Title: Phenomenology and source monitoring in the transition from wakefulness to sleep

Presenting Author: Alejandro Ezquerro-Nassar

Author(s): Valdas Noreika, Department of Psychology, University of Cambridge, Jon Simons, Department of Psychology, University of Cambridge, Tristan A. Bekinschtein, Department of Psychology, University of Cambridge

Abstract: 1.6

The transition from wakefulness to sleep is a dynamic process with distinct phenomenological features. However, given its unstable and heterogeneous nature, this critical period remains poorly characterised. To this end, models of psychosis can be informative. More specifically, misattribution models might offer insight into the quasi-hallucinatory experiences often reported at the sleep onset period. The Source Monitoring Framework (Johnson, et al, 1993), for instance, suggests hallucinations result from a failure to identify internally generated signals as such, thus an imagined voice is experienced as an external voice.

In this study, we administered a reality monitoring task adapted from Simons, et al (2006). The task was split into study and test phases. In the former, participants were asked to actively listen to either complete or incomplete word pairs (e.g. “salt and pepper”, “Romeo and _____”). Immediately after each stimulus, participants reported on the number of words they heard. The study phase was further split into awake and drowsy sessions. In the test phase (fully awake), participants were prompted by the first word in the pairs heard on the study phase and asked to report whether the second word pair had been previously perceived or imagined.

Additionally, during the drowsy portion of the study phase, participants were alerted whenever they failed to respond within 10 seconds. This was followed by a short interview regarding the presence of any hypnagogic content, along the lines of the Immersive Spatiotemporal Hallucination model (Windt, 2010).

Behavioural and EEG data for 35 subjects is presently being collected. We expect a main effect of drowsiness on reality monitoring accuracy. More specifically, a higher tendency to misattribute internal signals to external sources. We also predict dream reports at mild levels of drowsiness will be associated with a peak in visuospatial content, sense of body awareness, and sense of movement.