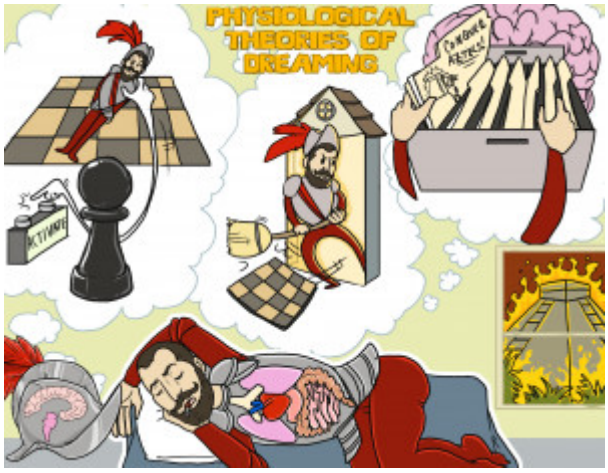
Physiological Theories of Dreaming

The physiological theories of dreaming explore possible reasons for the brain activity during REM sleep. This view accepts that dreams are the result of our brain trying to make sense of the high amounts of activity taking place in the cortex. Different physiological theories proposed include the activation-synthesis theory, the mental housekeeping theory and the mental consolidation theory.



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Activation-synthesis theory

Activating-pawn moves Cortez

Hobson and McCarley developed the theory that neuronal activation in the pons activates cortical cells, and that dreams arise from the brain trying to interpret cortical activity. This is known as the activation-synthesis theory, which goes on to state that brain activity during REM sleep is mostly cortical, and that REM sleep is a result of brainstem (pons) activity.

Mental Housekeeping theory

Mental House-cleaning

The mental housekeeping theory states that the purpose of dreams is to forget unnecessary information. This is done so that the brain will process new information better and won’t get overloaded. It goes on to explain that cortical activation during REM sleep results from the purging of this unneeded information.

Memory Consolidation theory

Consolidating Memory file cabinet

The mental consolidation theory states that the purpose of dreams is to aid memory, and that the actual dreams are just our awareness of the cortical areas activated during this memory-enhancing process. To further explain this, it believes that cortex activity seen during REM sleep represents reactivation patterns of neuronal firing that represents experiences from the previous day.