Serial Killers, Spiders and Cybersex:
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Introduction
The content of a narrative is altered through cultural transmission due to the effect of cognitive biases (Barrett & Nyhof, 2001, Messoudi & Whiten, 2008). Two proposed transmission biases are the social information bias and the survival information bias.

Social Information Bias
The Machiavellian Intelligence (Byrne & Whiten, 1988) or Social Brain (Dunbar, 1998) hypothesis suggests that primates evolved greater intelligence in order to deal with complex social interactions, rather than to deal with non-social challenges in their ecological environment. Based on these evolutionary theories, Messoudi, Whiten and Dunbar (2006) argue that humans should preferentially attend to, recall and transmit social information over equivalent non-social information. They found that social information was transmitted with greater accuracy and in greater quantity than equivalent non-social information along a linear transmission chain.

Survival Information Bias
Nairne and colleagues (Nairne, 2010; Nairne, Thompson & Pandeirada, 2007, Nairne & Pandeirada, 2008) argue that human memory has been shaped by selection pressures to be ‘tuned’ towards encoding and recalling fitness related information such as the locations of food sources or predators (Nairne & Pandeirada, 2008).

A number of studies, using a variety of experimental designs and materials (e.g. Nairne, et al. 2007; Nairne & Pandeirada, 2008; Otgaar, Smeets, & van Bergen, 2010; Weinstein, Bugg, & Rosediger, 2008), have demonstrated that survival processing grants a strong mnemonic advantage compared to other forms of processing. The recall advantage found in these studies suggests a potential bias for survival information in cultural transmission.

Urban Legends
Urban Legends are defined as apocryphal tales, which are told as true, feature a contemporary setting (not necessarily urban) and are based around a single event, usually an individual experience. They are transmitted orally but are increasingly transmitted through electronic media.

As wide spread culturally successful narratives, they are stories which are actively transmitted between people and provide an excellent resource for studying content biases in cultural transmission.

Method
Legend Selection
17 urban legends were collected from the internet and edited to match for word count (88 – 93) and number of central propositions (5 – 6). 106 participants aged 19 - 58 years (M = 23, SD = 5.75) completed questionnaires rating these legends on a number of scales relevant to proposed content biases and other information including plausibility and familiarity. Based on these ratings, six legends were selected, two of each type (Social Legend, Survival Legend and Combined Legend). The selected legends vary in significant relevance but each match in other proposed biases and other information including plausibility and familiarity.

Transmission Chains
60 participants aged 16-52 (M = 22.52, SD = 8.72), arranged into 20 chains of 3 generations were presented with one legend of each type and control material (a description of the formation of Cheddar Gorge). These legends were read and later re-written from memory on a computer.

Results
Each participants’ recall was coded using propositional analysis. A mixed 3x4 ANOVA was conducted with generation as a within subjects variable and legend type as a between groups variable. A significant main effect of legend type on the percentage of original central propositions recalled was found (F(2,252) = 12.29, p < 0.01).

Post hoc tests revealed that Social Legends and Combined Legends were not significantly different (both tests p > 0.05) but were recalled with significantly greater accuracy than Survival Legends and control material (both tests p < 0.05). Recall of Survival Legends did not significantly differ from control material (p > 0.05).

Conclusions
Urban legends provide a rich source of data for examining content biases in cultural transmission.

The results provide further evidence for a social information bias in cultural transmission, as all legends which featured social content where transmitted with greater accuracy than those with no social content.

No evidence for a survival information bias in cultural transmission was found.

The cultural success of urban legends with survival information content may be explained by their combination with other biased content such as social information.

References