Response to “Causal reasoning: the ‘magical number’ three”

In a recent issue of *EMBO reports*, Ladislav Kováč proffered a single theory to explain why the individuals whom he questioned typically gave exactly three alternative, causative explanations for the phenomena described to them; three examples of which are the increase in the number of divorces in Western societies, the fall of communism in Europe and human altruism (Kováč, 2009). His explanation was that this might be a result of evolution: the ability of our ancestors to identify quickly only one or a few possibilities was “a precondition for successful action in the hunt for food, for seeking shelter from predators, and for social interactions within and among small bands of hunter–gatherers in our natural niche in the African savannah.” Here, I propose two additional, possible reasons—thus bringing the number of alternative explanations to three—a number that is at once more aesthetically pleasing, more intellectually satisfying and probably just as simplistic.

As a second possible reason, I propose that the propensity to think in threes corresponds to that well-established aesthetic principle, the ‘rule of three’, which suggests that groups of three are simply more innately pleasing. We see examples of this in almost every human culture; for example, the standard three acts of a play or story—beginning, middle and end—the holy trinity of the Christian faith, and the international use of three relevant, stereotyped characters in jokes, for example, the rich man, the happy man and the philosopher. Perhaps this predilection for groups of three is imprinted on us by our DNA, transcribed from triplet codons into the tertiary structures of proteins, to emerge in the trinity of our mind, body and soul. Or perhaps three really is the magic number; the universal constant that defines the universe. If so, one might speculate that the three Laws of Motion

proposed by Newton (*Philosophiæ Naturalis Principia Mathematica*, Volumes 1–3, 1687) to explain the world correspond, at least in terms of topological aesthetics, to the three wise men or, alternatively, to the three blind mice. Furthermore, it has been suggested that the simplistic depiction of causation as a choice between only two possibilities—good and evil, or ‘with us or against us’—has given certain individuals the opportunity to forge simplistic myths with which they have cynically manipulated popular opinion (Curtis, 2004). Thankfully, in science, dualism as proposed by Descartes has long since been superseded by the Hegelian dialectic comprising a thesis, its antithesis and a synthesis that reconciles the two.

Finally, and without wishing to disillusion Dr Kováč or to dissuade him from his philosophical cogitations, I respectfully suggest a third possible explanation for the triadic responses that he received: namely, that the 26 individuals he addressed were much too busy doing other things than to speculate on causation and quickly dashed off their responses—with the exception of the divorced woman. For most of the respondents, however, to reply with just one or two possibilities might have suggested a paucity of imagination, while three at least gives the impression that a reasonable effort has been applied.

In conclusion, in establishing that there are at least three possible causes for the observation described by Dr Kováč, I believe I have raised evidence that both supports and refutes his hypothesis, which just goes to show that there is no such thing as a black and white answer.

REFERENCES

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