


project scientist. "The craters on Callisto are the visible record of what sizes of comet and other objects have pelted Jupiter and its moons, and with what frequency."

Pleasing find on gratification

 Is a bird in the hand worth two in the bush? Or, putting it another way, would you rather have one of your favourite chocolates now or rely on the promise of receiving four chocolates in the near future?

Cambridge University scientists think they have identified the part of the brain that determines what psychologists call "impulsive choice" – at least in laboratory rats.

In the journal *Science* today, Rudolf Cardinal and colleagues report that rats with damage to the brain region called the "nucleus accumbens core" repeatedly make the impulsive choice; they take one instant sugar pellet rather than waiting up to a minute to receive four pellets.

Rats with damage to neighbouring areas of the brain – and normal rats – are prepared to wait for the larger reward on about 50 per cent of occasions.

The discovery could help research into drug addiction, attention-deficit disorder, hyperactivity and other personality orders that are marked by inability to control instant gratification.

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