

The extent of freedom human decisions entail has been widely debated for centuries. In recent decades, the debate was strongly influenced by empirical findings. First and foremost were the seminal studies by Benjamin Libet, where the readiness potential (RP) famously preceded subjects' report of consciously willing to move. This was taken as evidence against free will, as subjects' conscious will seemed to lag behind the neural processes that initiated the action. And so, consciousness was claimed to have no role in the process of decision making. Yet these claims were challenged by the finding that the RP does not generalize to meaningful decisions: in a study that probed both meaningless decisions (or 'picking') and meaningful ones ('choosing'), a typical readiness potential was found for the former but not the latter. These findings were in line with a recent work claiming that the RP might in fact result from an artificial accumulation of random fluctuations in the signal, rather than from a genuine decision-process. Here, we propose to use the same differentiation between picking and choosing to examine other lines of evidence against the role of consciousness in decision making. Namely, behavioral studies showing that subjects' decisions are heavily manipulated by irrelevant factors, whose influence is completely unknown to the subjects. This too can be taken as evidence against free will, as it shows that subjects' conscious experience of deciding does not incorporate all the factors which influence their decision. For example, using the 'cue-approach' method, subjects' decisions were biased towards preferring items that were previously arbitrarily paired with an auditory cue, indexing subjects to perform a manual response. The effects of these random pairings on subjects' preference were shown to last for long periods (two months). These findings can thus be taken as evidence for the low control people actually have of their actions, and for the irrelevance of the reasons they consciously provide to the actions. Critically however, in this example – and in other studies demonstrating such irrelevant effects on decisions, of which subjects are typically unconscious, subjects' decisions were commonly meaningless or not important. Thus, similar to the finding about the RP, it might be that these findings are also limited in scope to meaningless, or not important enough decisions, which are driven mostly by random fluctuations or some symmetry-breaking mechanisms. Reexamining not only electrophysiological

findings but also behavioral ones could put these findings in a wider, more accurate context, and help us reach a better understanding of the free will debate.