

PL0A - ESAMI DI STATO DI LICEO LINGUISTICO**Tema di: LINGUA STRANIERA****TESTO DI ATTUALITÀ – LINGUA INGLESE**
*(comprensione e produzione in lingua straniera)***Decisions, decisions**

DICTATORS and authoritarians will disagree, but democracies work better. It has long been held that decisions made collectively by large groups of people are more likely to turn out to be accurate than decisions made by individuals. The idea goes back to the “jury theorem” of Nicolas de Condorcet, an 18th-century French philosopher who was one of the first to apply mathematics to the social sciences. Now it is becoming clear that group decisions are also extremely valuable for the success of social animals, such as ants, bees, birds and dolphins. And those animals may have a thing or two to teach people about collective decision-making.

Animals that live in groups make two sorts of choices: consensus decisions in which the group makes a single collective choice, as when house-hunting rock ants decide where to settle; and combined decisions, such as the allocation of jobs among worker bees.

Condorcet’s theory describes consensus decisions, outlining how democratic decisions tend to outperform dictatorial ones. If each member of a jury has only partial information, the majority decision is more likely to be correct than a decision arrived at by an individual juror. Moreover, the probability of a correct decision increases with the size of the jury. But things become more complicated when information is shared before a vote is taken. People then have to evaluate the information before making a collective decision. This is what bees do, and they do it rather well, according to Christian List of the London School of Economics, who has studied group decision-making in humans and animals along with Larissa Conradt of the University of Sussex, in England.

In a study reported in a special issue of the *Philosophical Transactions of the Royal Society B*, researchers led by Dr List looked at colonies of honeybees (*Apis mellifera*), which in late spring or early summer divide once they reach a certain size. The queen goes off with about two-thirds of the worker bees to live in a new home leaving a daughter queen in the nest with the remaining worker bees. Among the bees that depart are scouts that search for the new nest site and report back using a waggle dance to advertise suitable locations. The longer the dance, the better the site. After a while, other scouts start to visit the sites advertised by their compatriots and, on their return, also perform more waggle dances. The process eventually leads to a consensus on the best site and the swarm migrates. The decision is remarkably reliable, with the bees choosing the best site even when there are only small differences between two alternatives.

But exactly how do bees reach such a robust consensus? To find out, Dr List and his colleagues made a computer model of the decision-making process. By tinkering around with it they found that computerised bees that were very good at finding nesting sites but did not share their information dramatically slowed down the migration, leaving the swarm homeless and vulnerable. Conversely, computerised bees that blindly followed the waggle dances of others without first checking whether the site was, in fact, as advertised, led to a swift but mistaken decision. The researchers concluded that the ability of bees to identify quickly the best site depends on the interplay of bees’ interdependence in communicating the whereabouts of the best site and their independence in confirming this information.

Adapted from *The Economist*, 13 February 2009

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Answer the following questions.

1. What sort of decisions do animals that live in groups make?
2. Who is Nicolas de Condorcet?
3. What is Condorcet's theory about?
4. According to Condorcet, why are democratic decisions more likely to be correct?
5. What might make decision-making more complicated?
6. Why did Dr List do his research into honeybees?
7. What do honeybees do in spring?
8. How do honeybees advertise suitable nesting sites?
9. How do honeybees reach a consensus?
10. What does the computerized bees study tell us about the decision-making process?

SUMMARIZE the content of the passage.

COMPOSITION:

Do you think that collective decision-making is important in society? What can we learn from honeybees on the matter? Discuss your views on the topic by referring to the article.

Durata massima della prova: 6 ore.

È consentito soltanto l'uso dei dizionari monolingue e bilingue.

Non è consentito lasciare l'Istituto prima che siano trascorse 3 ore dalla dettatura del tema.