

Why We Sleep

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A vastly important book. Ignored because there is no money angle.

This is such an important book that I am offering a very brief chapter by chapter summary. The table of contents is at the end.

A reviewer sees a vast number of books on important topics such as climate change, vaccines, Covid, immigration, educational policy, electromagnetic radiation, pesticide dangers and the like. A common thread is that they all involve deep-pocketed vested interests.

Whatever vested interests there may be with regard to whether people get enough sleep or not, they are diverse enough not to matter. The topic never comes up for discussion. It had not been brought to my attention until one of the commenters on the Covid vaccines, a brilliant Substack author calling himself A Midwestern Doctor, mentioned this book more or less in passing.

This book should be on every parent's shelf. No, everybody's. It can be life-changing, and it involves no more than your own understanding and willingness to make changes that cost no money.

Part 1

Chapter 1

Sleep is universal in the animal kingdom. Why is that? It is dangerous – it leaves the animal unprotected. It wastes time. The author makes the case that it is a physiological imperative.

Chapter 2

Why is this book needed? Modern man has dramatically changed his environment. Of our species has obeyed the rhythm of the sun throughout history, with minor exceptions due to candlelight. Then came the gaslight era, Edison's electric light, and lastly light emitting diodes. The latter, because they mimic the shortwave blue radiation of the sun, confuse our systems.

As the chapter title suggests, mankind has applied artificial mechanisms to modify the sleep cycle. We juice ourselves up with caffeine, then use alcohol or pills to slow down. We subject ourselves to unusual time changes through air travel.

We advance time in the spring and drop back in the fall for daylight savings. Even these minor changes have measurable impacts on work, accident frequencies, and other measurable phenomena.

Chapter 3

This is a history of the study of sleep. Sleep is divided into phases, notably REM – rapid eye movement, and NREM. Both are needed, and they are radically different. In REM sleep the eyes are moving restlessly and our muscles have some tone. In NREM sleep we are like rag dolls. We may dream of moving, but except for sleepwalkers our bodies are inert

Most of our dreaming takes place in REM sleep. Our brain collects short-term memories during the day and a part of the brain called the hippocampus. One function of NREM sleep is to move some memories from the hippocampus to long-term storage, and to purge unneeded memories, giving the hippocampus the chance to learn more on the next day.

Chapter 4

All animals need sleep, but they do so in interesting ways. Dolphins and whales have to swim all their lives. They have evolved so that half of their brain can sleep while the other keeps on swimming. Apes would fall out of trees if their bodies relaxed as fully as ours do in NREM sleep.

Chapter 5

Babies in utero sleep quite a bit, but they need the greatest amount just before birth. All of those jumps and bumps that mothers feel are taking place while the baby is sleeping. Prior to birth, they do not have the braking mechanism that shuts down motor activity for the rest of us as we sleep.

Part 2

Chapter 6

People function better if they get an adequate amount of sleep. They learn and retain information better; they don't get sick as often; they are more attuned to the world around them and especially other people's emotional states.

Chapter 7. Sleep deprivation leads to all sorts of bad consequences, ultimately death.

Chapter 8

Our bodies need sleep in order to heal themselves and allow the immune system to work. This applies not only to infectious diseases, but also to cancer and heart attacks.

Part 3

Chapter 9

We really are a little bit crazy as we dream, but in the end is perfectly healthy. In this and other chapters he discusses Sigmund Freud's theories of dreams. They were wrong beyond merely misguided, but he got the ball rolling

Chapter 10

Dreaming allows us to relive our day's experiences. In particular, we are able to expunge unpleasant memories so they don't come back to haunt us. Posttraumatic stress disorder (PTSD) occurs when the brain is unable to cleanse itself of such terrible memories. Walker says there are therapies in development that attempt to encourage sleep to erase such memories.

Another function of sleep is to cleanse the brain of detrimental chemicals that result from normal daytime function. One of these is amyloid plaque, the gunk that characterizes the brains of Alzheimer's victims. Amazingly, certain cells in the brain shrink to make room for fluids to wash the unneeded stuff away. Walker does not claim that good sleep will cure Alzheimer's, but he does present a strong statistical association between routinely short sleep (6-7 hours, e.g.) and Parkinson's and Alzheimer's.

Chapter 11

Studies show that not only are we better at solving problems, but we are more creative after a good night sleep. He presents some interesting anecdotes from Paul McCartney and Keith Richards about songs coming to them in dreams.

Part 4

Chapter 12

Sleep deprivation has long been used in torture. Go long enough without sleep and you will die. Of what varies from case to case, but death is a certainty.

Chapter 13

The factors of modern life that inhibit our sleep. We are obsessed with our gadgets, keeping our brains working late when we should be relaxing and preparing for sleep. A lot of our gadgets emit blue light, tricking our bodies into thinking it is still day. We start our workdays too early, and we often perversely reward people who burn the midnight oil.

Chapter 14

Sleeping pills are bad. The mechanisms by which users die are varied, but studies show that people who use sleeping pills are several times more likely to die than matched control groups of people who don't.

Chapter 15

The chief message here is that schools start too early. It used to be better – most started at nine. However, for the convenience of working parents, school bus drivers and others it is now often quite a bit earlier. The start times for my former schools in Berkeley and my grown kids in Montgomery county, Maryland are both before eight.

Chapter 16

A catalog of things that could be changed. Considering the magnitude of the effects in every study he cites throughout this book – most of them 10 to 40% or more – and the relatively low cost of implementing change he is absolutely right to say that there would be a tremendous from simply changing society's policies with regard to sleep.

Conclusion

We need to do it.

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