



◆ 次の英文を読んで、設問に答えなさい。

Contrary to what you might expect, your internal organs are not symmetrical. There are <sup>(1)</sup>two main reasons for this, says Joseph Yost, a developmental biologist. The first is a straightforward packing problem — how to fit everything together in a restricted space. The lungs, for example, have to share space in the chest with the heart and its great blood vessels. To make room, your left lung has two lobes\* and your right has three, and the major airways, the left and right bronchi\*, are tilted at different angles. Therefore, <sup>(2)</sup>if you manage to inhale a peanut in some bizarre drunken accident at a party, it's practically guaranteed to lodge in your right lung. 5

The second reason is to do with making organs function efficiently, and making sure that they link up to each other properly. <sup>(3)</sup>Nowhere is this more apparent than in the heart, says Nigel Brown, a heart development expert. Researchers in Britain have recently confirmed that the heart's asymmetric design improves blood flow and makes it an extremely efficient pump. In addition, the right side of the heart is smaller than the left, because it collects blood from the body and only has to pump it across to the lungs, while the left side has to pump oxygenated\* blood all the way round the body. So not only does the heart have to be asymmetric itself, it must also be plumbed\* into the lungs and the body the correct way. 10 15

If your left-right pattern is completely reversed, there's no problem, because all the organs are reversed with respect to each other. But between there and normality lies dangerous ground. "Anything in between and you're in various degrees of trouble, depending on exactly what's wrong," says Brown. 20

The most extreme problem is called <sup>(4)</sup>isomerism. In this condition, the organs are entirely symmetrical, as if you're standing with a mirror placed down the midline of your body. The way your organs are affected depends on which side of your body is being reflected in the mirror. If it's the right side, your spleen\* will be missing and both your lungs will have three lobes. Worst of all, your heart will be symmetrical, too. 25

(注) lobe (肺などの)葉 [ヨウ]    bronchi < bronchus (気管支)の複数形  
oxygenated 酸素を供給された    plumb (血管で)つなぐ    spleen 脾臓 [ヒゾウ]



**問1** 下線部(1) two main reasons をそれぞれ日本語で述べなさい。

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**問2** 下線部(2)を日本語に訳しなさい。

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**問3** 下線部(3)を日本語に訳しなさい。

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**問4** 下線部(4) isomerism とはどのような状態かを、本文に即して日本語で説明しなさい。

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**発展** 英文の内容を日本語で 200 字程度に要約しなさい。