Brains on Video

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Much of the research on human brain function studies the relationship between neural activity and specific events in the world (flashes, beeps, button pushes, and associated features such as contrast, frequency, reaction time, etc). We decided to abandon this conventional approach and look instead at responses of the brain to ongoing natural stimuli, and in particular, video. We found that when an audience watches video, their fast encephalographic brain responses are similar, however, only if the audience is paying attention! The effect is so strong that we can detect an audience's attentional engagement in segments as short as 5 seconds. Indeed, similarity of encephalographic responses is predictive of a number of behaviours that presumably correlated with viewer's attention, such as whether they continue watching a program, whether they 'like' certain ad segments, whether they decide to 'tweet' about it, and whether they remember the content weeks after they saw it. We believe that analysing fast ongoing neural activity in response to natural stimuli has tremendous potential for basic inquiry into the functioning of the human brain, and has evident and important practical implications.