Why a familiar bed provides a good night's sleep

Some good news for businessmen on the road. Everyone knows **booking** all of your accommodation with the same hotel chain earns loyalty points, which can be **traded for** upgrades, free stays, and the **occasional** bottle of wine. Now a new study shows there could be performance **benefits** too (so send this article to your accounts department).

That people often experience trouble sleeping in a different bed in unfamiliar **surroundings** is a phenomenon known to psychologists as the "first night" effect. This is because if a person stays in the same room the following night they **tend to** sleep more soundly. Yuka Sasaki and her colleagues at Brown University in Providence, Rhode Island, **set out** to **investigate** the origins of this effect.

Dr Sasaki knew the first-night effect probably has something to do with how humans evolved. The puzzle was what benefit would be **gained** from it when **performance** might be **impaired** the following day. She also knew from **previous** work **conducted** on birds and dolphins that these animals put half of their brains to sleep at a time so that they can rest while remaining vigilant enough to **avoid** predators. This led her to **wonder** if people might be doing the same thing and **suffering from** fatigue the next day **as a result**.

To take a closer look, the team studied 35 young and healthy people as they slept in the alien environment of the university's Department of Psychological Sciences. The **participants** each slept in the department for two nights and were carefully monitored each time with neuroimaging techniques that looked at the activity of their brains. Their heart **rates**, muscle, and eye movements were also **tracked**.

Dr Sasaki found that, as **expected**, the participants slept less well on their first night in the lab than they did on their second, taking more than twice as long to fall asleep and sleeping less **overall**. During deep sleep (as opposed to the lighter phases of sleep which are characterised by rapid eye movement), the participants' brains behaved asymmetrically, in a **manner** reminiscent of that seen in birds and dolphins. **More specifically**, on the first night only, the left hemispheres of their brains did not sleep nearly as deeply as their right hemispheres did.

Curious if the left hemispheres were indeed remaining awake to **process** information **detected** in the surrounding **environment**, Dr Sasaki re-ran the experiment while **presenting** the sleeping participants with a mix of **regularly** timed beeps of the same tone and beeps of a different tone made **sporadically** during the night. She predicted that if the left hemisphere stayed **alert** to keep guard in a strange environment, then it would **react to** the random beeps by stirring people from sleep and would ignore the regularly timed ones. This is **precisely** what she found.

Based upon these **findings**, Dr Sasaki **argues** in *Current Biology* that the first-night effect is a mechanism that has **evolved** to function as something of a neurological nightwatchman: to wake people up when they hear noises when sleeping in an **unfamiliar** environment, even one with a comfy king-size bed, jacuzzi, deluxe minibar, and a distinct lack of predators. Wangle a nice hotel room next time you travel, and you can argue that a similar booking in the next hotel may be the only way to get a good night's kip.

Adapted from The Economist