

平成23年度入学試験問題（前期日程）

**英 語**  
**（医学部医学科）**

注 意 事 項

1. 受験番号を解答用紙の所定の欄（2か所）に記入すること。
2. 解答はすべて解答用紙の所定の欄に記入すること。
3. 解答時間は、75分である。

1 次の英文を読んで以下の各問に答えなさい。(40点)

In 1967, the social psychologist Stanley Milgram performed a remarkable experiment. Milgram was interested in an unanswered question circulating in the sociological community\* of the day. The idea was that the world, viewed as an enormous network of social acquaintances, was in a certain sense “small”; that is, any one person in the world could be reached through a network of friends in only a few steps. It was called the small-world problem, after a conversation at a party in which two strangers discover that they have a mutual acquaintance and remind each other what a “small world” it is.

Actually, the observation of a conversation at a party is not really the same as the small-world problem that Milgram was studying. Only a small number of people in the world can possibly have mutual acquaintances, and the fact that we seem to run into them with surprising regularity has more to do with our tendency to pay attention to the things that surprise us than it does with social networks. What Milgram wanted to show was that even when I don't know someone who knows you, I still know someone, who knows someone, who knows someone who does know you. Milgram's question was: How many someones are in the chain?

To answer that question, Milgram devised a unique message-passing technique that is still known as the small-world method. He gave letters to a few hundred, randomly selected people from Boston and Omaha, Nebraska. The letters were to be sent to a single target person, a businessperson from Sharon, Massachusetts, who worked in Boston. But the letters came with an unusual rule. People receiving the letters could only send their letter on to somebody whom they knew on a first-name basis. Of course, if they knew the target person, then they could send it to him directly. If they didn't, and it was extremely unlikely that they would, they were to send it to someone they knew personally who they thought was closer to the target.

Milgram was teaching at Harvard at the time, so naturally he regarded the greater Boston area as the center of the universe. And what else could be farther from it than Nebraska? Not only geographically but also socially, the Midwest\*\* seemed so far away. When Milgram asked people how many steps it would take to get a letter from one place to the other, they typically estimated it in the hundreds. The result was more like six — a result that was so surprising at the time, it led to the phrase “six degrees of separation,”\*\*\* after which John Guare named his 1990 play and which has created a number of indoor games, not to mention an endless number of conversations.

But why exactly were Milgram's findings so surprising? If you are good at mathematics, you might do the following thought experiment, perhaps even drawing a picture like the one in Figure I.

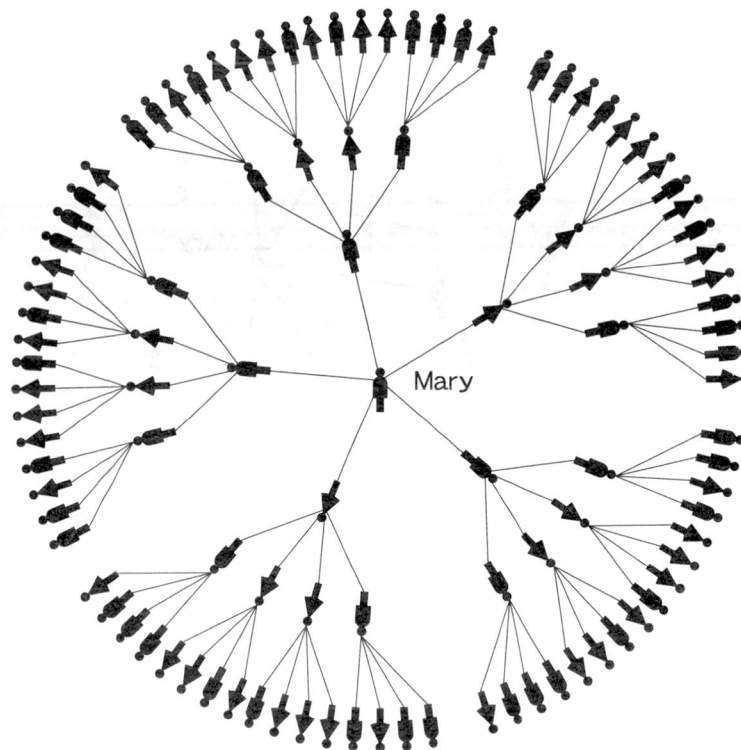


Figure I: This is a pure branching network. Mary knows only 5 people, but within two degrees of separation, Mary can reach 25; within three degrees, 105; and so on.

Imagine I have a hundred friends, each one of which has a hundred friends also. So at one degree of separation I connect to one hundred people, and within two degrees I can reach one hundred times one hundred, which is ten thousand people. By three degrees, I am up to almost one million; by four, nearly a hundred million; and in five degrees, about nine billion people. In other words, if everyone in the world has only one hundred friends, then within six steps, I can easily connect myself to the population of the entire planet. So maybe it's obvious<sup>(A)</sup> that the world is small.

If you are at all socially inclined, however, you have already spotted the fatal problem in this way of thinking. A hundred people is a lot to think about, so think about your ten best friends and ask yourself who their ten best friends are. Chances are you will come up with many of the same people. This observation turns out to be an almost universal feature not just of social networks but of networks in general. They display what we call clustering,<sup>(B)</sup> which is really just to say that most people's friends are also to some extent friends of each other. In fact, social networks are much more like Figure II.

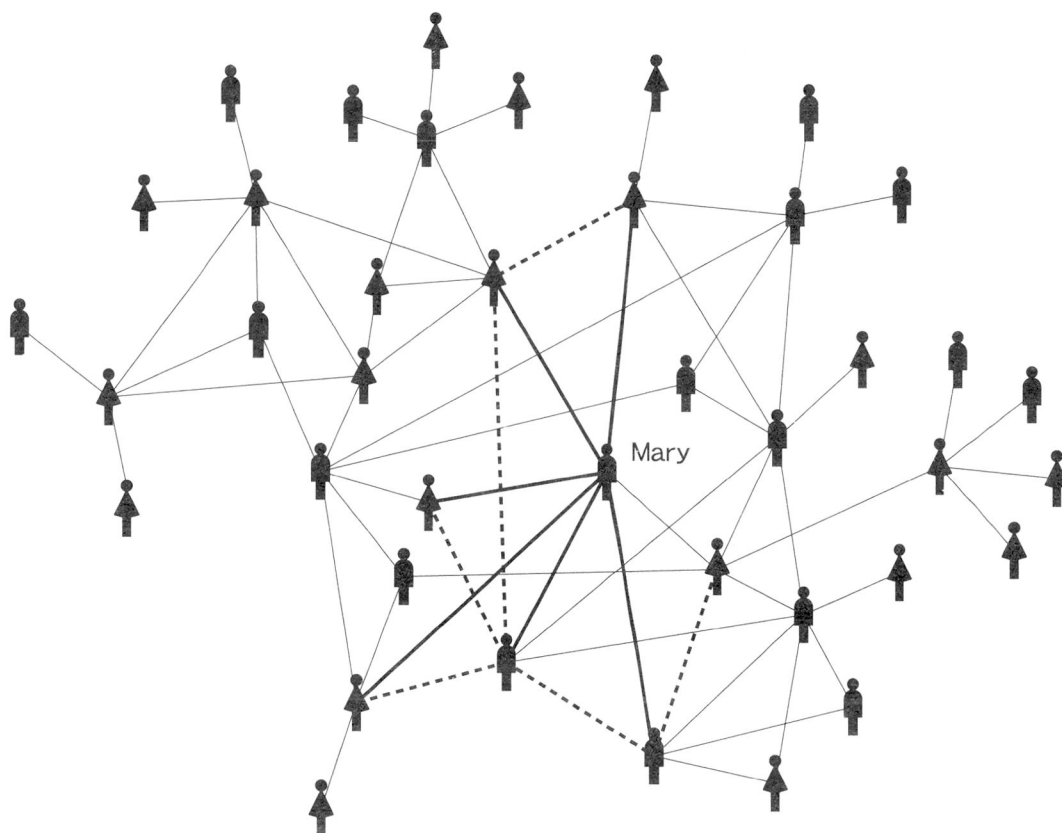


Figure II: This is a more realistic model of a social network showing clustering. Friends are likely to know the same people. Here, Mary has six friends, each of whom is friends with at least another person.

We tend not so much to have friends as we do groups of friends, each of which is like a little cluster based on shared experience, location, or interests, joined to each other by the overlaps created when individuals in one group also belong to other groups. This characteristic of networks is particularly relevant to the small-world problem because <sup>(5)</sup>clustering increases the chance of meeting the same people. In particular, the more your friends know each other, the less use they are to you in getting a message to someone you don't know.<sup>(2)</sup>

(A modified excerpt from *Six Degrees: The Science of a Connected Age* by Duncan Watts, New York: Vintage, 2003)

\*sociological community 社会学者の組織団体

\*\*Midwest 米国中西部

\*\*\*six degrees of separation 6次の隔たり

問 1 本文中の下線部(1)~(5)の単語の意味として最も適切な語句を選択肢の中から選び、記号で答えなさい。(10点)

- (1) a. ignored      b. dismissed      c. widespread      d. understood
- (2) a. friend      b. interest      c. experience      d. background
- (3) a. followed      b. invented      c. planned      d. printed
- (4) a. except for      b. with regard to      c. despite of      d. to say nothing of
- (5) a. feature      b. population      c. system      d. development

問 2 下線部①, ②を日本語に訳しなさい。(10点)

問 3 下線部(A), (B)について以下の各問に答えなさい。(10点)

- (1) 著者は下線部(A)で「世界が小さいということは明らかだ」と述べているが、その理由は何か日本語で説明しなさい。
- (2) 下線部(B) clustering とは何か。本文中の著者の説明に沿って日本語でまとめなさい。

問 4 本文の内容に最も合うものを a ~ e の中から 2 つ選び、その記号で答えなさい。(10点)

- a. After his remarkable experiment, Milgram believed that the world is not small when referring to social networking.
- b. Figure I is used not only to illustrate Milgram's findings but to introduce the concept of six degrees of separation.
- c. According to the author, the size of the entire population of the earth was first explained in Milgram's findings.
- d. Milgram was able to explain the small-world problem by showing that everyone lived too close to each other.
- e. The author believes that Milgram's small-world concept ignores the way social networks actually work.

2 次の問いに答えなさい。(30点)

昨今の技術革新によってインターネットが日常生活の各方面で利用されるようになった。インターネット・サイトの中には利用者の情報閲覧の特徴を調査したり、会員登録を求めたりすることによって個人に関する情報を収集するところもある。こうして得られた情報は、時として利用者の承諾なしに他の事業者に送られたりすることもある。その結果、インターネットの利用者は自分に最適な商品やサービスに関する情報だけでなく学習資料を受信することができ、事業者は各利用者の好みに合った情報を提供できるようになった。一方で、こうした事業者間の情報のやり取りは利用者の信用をそこねたり、プライバシーを侵害したり、迷惑な広告の氾濫につながる場合もある。

インターネットを介して事業者があなたに関する情報を他の事業者と共有することについてあなたは賛成ですか、それとも反対ですか。根拠を示して200語程度の英語であなたの意見を述べなさい。なお、内容を含め、文法やスペリングも採点の対象となります。