Why Zebras Don't get Ulcers
Robert Sapolsky

Within this book Robert Sapolsky explores ~~the~~ a human's life; that is the phenomenon of stress. Sapolsky starts off giving an overview on how stress works on our hormonal level, and the neurons glucocorticoids which make up the stress response. Sapolsky then talks about the plethora of deleterious health effects caused by ~~stress~~ chronic stress. This chronic stress is generally caused by prefontal cortex related stress rather than truly physiological ~~stress~~ stress. This is a factor in the main thematic topic within the book, due to the increased cortical area within humans we are susceptible to chronic stress even though no stressors are present. This is the reason why ~~not~~ wild life such as Zebras do not get ulcers, because while they do have stressors present these stressors are in the form of acute stressors. These psychological stressors within humans are the reason that humans get ulcers, the stress response continues for so long that the body has it's defense system inactivated due to being in a state of flight or fight. Acute stress has many physiological affects, the underlying property of these change is that of a bias towards the sympathetic nervous system. This includes a multitude a neurotransmitter cascades, inhibition of digestion and many other things. The release of glucocorticoids into the body is mediated by sensing, or anticipation of stress by the brain, followed by the release of CRH from the hypothalamus going to the pituitary. The pituitary then releases ACTH into the circulatory system which then releases glucocorticoids by way of the adrenal gland. Stress transiently increases immune system

but only up till the point of tolerance stress at which point the immune system takes a hit. The converse of this is, though repeated short bouts of stress, due to the transient increase in immune system function one may find themselves having a propensity for autoimmune disease due to the sensitivity of the immune system. Overall this book gives a comprehensive overview on stress. The main realization attained from this book is that stress is the hormone of bell curves. This is due to the fact that a multitude of aspects of the stress system are optimal based upon an M shaped curve "gaussian". This example of this is that optimal stress level; too little stress and you are unstimulated and bored, too much stress and you have too strong of a propensity for the parasympathetic nervous system & if you have a optimum level of stress you will be sufficiently stimulated. Another case in which we see this gaussian nature pertains to the amount of control you have when dealing with stress. Too little control and you feel hopeless of the situation, too much perceived control and you feel as though every failure could have been prevented if you as an individual did better. Yet another example of this is the lessening of anticipatory stress, by way of predictive stress. If you are given knowledge of a stressor happening too long before, you will spend too much time thinking about it, if too short before you won't have enough time to think, you needed a medium amount of time. The mean of all these bell curves are dependant on a multitude of factors (hormones, genetics, magnitudes). Not every thing within stress has a gaussian solution. The management of stress follows a pareto distribution where 80% of effects come from 20% of work