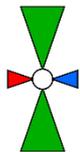


1297 CB

bncdoc.id	EVA
bncdoc.author	Empson, Jacob
bncdoc.year	1989
bncdoc.title	Sleep and dreaming.
bncdoc.info	Sleep and dreaming. Sample containing about 41017 words from a book (domain: social science)
Text availability	Ownership has not been claimed
Publication date	1985-1993
Text type	Written books and periodicals
David Lee's classification	W_non_ac_soc_science

<1297/c>	wakefulness, rather than any direct effects of the regimes on sleep itself - correlations between actual amounts of sleep achieved and their performance and mood measures were poor. The consequences of sleep loss and sleep reduction can not therefore simply be interpreted in terms of denial of sleep, but must be regarded as the outcome of a combination of sleep loss, causing sleepiness, and the subversion of the normally well-ordered physiological cycles which substantially control our states of arousal. Implications of this conclusion will be further explored in the section on shiftworking. (c) Practical implications of sleep loss Apart from any implications for theories of sleep function in physiology, results from experiments on the effects of sleep deprivation have some practical importance. All of us lose sleep at some time in our lives, and many individuals have to lose sleep as part of their jobs, which may be extremely responsible and demanding. Shiftworkers lose sleep progressively while working the night or morning shifts, and may be employed in nursing, in controlling power stations or chemical plants, as well as in manufacturing industries. Airline pilots commonly have difficulty in sleeping properly after long flights, especially when there have been time-zone changes. Young babies inflict substantial disruption on their mother's sleep in their first three months of life, when they are at their most dependent, when the mother's judgement and good temper are most important. Junior hospital doctors may be on call for extended periods and on occasions have to manage with little or no sleep. It is commonplace for soldiers to get very little sleep indeed during a battle. In all these contexts there are high demands on individuals for effective and responsible behaviour, and it becomes crucial to know what precise effects sleep loss has had on normal functioning. OVERWORK When junior hospital doctors have been asked whether their efficiency was impaired by their long hours of duty, over a third replied " often " and almost half replied " occasionally ". These doctors frequently have the sole responsibility for assessing the needs of patients who are brought to hospitals, for instance to casualty wards, in the middle of the night. Tests of efficiency in detecting abnormalities in the electrocardiogram have shown that after a night of reduced sleep doctors were reliably worse. In taking a patient's history the doctor has to listen carefully to what the patient says, which may be incoherent, and extract from this account the elements which are medically relevant. This very important task involves a high memory load, as items mentioned by a patient early in the interview may turn out to be significant later on. Tests of medical house doctors after a night spent on emergency admissions (when they got
 <p>Key: Footprint ConEn1 Footprint ConEn2 Footprint ConEn3</p>	<p>an average of 1.5 hours' sleep</p>
) showed them to be significantly worse at a memory task designed to tap these skills than after a night off duty . The differences between doctors were very great, not only in their general level of performance, but in the degree to which their level

of performance was affected by the lack of sleep. Referring to recent studies indicating that some people are particularly vulnerable to the effects of sleep disruption, the authors of this report suggested that work should be done to identify those doctors who are most at risk, in order to assign them to other duties. How does sleep loss affect the soldier? A study carried out at the Army Personnel Research Establishment (APRE) in Farnborough simulated wartime conditions for ten soldiers, who were required to defend a position during a tactical exercise lasting ten days. Military staff ensured that they had no sleep for the first three days, after which short periods of sleep (4 hours) were permitted every twenty-four hours. As well as being kept extremely busy with military duties (digging trenches, receiving signals, countering surprise attacks by " enemy troops ") the men were tested three times a day on logical reasoning, a decoding task, and marksmanship. Logical reasoning and decoding both got worse by the end of three days, and significantly recovered, almost to baseline levels, when 4 hours sleep a night was allowed. Marksmanship was relatively unaffected when the soldiers were allowed to shoot in their own time at a target, but when shooting was combined with a vigilance task (with the target appearing briefly at unpredictable times), the number of hits was dramatically reduced. In a larger study assessing endurance over nine days under different levels of sleep loss, the APRE reported that with no sleep at all soldiers could only operate effectively for four days, while with 1.5 hours' sleep a day 50 per cent of a platoon lasted nine days in the field, and nearly all of a platoon allowed 3 hours sleep completed the nine-day exercise. The same pattern of performance decrements on cognitive and shooting tasks was observed as in the smaller experiment. This combination of good marksmanship with poor reasoning ability can only be described as alarming - in particular when so many military duties may be concerned with public order, as in Northern Ireland, where rules of engagement require the soldier to make decisions on the basis of evidence that is often ambiguous. To quote the Duke of Wellington, "I don't know what effect these men will have upon the enemy, but, by God, they terrify me." SHIFTWORK Shiftworkers commonly complain of not being able to get enough sleep and of feeling chronically sleepy. This