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Physics of Life Reviews 11 (2014) 687–688

**PHYSICS of LIFE
reviews**

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Comment

**Interpersonal struggle or interpersonal bonding?
Comment on “Personality from a cognitive-biological perspective”,
by Y. Neuman**

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Received 6 October 2014; accepted 9 October 2014

Available online 14 October 2014

Communicated by L. Perlovsky

I very much enjoyed reading Yair Neuman's comprehensive and critical review *Personality from a cognitive-biological perspective* [1]; his presentation has great breadth and depth and I learned much.

Neuman's review leads him to conclude that the classical Five Factor Model of personality discussed by the experts (Neuroticism; Agreeableness; Conscientiousness; Extraversion; and Openness) can be further reduced to two more fundamental attributes: Trust and Threat (Distrust is a third, but derivative attribute). Neuman proposes that *personality* evolved under selective pressure exerted by the biological need to manage interpersonal relationships; an individual's personality discloses to other individuals the person's character, and hence the person's reliability. The Darwinian struggle between individuals for survival of the fittest obliges one to be able to predict whether another individual is trustworthy or poses a threat. Personality is composed of behaviors and impressions transmitted between individuals that allows each to gauge the intents of the other; Neuman's analysis of personality emerges from zero-sum evolutionary game theory; you have a greater chance of winning if you know your opponent.

I agree with Neuman that *personality* is a key element in interpersonal relationships. *Personality* is derived from the Latin *persona* – a mask. One's personality expresses one's public role in social interactions; but personality cannot be reduced to fixed traits – we adapt different roles in different circumstances; for example, a scientist may appear as an introvert at a cocktail party yet perform as an extreme extrovert when presenting his or her data. In contrast to variability in health, stereotyped *personality traits* are characteristic of interpersonal pathology – a paranoid always wears the same *persona*.

I also agree with Neuman that *personality*, as a mode of interpersonal signaling, should afford evolutionary benefits; but I disagree with his adoption of the Darwinian discourse focused on struggle. The evolution of complex living systems is not driven wholly by conflict but largely by cooperation. As an experimental biologist, I know that all living systems are composed of networks of continuous interactions – interactions, which entail mutuality if not cooperation, maintain all living systems at all scales (cells, organisms, species, ecosystems); positive interactions guard against *entropy* – the inexorable dissolution of complex information. Biological interactions, even those between predators and prey, constitute forms of mutual cooperation; the zebras need the lions no less than the lions need the zebras. The immune system does protect us from pathogens, but it is also the chief orchestrator of our symbiotic, collaborative

DOI of original article: <http://dx.doi.org/10.1016/j.plrev.2014.09.002>.

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<http://dx.doi.org/10.1016/j.plrev.2014.10.002>

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relationships with our myriads of symbionts. Personality, to my mind, mediates bonding; one's dynamically changing *persona* – the overt expression of varying interpersonal roles – is required to modulate cooperation and collaboration between individuals. *Personality*, as stated by Neuman, is a social process – I would add that *personality* is not merely a signal, but an interactive process of accommodation; *personality* makes possible interpersonal win–win; harmonious personalities make business, friendship and babies.

References

[1] Neuman Y. Personality from a cognitive-biological perspective. *Phys Life Rev* 2014;11:650–86 [in this issue].