Skype, it is free.

4 So that means that things that were previously restricted to very large organizations like governments or corporations are now [8](1. meaningful 2. useless 3. available) to anyone. And this has a significant impact on world politics. It does not mean that governments are being replaced or that the nation-state is obsolete. What it [9](1. does 2. does not 3. could not) mean is that the stage on which governments act is now crowded with many more, smaller actors. Some of those smaller actors are good—let's take Oxfam International, an NPO which serves to relieve poverty—and some of them are bad—let's take Al Qaeda, which is obviously trying to kill people. But the main point is that it is a new type of international politics and we have [10](1. already 2. often 3. not yet) come to terms with how to think about this. So, for example, we need to realize that in an age in which information technology is so powerful and important, it may often be the case that it is not only whose army wins, but whose *story* wins. The ability to tell an effective story is [11](1. persuasive 2. crucial 3. risky).

5 If you think of the problem of terrorism, terrorists have very little military power, but they have a lot of "soft power"—the ability to attract and persuade people.

[12](1. So 2. Nonetheless 3. However), Bin Laden did not point a gun at the head of the people who flew into the World Trade Center. He did not pay them. He attracted them by his narrative of "Islam under threat" and the need to purify Islam. That is interesting because it means that as we then try to [13](1. come up 2. get away 3. cope) with this, we may make the mistake of thinking that we can solve this by military or economic power alone. If power means the ability to get the outcomes you want, you could do this through coercion, threats, so-called "sticks." You could do it with payments you might call [14](1. "lemons." 2. "whips." 3. "carrots.") Or you could do it with attraction and persuasion. And in an information age, the role of soft power is increasing in its importance. Now that means that what we need is a new way of thinking about power. The famous British historian A.J.P. Taylor, who wrote a book about the struggle for mastery of Europe in the 19th century, defined a great power as a country that was able to prevail in war. But we have to [15](1. put up with 2. go beyond 3. cling to) that limited way of thinking about what power means in the 21st century, and see it as much more three-dimensional, as including not only military power but also economic power and also soft power.

6 It is very important to have accurate perceptions about the transition of power. And the reason is that when people are too worried about power, they may overreact or follow strategies that are [16](1. relevant 2. meaningful 3. dangerous). When you look back in history, there is the famous case of the Peloponnesian War, in which the Greek city-state system tore itself apart. Thucydides, the ancient Greek historian, said the reason for this war was the rise in the power of Athens and the fear it created in Sparta. [17](1. Contrarily 2. Similarly 3. Paradoxically), if you look at World War I, which destroyed the centrality of the European state system in the world, it is often said it was caused by the rise in power of Germany and the fear that it created in Britain.

7 It is equally important not to be too fearful of the diffusion of power. What we are seeing is that both China and the United States, and of course Japan and Europe and others, will be facing a new set of transnational challenges, including climate change, transnational terrorism, cyber insecurity, and pandemics. All these issues, which are going to be increasing in the future, are going to require cooperation. They cannot be solved by any one country alone. Many of these new transnational issues that we face are areas where we have to get away from just thinking about power over others and think about power [18](1. with 2. without 3. under) others.

8 The American president Franklin Roosevelt at the time of the Great Depression said, "We have nothing to fear but fear itself." Perhaps as we turn to the 21st century, we should say one of the most worrisome things is fear itself. If we can keep a balanced [19](1. assembly 2. assortment 3. assessment) of the overall distribution of power, and figure out ways to deal with these common challenges that we face—we, meaning the United States, Japan, China, Europe and others—we can indeed have a [20](1. win-win 2. win-lose 3. lose-lose) situation.

—Based on Joseph Nye (2011). *The IHJ Bulletin, 31*(1). 1-7.

[21] The author of the article assumes that

1. power transition has never happened in international politics.
2. power diffusion has never happened in international politics.
3. power transition is now centered in Asia.
4. power diffusion is now centered in Asia.

[22] The phrase "normal proportions" in the 2nd paragraph means more or less the same share of power

1. as that of other countries.
2. as that of the United States and Europe.
3. as was held in the 18th century.
4. as was held in the past century.

[23] The author of the article refers to information technologies in the 3rd paragraph in order to

1. demonstrate how their development has been influenced by power diffusion.
2. illustrate how their development has facilitated power diffusion.
3. criticize the close ties with governments or big corporations.
4. celebrate the changes of everyday life brought by their development.

[24] In the 4th paragraph, the phrase "a new type of international politics" is used in the sense that

1. governments or big corporations play a bigger role in world politics.
2. smaller actors play a bigger role in world politics.
3. information technology has become more important than governments.
4. information technology has become more accessible to everyone.

[25] The author of the article defines "soft power" as the ability to

1. win others' hearts and minds.
2. threaten others to make them act in a certain way.
3. provide funds to change others' minds.
4. effectively combine military and economic power.

[26] According to the 6th paragraph, the author seems to believe that

1. Thucydides wrongly predicted the transition of power in ancient Greece.
2. Thucydides correctly predicted the transition of power in ancient Greece.
3. people in Athens reacted too strongly.
4. people in Sparta reacted too strongly.

[27] According to the article, the author suspects that

1. climate change might be worsened by power diffusion.
2. transnational terrorism will not be feared in the future.
3. cyber insecurity might get worse in the future.
4. pandemics will be worsened by power transition.

[28] It can be inferred from the article that the author is

1. equally concerned with power transition and power diffusion.
2. more concerned with power transition than power diffusion.
3. more concerned with power diffusion than power transition.
4. fearful of both power transition and power diffusion.

[29] Which of the following best reflects the argument of the article?

1. More military power is needed in order to speed up power transition.
2. More soft power is needed in order to slow down power diffusion.
3. Politicians are well-aware of the possible dangers that fear creates in world politics.
4. Fear will make both power transition and power diffusion more difficult.

[30] Which of the following would make the best title of this article?

1. The Failings of Power
2. The Future of Power
3. The Fixation of Power
4. The Function of Power

II.　次の文章に関して、空欄補充問題と読解問題の二つがあります。まず、[31]から[50]の空所を埋めるのに、文脈的に最も適切な語を1から3の中から選び、その番号を解答欄（31）から（50）にマークしなさい。次に、内容に関する[51]から[60]の設問には、1から4の選択肢が付されています。そのうち、文章の内容からみて最も適切なものを選び、その番号を解答欄（51）から（60）にマークしなさい。

1　If a campaign volunteer shows up at your door, urging you to vote in an upcoming election, you are 10 percent more likely to go to the polls—and others in your household are 6 percent more likely to vote. When you try to recall an unfamiliar word, the [31](1. fact 2. assumption 3. likelihood) you'll remember it depends partly on its position in a network of words that sound similar. And when a cell in your body develops a cancerous mutation*, its daughter cells** will carry that mutation; whether you get cancer depends largely on that cell's position in the network of cellular reproduction.

2　[32](1. However 2. Despite 3. Whatever) unrelated these phenomena may seem, a single scholarly field has helped illuminate all of them. The study of networks can illustrate how viruses, opinions, and news spread from person to person—and can make it possible to track the spread of obesity, suicide, and back pain. Network science points toward tools for predicting stock-price trends, designing transportation systems, and detecting cancer.

3　It [33](1. often is 2. used to be 3. never could be) that sociologists studied networks of people, while physicists and computer scientists studied different kinds of networks in their own fields. But [34](1. as 2. though 3. unless) social scientists sought to understand larger, more sophisticated networks, they looked to physics for methods suited to this [35](1. flexibility 2. complexity 3. equality). And it is a two-way street: network science "is one of the rare areas where you see physicists and molecular biologists respectfully citing the work of social scientists and borrowing their ideas," says Nicholas Christakis, a physician and medical sociologist at Harvard and

coauthor of *Connected: The Surprising Power of Our Social Networks and How They Shape Our Lives.*

4 The basic elements of a network are simple: it consists of nodes*** connected by links (also called "ties"). But as the numbers of nodes and links increase, the number of possible forms of the network grows dramatically. [36](1. Conversely 2. Otherwise 3. Likewise), there are innumerable possibilities for what a node and a link can represent. Structurally simple, yet analytically incredibly complex, networks hold the answers to so many questions that at Harvard alone, the number of researchers studying them may reach three digits. Here is a sampling of the newest work in this [37](1. unchanging 2. unfashionable 3. dynamic) field.

5 Christakis and University of California's James H. Fowler wrote *Connected* after discovering that each was working on a special case of network effects (the effect of a spouse's death on one's own health, for Christakis; the spread of voting behavior, for Fowler) and [38](1. realizing 2. to realize 3. realized) they shared an interest in what else could be spreading through networks.

6 The book guides readers through the field, [39](1. presenting 2. presents 3. presented) findings from medicine, biology, sociology, anthropology, political science, economics, mathematics, and beyond. The authors discuss the spread of laughter, tastes in music, sexual behavior, and anxiety over nut allergies. The authors note one study that carefully compared the structure of networks of many phenomena and found a strong similarity between the voting patterns of U.S. senators and social bonding among cows. They also report on Japanese biologist Toshiyuki Nakagaki's findings that a kind of mold**** can "collaborate" by spreading out in the form of a network to explore all possible paths to a goal, and that it is more efficient than his graduate students in finding the shortest route [40](1. on 2. beyond 3. through) a maze. The book also presents his follow-up studies, in which the mold was as good as or better than humans at creating maps for railway systems in Great Britain and Japan. These

studies, they say, demonstrate the problem-solving power [41](1. capable of 2. possessed by 3. used for) networks.

7 These wide-ranging, sometimes surprising, findings reflect the field today. The boundaries between disciplines [42](1. will have become 2. would become 3. are becoming) all but meaningless in network analysis; Christakis's lab group includes scholars of physics, economics, anthropology, computational biology, sociology, and healthcare policy. "Often new knowledge is produced at the intersection of disciplines," he says, "and in network science this is happening everywhere we look."

8 But the core of the Christakis-Fowler collaboration is original research on what spreads through human social networks. [43](1. By 2. Of 3. With) data from the Framingham Heart Study, which has been going on since 1948, they mapped more than 50,000 social ties among 5,124 people (who were connected to an external network of more than 12,000 people). Because the study tracked all manner of health markers and asked subjects about an exhaustive list of behaviors—diet and exercise, medications, smoking, emotions—it was [44](1. a rich 2. a prosperous 3. an affluent) source of data.

9 The two men started publishing their findings with a splash: a 2007 article in the *New England Journal of Medicine* reporting that obesity spreads through social networks, as people are apparently influenced by friends' weight gain to become fat themselves. More [45](1. irrelevant 2. perplexing 3. obvious) is their finding that obesity spreads through up to three degrees of separation. If a subject named a friend who was also in the study, and that friend's friend became obese, the first subject's chances of becoming obese were roughly 20 percent greater. Across one more degree of influence (for instance, husband's friend's friend—i.e., three degrees away), the risk was 10 percent greater. Weight gain appears to move through friend groups [46](1. versus 2. via 3. without) some unseen mechanism such as changed eating or exercise behavior, or adjustment of social norms regarding weight.

10 The authors found similar patterns for happiness, loneliness, depression, alcohol consumption, the decision to stop smoking, and even divorce. "Our health depends on more than our own biology or even our own choices and actions," they write in *Connected.* "Our health also depends quite literally on the biology, choices, and actions of those around us."

11 [47](1. By 2. For 3. Against) each trait that spreads through networks, Christakis and Fowler (and others working in the field today) carefully chart how, and between whom transmission occurs. Does geographic proximity matter? Are family relationships more influential than social relationships? What about people who work together? The answers vary depending on what is being transmitted.

12 Precise knowledge is needed for the type of network-based public-health interventions they envision. In addition to knowing what works—in the case of obesity, perhaps distributing healthy recipes, or posting on Facebook or Twitter that you "feel so great after going for a run" to encourage friends to exercise—such interventions require knowing who is most influential, and this may vary from purpose to purpose. Christakis and Fowler write that a network-based vaccination campaign, [48] (1. consulting 2. excluding 3. targeting) people with the most social contacts, could be three times more cost-effective than a campaign that aims for universal vaccination. Campaigns of the latter type over-vaccinate; immunizing only people who are hubs in social networks would enable administering a minimum of doses for maximum effect. For instance, recommendations that healthcare workers receive more vaccinations than average citizens follow a similar model, assuming that such workers will have more [49](1. sympathy for 2. contact with 3. knowledge about) sick people and thus are more likely to spread infections. A network-based disease prevention campaign, prioritizing well-connected people when monitoring infection's spread, could be 700 times more efficient than random monitoring.

13 But when it comes to diet and exercise, is it better to have people with more connections recommend the healthy recipes and post exercise messages, or to have the positive signals come from close friends of the target? That puzzle has not been solved, [50](1. even though 2. unless 3. except) efficient public-health spending depends on the answers to such questions. However, these network models should provide the insight necessary to come up with these answers one day, as well as answers to a host of political, social, economic, and other problems.

Notes:

*mutation: 突然変異

**daughter cell: 娘細胞（一つの細胞が細胞分裂により二つになったとき、新たにできたそれぞれの細胞をいう。）

***node: 結節点

****mold: カビ

—Based on E. Gudrais (2010). "Networked," *Harvard Magazine, 112*(5). 44-50.

[51] Why does the author introduce three different examples (voting, word recall, and cancerous mutation) in the 1st paragraph?

1. To show that the problem explored in this article is complicated.
2. To suggest that seemingly different phenomena can be guided by a similar principle.
3. To propose that different academic fields should collaborate to solve human problems.
4. To demonstrate that human behaviors are beyond explanation.

[52] The phrase "two-way street" as used in the 3rd paragraph is closest in meaning to

1. divergence.
2. reciprocity.
3. monoculture.
4. rapidity.

[53] Network science is described as "one of the rare areas" in the 3rd paragraph because

1. social scientists, physicists, and molecular biologists compete against each other to develop a strong theory.
2. social scientists find it difficult to use ideas borrowed from the field of molecular biology to account for the complexity of human behavior.
3. researchers in social science and molecular biology look to each other crossing disciplinary boundaries to approach network issues.
4. molecular biologists think that ideas in social science are more powerful and persuasive than those in their own field.

[54] What is meant by "structurally simple, yet analytically incredibly complex" in the 4th paragraph?

1. Nodes and links in a network are simple in structure, but one cannot make a scientific analysis of the structure.
2. The basic structure of a network is simple, but what nodes and links can represent is virtually unlimited.
3. The theory of social networks has simple parts and components, but one cannot analyze their functions because of the great number of nodes and links.
4. The phenomenon under consideration is simple, but the number of researchers makes it complicated with their own interpretations of nodes and links.

[55] Toshiyuki Nakagaki's study as mentioned in the 6th paragraph

1. clarified the effect of mold on human behavior.
2. demonstrated how humans are superior to mold in their problem-solving power.
3. solved the problems of railway systems in Great Britain and Japan.
4. demonstrated the problem-solving power of networks.

[56] Which of the following is *not* true of the Framingham Heart Study as mentioned in the 8th paragraph?

1. Over 12,000 people took part.
2. It began over 60 years ago.
3. Christakis and Fowler did not lead the study.
4. It included data on the kind of food one eats.

[57] According to Christakis & Fowler's study on obesity, which of the following is true?

1. If your cousin's mother is fat, you have a 30% greater risk of becoming fat.
2. If your friend's brother is fat, you have a 10% greater risk of becoming fat.
3. If your friend's father's coworker is fat, you have a 10% greater risk of becoming fat.
4. If your mother's friend has a fat daughter, you have a 20% greater risk of becoming fat.

[58] According to the article, which of the following is the weakness of vaccination campaigns that aim to vaccinate everybody?

1. They waste time and money by giving too many vaccinations.
2. They are ineffective at stopping the spread of disease.
3. Some people refuse vaccinations because of Internet rumors.
4. They neglect to adequately protect healthcare workers.

[59] According to the article, which of the following is *not* true of the nature of network science?

1. Network science is a new and emerging scientific discipline involving biological, social, physical, and other networks.
2. Network science seeks to discover common principles that govern network behavior.
3. Network science has emerged in diverse disciplines as a means of analyzing complex relational data.
4. Network science has successfully replaced the traditional theories of sociology, biology, and economics.

[60] The original title for this article is “Networked.” Which of the following would make the best subtitle?

1. The collapse of the interdisciplinary approach
2. Is computer science taking over the social sciences?
3. Exploring the weblike structures that underlie everything
4. The dangers of modern social networking