An exploration of ingroup behaviour and social psychology in developing socially abhorrent behaviours in social media and financial systems.

Dr Craig Wright

11 Jan 2021

Abstract

The following paper provides a preliminary investigation into the growth of "Cryptocurrency" subgroups, the abuse of social media using automated systems, the enhancement of trolling and the ability for these activities to pose both a political and financial threat. Malicious actors have utilised technology to leverage existing psychological behaviours and create tribalistic responses that allow for the automated approach to controlling and manipulating individuals online. In this, authoritarian leaders can asymmetrically leverage sociological and psychological benefits that developed through evolutionary benefits but yet exhibit adverse effects in modern societies.

Introduction

Automated technology and artificial intelligence are increasing the ability for malicious actors and financial criminals to leverage the negative aspects of ingroup/outgroup relationships to manipulate people using enhanced technology. In the sections below, the evolutionary development of ingroup relationships and hierarchical associations will be explored. This analysis will extend into the development of attribution systems and blame as a methodology for ingroups to control members' behaviour. This study will demonstrate that evolutionarily beneficial human psychological systems may be exploited using technological advancements such as social media. When taken together, these problems will be demonstrated to form a key aspect in cyberbullying, trolling and the increase in many financial systems frauds.

Tribes to nations

Until recently, the human species lived in small tribal groups that came up against economic barriers leading to conflict with other social groups in their vicinity. Evolutionary processes acted such that those groups that saw other groups as either potential victims or a danger to be avoided gained an evolutionary advantage over those who did not have ingroup and outgroup distinctions. The ability to distinguish between an "us" which incorporated known members of a tribal social group and an external "them" minimised the chances of violence and disease. Evolutionary processes will have led to a psychological distinction and the natural ability to differentiate between ingroup and outgroup members.

Anthropological studies have demonstrated that many tribal groups see outgroup individuals as being less than human. In more modern society, this has produced a tendency to treat individuals with prejudice and reject others who are not closely aligned to an ingroup. Research (Tajfel, Billig, Bundy, & Flament, 1971) has demonstrated the tendency to respond positively to members of an individual's ingroup whilst actively rejecting those from the outgroup. The formation of groups has been demonstrated to exhibit this pattern even when membership in a group is determined through a completely randomised process of tossing a coin (Billig & Tajfel, 1973). This tendency develops within children between three and six years of age (Aboud, 2003). As this choice of ingroup preferentialism develops, preadolescent youth demonstrate a preferential association between others of the same gender and socio-economic groupings with children in racially segregated groups learning to favour the racial types they grow up with (Aboud & Amato, 2001).

To some authors, the tribal origins of the human race and the creation of nationalist groups have been argued as merely a modern imagining (Anderson, 2006). This reinterpretation of humanity mirrors the

2

blank slate theory of the behaviourist (Pinker, 2005). In this, humanity can be perfected in a progressivist manner. In typically Marxist fashion, history is reimagined, and human interaction is reimagined, allowing society to be perfected. As Ludvig (2003) and Schliger (2002) argue, the behaviourist analysis of the blank slate theory seeks to deny human nature. Blank slate theories and the doctrine of the noble savage (Buss, 2001) provided ample justification for a left-wing political policy associated with progressive reform but do little to explain individuals' interactions or the consistent inability to change human development radically.

Although scholars such as Pinker (2004) have desired to extend behaviourist theories and continue the blank slate argument, the evolutionary development of humanity leaves us with multiple distinct problems in such an approach (Leslie, 1994). As Allen (2007) documents, learning theory does not work outside of interaction with the individual. There is a multitude of differences in intelligence (Maltby, Day & Macaskill, 2010) and consequently, to merely place people as blank slates that can be formulated easily and outside of the evolutionary development of mind leads to a dearth of education and the inability to foster development within individuals. As Jensen (2012) explains, subpopulation differences lead to distinct groupings within educational frameworks. These distinctions may be tied directly to the study of social psychology in that the formation of groupings could lead to enhanced educational capabilities (Maltby, Day & Macaskill, 2010; Ross & Nisbett, 2011). Following the work of Barnes & Sternberg (1989) such a strategy would likely bring individual differences into the fore. The creation of ingroups could lead to enhanced learning capabilities. The need would be to foster ingroup inclusion through educational outcomes (Valls & Kyriakides, 2013).

Castelli & Carraro (2010) argue that others see individuals who exhibit a preference for ingroup favouritism to be more likeable than those individuals who argue for equal rights and equal opportunity. Hamlin, Mahajan, Liberman and Wynn (2013) demonstrate that this preference starts in infants as young as nine months old. Hewstone (1990) takes this to demonstrate that members of an ingroup are seen to be more honest and trustworthy and are more highly rated on how those associates exhibit other beneficial traits by representatives of the ingroup. This ingroup association leads to the creation of tribal memberships that allow individuals in the ingroup to believe that they may actively participate in other members' achievements. Supporters of an ingroup take praise and claim to accomplish other ingroup members, even where they are not involved in the outcome directly (Shelton & Richeson, 2005).

Human nature is tribalistic (Clarke et al., 2019). Rather than merely seeking to formulate theories of blank slates and ignoring human differences, it would be beneficial to structure educational outcomes that use and deploy the natural propensity for people to form tribal groups and at the extreme nations in a manner that is beneficial to society (Clark & Winegard, 2020). Bocian, Cichocka & Wojciszke

3

(2021) show how group interest shapes morality judgements. Using these processes, it would be possible to create ingroups that positively shape and enhance educational outcomes and learning. The inability to act in this manner is likely to lead to negative consequences and corrupted forms of tribalism (O'Brien,2011; Ashokkumar, Galaif, & Swann Jr, 2019).

Hierarchy

Braithwaite et al. (2016) investigated the nature of tribalism and hierarchy in clinical medicine. The authors state that it is unwise to attribute the development of tribalistic and hierarchical positions to sociological or psychological processes as distinctions do not exist outside the workplace. However, the authors failed to consider that in-crowd and out-crowd activities mirror ingroup activities, and the groups are different inside and outside the workplace. In this, it becomes essential to note that hierarchical structures are linked not only to individuals but the environment, and the creation of ingroups can develop between differential group structures. To merely argue that Machiavellianism can be controlled is to overlook human nature (Wrightsman, 1991; Parel, 1992; Zagenczyk et al., 2014).

Hawley (2006) presents a fascinating view of human behaviour based on evolutionary approaches documenting the social function of intellect and what the author terms as Machiavellian intelligence. Some individuals would have the charisma and capability to direct the social ingroup bending it to their own will. The manipulation by autocratic individuals is further expressed in resource control theory (Hawley, 1999; Dyches, & Mayeux, 2015). Henrich (2011, p. 119-124) developed this concept further arguing that the emergence of cooperative human society only occurred through the integration and development of religious groups that would ostracise or socially exclude individuals deemed to be apostate or heretic. In this analysis of the development of culture in the human mind, game-theoretic dissension would lead individuals in the group to evade contributions to the collective (p. 122). The consequence of such a strategy if unchecked could lead to population collapse and hence the development of ingroup psychology would lead to the ability to expel nonconforming members. The cost of expulsion for individuals would increase conformance leading to coherent societal structures.

Deephouse (1999) investigates this concept further noting that game theoretically, there is a strategic balance between the number of individuals who can act as inside and outside a group. In this, strategic advantages can be gained by acting contrary to groups. Bursik Jr. & Grasmick (1999) conducted a similar game-theoretic economic approach in their analysis of criminal activity within neighbourhoods. Here, multiple ingroups and outgroups compete and form tribal structures to maximise resources. The approach has been called "human ecology". Dunbar (1998) notes that the

evolution of language and the theory of mind coincide with hierarchical social groups' development. This result would align with Deutsch's early work (1949, 1962) who posited group interdependence by conceptualising group members with positively correlated goals that promote interdependence against opposing correlated goals that act to foster group discord. The extension posited by Johnson & Johnson (1983) divides cooperative ingroup behaviour into collectivist systems and individualistic activity into competitive structures. Collectivist societies provide social reinforcement to train members such that they form into a small number of ingroups that compete with others.

Foster (1965) argued the creation of a limited good where the concept of good is limited in that an event that occurs that is good for an outgroup member must be bad for ingroup members. Such structures foster competition between ingroup and outgroup relationships and are embedded in these factions' thought processes. Triandis (1988) investigates the distinctions between individualist and collectivist societies. The author argues that cultural complexity is curvilinearly related to individualism (p. 61) with hunter-gatherer societies socialising children to be self-reliant in the form of proto-individualism. Still, as cultures become more agriculturally dependent, the creation of political integration drives social differentiation and the stratification of society. In this, people become conditioned to obey, and children are socialised into interdependent hierarchical structures.

The resultant change in structure as human civilisations evolved from tribal groups of hunter-gatherers into agricultural society and more recently into industrial and post-industrial society has fostered an associated expansion in cultural complexity (Murdock & Provost, 1973). As Lee (1976) notes in an analysis of other cultures, it is possible to determine the differential relationships between ingroups and outgroups across more collective and individualistic societies through such groups' anthropological studies. However, the work of Lomax and Berkowitz (1972) provide ample evidence of the evolutionary structure of culture with the associated development of ingroups that are associated with the necessary control of complex society. This work is supported by the earlier work of Carnairo (1970).

The development of hierarchical structures is ubiquitous within human cultures (Chiao, 2010). Still, the position of any individual in an ingroup or outgroup and the ability for an individual to thrive outside of ingroups depends on society's cultural structure. Although there are psychological advantages to hierarchy (Friesen et al., 2014), game-theoretic limitations to the complete implementation of hierarchy with opportunities for descent have led to critiques against the existence of hierarchical structure in modern society (Crumley, 1987). This development is obvious when hierarchical inefficiencies provide cost economic opportunities for individuals who can exploit ingroup and outgroup transaction costs (Moschandreas, 1997).

5

Delusion of crowds

Pauhus et al. (1993) demonstrate how individuals produce less and lower quality results during interactive brainstorming sessions in groups than when brainstorming in outgroup sessions or alone. The perception of productivity through collaborative brainstorming and group ascension may provide opportunities for social comparison but limits the ability to develop innovative concepts. As Fiske (1993) observes, ingroup stereotyping and perceptions allow for individuals' control within the group. Dominant group members can exert peer pressure to create scenarios in which multiple individuals seemingly act independently whilst remaining within a herd mentality. Gleibs, Noack, & Mummendey (2010) explain how this allows individuals to use social identity theory (Tajfel & Turner, 1986) to avoid or downplay perceptions of realistic threats during corporate mergers.

Coleman (2007) documents multiple instances of popular delusions and how ingroup conformity acts to form the basis of many aspects of society and political systems. The ingroup effect and how authoritarian politicians can use this are investigated by Hans Toch (2013, p. 58-62) who argues that the desire to conform restrains many individuals from acting out against policies they would otherwise seek to disavow. Notably, "paranoid reactions" (p. 55) and persistent delusions may form where "the person maintains his integrity and self-esteem only at the expense of others" (p. 56) whilst seeking to align a sense of self with a disparate group identity. In this, the convictions of others may be perceived as evil and effective or perpetually in error. As frailty and disparity between the ingroup views and reality come apparent in social interactions with outgroups, the creation of partisan beliefs and strategies may develop with views of prejudice and paranoia.

Authoritarian personalities can exploit this prejudice and direct the ingroup sense of loyalty to their ends by building mistrust of other people they hold with "suspicion and contempt" (Toch, 2014, p.57). The ingroup thus provides the individual with a standard to measure oneself against. The individual can find perfection through the ingroup reinforcement of a shared concept (p. 58). This crowd effect can demonstrate a benefit in the perception of conspiracies and explains their growth within groups. Willem Doise (1988, p. 108-110) extends this into large groups that gather "once or a few times" arguing that people may identify with the crowd. Crowd formation is generally a short-termed association needs to a temporary identification. Milgram, Bickman & Berkowitz (1969) documented multiple factors that aid in forming casual crowds. These may be further divided into audiences, queues and gatherings and in selected circumstances can become mobs.

Mobs are defined as active crowds. These may not be antisocial or aggressive, but the form of cognitive "contagion" (Milgram, Bickman & Berkowitz, 1969, p. 79) can act epidemiologically to attract new members and create a stimulus that could be subverted into antisocial activity. The

perceived benefits of group activity have been termed the "wisdom of crowds" (Welinder, 2010; Savage, 2012). Mannes, Larrick & Soll (2012) explore this concept concerning the Asch experiment (Asch, 1956; Perrin & Spencer, 1981; McLeod, 2012). In this, the actions of a minority against a uniform majority can radically change the nature of group outcomes. However, these results have been heavily disputed (Friend, Rafferty& Bramel, 1990; Lalancette & Standing, 1990; Larsen, 1990). In all cases, however, the perceived wisdom of crowds becomes a delusion of crowds where ingroup reinforcement overrides individual thought. To maintain the benefits of diversity, it becomes necessary to ensure that individuals can express dissent without being ostracised (Radden, 2010). As Petsko (2008) notes, ingroup members generally need a methodology of updating others' beliefs in the group anonymously for this to succeed.

Attributing causes to ingroup versus outgroup members

Maass and Arcuri (1996) note that how ingroup representatives describe positive traits is generally taken to be distributive and encompass the entire group. For instance, when describing the group's nature to others, representatives of an ingroup will talk in terms of group association using pronouns such as "we" to describe the sanguine characteristics. Conversely, representatives of a group will exclude members when describing negative behaviours (Maass, Ceccarielli, & Rudin, 1996). In this, descriptions will refer to individuals or subgroups in a manner that disassociates them from the primary ingroup. Von Hippel, Sekaquaptewa and Vargas (1997) note that this allows the group members to preserve beneficial characteristics for group members to promote the overall group self-image constructively.

Stangor and Leary (2006) argue that social structuring is innate within human psychology. In evolutionary theory, social categorisation developed to simplify the discrimination between individuals who could be trusted or pose a threat (Maskell & Malmberg 2007). These emotional feedback loops allow individuals in the ingroup to feel superior to others (Aberson, Healy & Romero, 2000). Cadinu and Rothbart (1996) demonstrate that the perception that we are like ingroup colleagues and different to those in outgroup provides a means of simplification due to the mere fact that members of the ingroup are not associated with the outgroup. Those within ingroups are easily distinguished from those who are not in the ingroup merely due to the intimacy of close referential ties (Zebrowitz, Bronstad, & Lee, 2007). These relationships are critical to many people as it allows them to augment their self-perception (Brewer, 1979).

Social media and related systems

As Shelton & Richeson (2005) demonstrate, ingroup participants, hold to a principle that the participants of their own group are not prejudiced compared to an outgroup. This belief in a lack of bias allows members of the ingroup to recall positive events whilst forgetting negative information and occurrences within the ingroup and because of its members' actions. Pinter and Greenwald (2010) demonstrate that ingroup preferentialism occurs across all forms of social groups. Such a group serving bias or attribution error (Hewstone, 1990) allows the development of extreme views in imagined online communities.

Knittel & Wash (2019) use social psychology in an investigation of Bitcoin-based sub-reddits. Rather than investing the time to understand complex technology, individuals create narratives that allow them to identify "characteristics of beneficial versus harmful Bitcoin users" (p. 1). These actions allow a group on an altered fork of Bitcoin (BTC Core) to amend a system that was designed not to change (Trump et al., 2018). Much of this is through creating a shared identity narrative of "True Bitcoiners" (p. 3). The authors note that members of the ingroup have developed specialised language such as the term "HODL" to portray and distinguish ingroup members from perceived heretics. However, the authors fail to note the changes in narrative over time within the "True Bitcoiner" community. For instance, the original creation of the system was of a protocol that was "the core design was set in stone for the rest of its lifetime" but where the original creation story has been altered by others seeking a false myth of decentralisation (Wright, 2018).

Interestingly, this demonstrates the autocratic nature of a few individuals who can steer ingroup members to change their beliefs over time, in a manner reminiscent of George Orwell's 1984 (1949) where the government could change the truth, convincing individuals that it was always true. In this, a dissenting group of three individuals (Lopp, 2019) who control a decentralised army of individuals and trolls who act to maintain the party view using ingroup techniques and ostracisation. These individuals utilise techniques that Coles (2016) has referred to as "trolling the trolls" to maintain their autocratic leadership. The justification follows the creation of normative beliefs documented by Hilvert-Bruce & Neill (2020). They demonstrate the normalisation of aggression and harassment and how groups can use this to punish dissenters.

Baccarella et al. (2018) demonstrate that the ability to disassociate one's real identity in online communications provides opportunities for antisocial individuals to act outside normal social means. So, although some authors have touted the benefits of social media (Kumar et al., 2016) and the potential benefits it may bring, the lack of association with real-world identity allows both malicious individuals and even state players to manipulate financial and political systems due to the anonymity and ability to leverage ingroup effects (Bradshaw & Howard, 2018; Beskow & Carley, 2020).

8

Synnott, Coulias & Ioannou (2017) show how ingroup language is critical in constructing group identities. Ability to readily disassociate oneself from real-life identities, either pseudonymously or anonymously allows trolls to believe that they are above the law. In many industries including financial industries and that of Cryptocurrency noted above, trolls use the word "shill" to ostracise individuals who have acted outside of the groups' boundaries ostracising or shaming those individuals into alignment. Of note from the study, linking characteristics from individuals with antisocial personality disorder to the control of authoritarian online groups are interesting and would require further study.

The introduction of automated systems or "Bots" allows for an enhanced exposure to harmful and inflammatory content (Stella, Ferrara & De Domenico, 2018). In cyberbullying and other psychological influence methods, control of political discourse can be influenced by automated software programs (Paavola et al., 2016). As Hoey et al. (2018), the construction of automated agents acting through effective dynamics may influence and control many psychological processes and change the impact of human interactions online. These techniques can end with the automated system amplifying the adverse effects of the individual influencing the ingroup. Yan et al. (2020) demonstrate that these systems can be detected, but systems are already active that are already influencing political debates on a large scale. This use of social media has personal impacts on individuals online and potential national security issues and concerns that must be addressed.

Financial bubbles and Ponzi schemes

Cryptocurrencies are but one aspect of the manipulation of ingroup behaviour. Larreina and Gartzia (2017) investigate social psychology as it relates to manipulative behaviour in grooming individuals who bypass usual ethical standards. Taffer (2014) argued that financial decisions are emotional and hence subject to manipulation using social psychology. The authors note that investment invokes emotional excitement and anxiety and that manipulative actors can play this to produce feelings of denial and ingroup/outgroup decisions. Manning (2018) explores this concept by further investigating social capital. The analysis of criminal financial schemes and financial engineering projects are constructed, such as those in the Ponzi and Madoff financial frauds by swindlers who understand and manipulate social capital.

Conclusion

The ability for malicious actors to use anonymous social systems and technology has allowed for the creation of criminal groups that target political systems, financial systems and generally cause dilemmas that result in lost economic opportunities for many people and may even go as far as

9

causing personal harm. In providing access to a wide variety of platforms that can be tied to fake and manipulable sources such as those controlled in asymmetrical systems using bots, authoritarian and socially deviant actors can manipulate others to polarise and partisanise groups. These results may be seen in the false manipulation of Cryptocurrencies including Bitcoin through groups such as BTC Core and the introduction of specialist language for ingroups who believe not only that they will get rich, but they will gain in power and prestige. Consequently, the rise in new technologies that allow for the disassociation of the individuals' identity and the creation of methods that allow individuals to distance themselves from their activities must be investigated to regulate these systems.

References

1. Aberson, C. L., Healy, M., & Romero, V. (2000). Ingroup bias and self-esteem: A meta-analysis. *Personality and social psychology review*, *4*(2), 157-173.

2. Aboud, F. (2003). The formation of ingroup favoritism and out-group prejudice in young children: Are they distinct attitudes? *Developmental Psychology*, *39*(1), 48-60. doi:10.1037/0012-1649.39.1.48

3. Allen, S. J. (2007). Adult learning theory and leadership development. *Leadership Review*, *7*(1), 26-37.

4. Anderson, B. (2006). *Imagined Communities*. London: Verso Books.

5. Asch, S. E. (1956). Studies of independence and conformity: I. A minority of one against a unanimous majority. *Psychological monographs: General and applied*, *70*(9), 1.

6. Ashokkumar, A., Galaif, M., & Swann Jr, W. B. (2019). Tribalism can corrupt: Why people denounce or protect immoral group members. *Journal of Experimental Social Psychology*, *85*, 103874.

7. Baccarella, C. V., Wagner, T. F., Kietzmann, J. H., & McCarthy, I. P. (2018). Social media? It's serious! Understanding the dark side of social media. *European Management Journal*, *36*(4), 431-438.

8. Barnes, M. L., & Sternberg, R. J. (1989). Social intelligence and decoding of nonverbal cues. *Intelligence*, *13*(3), 263-287.

9. Beskow, D. M., & Carley, K. M. (2020). Characterisation and comparison of Russian and Chinese disinformation campaigns. In *Disinformation, misinformation, and fake news in social media* (pp. 63-81). Springer, Cham.

10. Billig, M., & Tajfel, H. (1973). Social categorisation and similarity in intergroup behaviour. *European Journal Of Social Psychology*, *3*(1), 27-52. doi:10.1002/ejsp.2420030103

11. Bocian, K., Cichocka, A., & Wojciszke, B. (2021). Moral tribalism: Moral judgments of actions supporting ingroup interests depend on collective narcissism. *Journal of Experimental Social Psychology*, *93*, 104098. https://doi.org/10.1016/j.jesp.2020.104098.

12. Bourgeois, M. J., & Harton, H. C. (2009). The psychology of large groups. *Psychology – Volume III*, 107.

13. Bradshaw, S., & Howard, P. N. (2018). Challenging truth and trust: A global inventory of organised social media manipulation. *The Computational Propaganda Project*, *1*.

14. Braithwaite, J., Clay-Williams, R., Vecellio, E., Marks, D., Hooper, T., Westbrook, M., ... & Ludlow, K. (2016). The basis of clinical tribalism, hierarchy and stereotyping: a laboratory-controlled teamwork experiment. *BMJ open*, *6*(7).

15. Brewer, M. (1979). Ingroup bias in the minimal intergroup situation: A cognitive-motivational analysis. *Psychological Bulletin*, *86*(2), 307-324. doi:10.1037/0033-2909.86.2.307

16. Bursik Jr, R. J., & Grasmick, H. G. (1999). *Neighborhoods & crime*. Lexington Books.

17. Buss, D. M. (2001). Human nature and culture: An evolutionary psychological perspective. *Journal of Personality*, *69*(6), 955-978.

18. Cadinu, M., & Rothbart, M. (1996). Self-anchoring and differentiation processes in the minimal group setting. *Journal of Personality and Social Psychology*, *70*(4), 661-677. doi:10.1037/0022-3514.70.4.661

19. Carnairo, R. L. (1970) 'Scale analysis, evolutionary sequence and the rating of cultures', in Naroll, R. and Cohen, R. (eds), *A Handbook of Method in Cultural Anthropology*, New York: Columbia University Press, pp. 834–71.

20. Carrington, S. J., Kent, R. G., Maljaars, J., Le Couteur, A., Gould, J., Wing, L., Noens, I., Van Berckelaer-Onnes, I., Leekam, S. R. (2014) DSM-5 Autism Spectrum Disorder: In search of essential behaviours for diagnosis, Research in *Autism Spectrum Disorders*, 10.1016/j.rasd.2014.03.017, 8, 6, (701-715)

21. Castelli, L., & Carraro, L. (2010). Striving for difference: On the spontaneous preference for ingroup members who maximise ingroup positive distinctiveness. *European Journal of Social Psychology*, *40*(6), 881-890. doi:10.1002/ejsp.740

22. Chiao, J. Y. (2010). Neural basis of social status hierarchy across species. *Current opinion in neurobiology*, *20*(6), 803-809.

23. Clark, C. J., Liu, B. S., Winegard, B. M., & Ditto, P. H. (2019). Tribalism is human nature. *Current Directions in Psychological Science*, *28*(6), 587-592.

24. Clark, C. J., & Winegard, B. M. (2020). Tribalism in war and peace: The nature and evolution of ideological epistemology and its significance for modern social science. *Psychological Inquiry*, *31*(1), 1-22.

25. Coleman, S. (2007). *Popular delusions: How social conformity molds society and politics*. Cambria Press.

26. Coles, B. A., & West, M. (2016). Trolling the trolls: Online forum users constructions of the nature and properties of trolling. *Computers in Human Behavior*, *60*, 233-244.

27. Crumley, C. L. (1987). A dialectical critique of hierarchy. *Power relations and state formation*, 155-169.

28. Deephouse, D. L. (1999). To be different, or to be the same? It'sa question (and theory) of strategic balance. *Strategic management journal*, *20*(2), 147-166.

29. Deutsch, M. (1962) 'Cooperation and trust: Some theoretical notes', in Jones, M. R. (ed.), *Nebraska Symposium on Motivation*, Lincoln, Nb.: University of Nebraska Press, 275–319.

30. Deutsch, M. (1962) 'Cooperation and trust: Some theoretical notes', in Jones, M. R. (ed.), *Nebraska Symposium on Motivation*, Lincoln, Nb.: University of Nebraska Press, 275–319.

31. Doise, W. (1988). Individual and social identities in intergroup relations. *European Journal of Social Psychology*, *18*(2), 99-111.

32. Dunbar, R. (1998). Theory of mind and the evolution of language. *Approaches to the Evolution of Language*, 92-110.

33. Dyches, K. D., & Mayeux, L. (2015). Popularity and resource control goals as predictors of adolescent indirect aggression. *the Journal of genetic Psychology*, *176*(4), 253-259.

34. Edelson, S. (1996). Interview with Dr. Temple Grandin. Center for the Study of Autism. (Available: http://www.autism.org/interview/temp).

35. Fiske, S. T. (1993). Controlling other people: The impact of power on stereotyping. *American psychologist*, *48*(6), 621.

36. Foster, G. (1965) 'Peasant society and the image of limited good', *American Anthropologist*, 67, 293–315.

37. Friend, R., Rafferty, Y., & Bramel, D. (1990). A puzzling misinterpretation of the Asch' conformity'study. *European Journal of Social Psychology*, *20*(1), 29-44.

38. Friesen, J. P., Kay, A. C., Eibach, R. P., & Galinsky, A. D. (2014). Seeking structure in social organisation: Compensatory control and the psychological advantages of hierarchy. *Journal of Personality and Social Psychology*, *106*(4), 590.

39. Gleibs, I. H., Noack, P., & Mummendey, A. (2010). We are still better than them: A longitudinal field study of ingroup favouritism during a merger. *European Journal of Social Psychology*, *40*(5), 819-836. https://doi.org/10.1002/ejsp.652

40. Hamlin, J., Mahajan, N., Liberman, Z., & Wynn, K. (2013). Not Like Me = Bad. *Psychological Science*, *24*(4), 589-594. doi: 10.1177/0956797612457785

41. Happe, F. (1994) 'An Advanced Test of Theory of Mind: Understanding of Story Characters' Thoughts and Feelings by Able Autistic, Mentally Handicapped, and Normal Children and Adults', Journal of Autism and Developmental Disorders 24: 129-154.

42. Havvley, P. H. (2006). Evolution and Personality: A New Look at Machiavellianisrn.

43. Hawley, P. H. (1999). The ontogenesis of social dominance: A strategy-based evolutionary perspective. *Developmental review*, *19*(1), 97-132.

44. Henrich, J. (2011). The birth of high gods how the cultural evolution of supernatural policing influenced the emergence of complex, cooperative human societies. *Evolution, culture, and the human mind*, *119*.

45. Hewstone, M. (1990). The 'ultimate attribution error'? A review of the literature on intergroup causal attribution. *European Journal of Social Psychology*, *20*(4), 311-335. doi: 10.1002/ejsp.2420200404

46. Hilvert-Bruce, Z., & Neill, J. T. (2020). I'm just trolling: The role of normative beliefs in aggressive behaviour in online gaming. *Computers in Human Behavior*, *102*, 303-311.

47. Hoey, J., Schröder, T., Morgan, J. H., Rogers, K. B., & Nagappan, M. (2018). Affective Dynamics and Control in Group Processes. In *Proceedings of the Group Interaction Frontiers in Technology* (pp. 1-7).

48. Hurlbutt, K., & Chalmers, L. (2004). Employment and Adults With Asperger Syndrome. Focus on Autism and Other Developmental Disabilities, 19(4), 215–222. https://doi.org/10.1177/10883576040190040301

49. Jensen, A. (2012). *Educability and group differences*. Routledge.

50. Johnson, D. W. and Johnson, R. T. (1983) 'The socialisation and achievement crisis: Are cooperative learning experiences the solution?', in Bickman, L. (ed.), *Applied Social Psychology Annual 4*, Beverley Hills, Cal.: Sage, 119–164.

51. Knittel, M. L., & Wash, R. (2019, May). How" True Bitcoiners" Work on Reddit to Maintain Bitcoin. In *Extended Abstracts of the 2019 CHI Conference on Human Factors in Computing Systems* (pp. 1-6). https://doi.org/10.1509/jm.14.0249

52. Kumar, A., Bezawada, R., Rishika, R., Janakiraman, R., & Kannan, P. K. (2016). From social to sale: The effects of firm-generated content in social media on customer behavior. *Journal of Marketing*, *80*(1), 7-25.

53. Lalancette, M. F., & Standing, L. (1990). Asch fails again. *Social Behavior & Personality: an international journal*, *18*(1).

54. Larreina, M., & Gartzia, L. (2017). Human and Social Capital gone into the dark side: the case of XXI century's financial system. In *Human Capital and Assets in the Networked World*. Emerald Publishing Limited.

55. Larsen, Knud S. "The Asch conformity experiment: Replication and transhistorical comparison." *Journal of Social Behavior and Personality* 5, no. 4 (1990): 163.

56. Lee, D. (1976) *Valuing the Self What can we Learn from Other Cultures?*, Englewood Cliffs, N.J: Prentice-Hall.

57. Leslie, A. M. (1994). Pretending and believing: Issues in the theory of ToMM. *Cognition*, *50*(1-3), 211-238.

58. Locksley, A., Ortiz, V., & Hepburn, C. (1980). Social categorisation and discriminatory behavior: Extinguishing the minimal intergroup discrimination effect. *Journal Of Personality And Social Psychology*, *39*(5), 773-783. doi: 10.1037/0022-3514.39.5.773

59. Lomax, A, and Berkowitz, N. (1972) 'The evolutionary taxonomy of culture', *Science*, 177, 228–39.

60. Lopp, J. (2019). Who Controls Bitcoin Core?. Retrieved 10 January 2021, from https://blog.lopp.net/who-controls-bitcoin-core-/

61. Ludvig, E. A. (2003). Why Pinker Needs Behaviorism: A Critique of" The Blank Slate". *Behavior and philosophy*, *31*, 139-143.

62. Luther, W. J., & Olson, J. (2013). Bitcoin is memory. *Journal of Prices & Markets*, *3*(3), 2015.

63. Maass, A., & Arcuri, L. (1996). Language and stereotyping. *Stereotypes and stereotyping*, 193-226.

64. Maass, A., Ceccarelli, R., & Rudin, S. (1996). Linguistic intergroup bias: Evidence for in-group-protective motivation. *Journal of Personality and Social Psychology*, *71*(3), 512-526. doi: 10.1037/0022-3514.71.3.512

65. Maltby, J., Day, L., & Macaskill, A. (2010). *Personality, individual differences and intelligence*. Pearson Education.

66. Mannes, A. E., Larrick, R. P., & Soll, J. B. (2012). *The social psychology of the wisdom of crowds.* In J. I. Krueger (Ed.), *Frontiers of social psychology. Social judgment and decision making* (p. 227–242). Psychology Press.

67. Manning, P. (2018). Exploiting the social fabric of networks: a social capital analysis of historical financial frauds. *Management & Organisational History*, *13*(2), 191-211.

68. Mawhood, L., & Howlin, P. (1999). The Outcome of a Supported Employment Scheme for High-Functioning Adults with Autism or Asperger Syndrome. Autism, 3(3), 229–254. https://doi.org/10.1177/1362361399003003003

69. Maskell, P., & Malmberg, A. (2007). Myopia, knowledge development and cluster evolution. *Journal of Economic Geography*, *7*(5), 603-618.

70. McLeod, S. (2008). Asch experiment. *Simply Psychology*.

71. Milgram, S., Bickman, L., & Berkowitz, L. (1969). Note on the drawing power of crowds of different size. *Journal of personality and social psychology*, *13*(2), 79. H

72. Moschandreas, M. (1997). The role of opportunism in transaction cost economics. *Journal of Economic Issues*, *31*(1), 39-58.

73. Murdock, G. P. and Provost, C. (1973) 'Measurement of cultural complexity', *Ethnology*, 12, 379–92.

74. Nakamoto, S. (2010) Re: Transactions and Scripts: DUP HASH160 ... EQUALVERIFY CHECKSIG | Satoshi Nakamoto Institute. (2017). Retrieved 10 January 2021, from https://satoshi.nakamotoinstitute.org/posts/bitcointalk/126/

75. O'Brien, M. T. (2011). Criminal Law's Tribalism. *Conn. Pub. Int. LJ*, *11*, 31.

76. Orwell, G. (1990). Nineteen Eighty-Four (1949). *The Complete Novels*, *7*.

77. Paavola, J., Helo, T., Jalonen, H., Sartonen, M., & Huhtinen, A. M. (2016). Understanding the trolling phenomenon: The automated detection of bots and cyborgs in the social media. *Journal of Information Warfare*, *15*(4), 100-111.

78. Pauhus, P. B., Dzindolet, M. T., Poletes, G., & Camacho, L. M. (1993). Perception of performance in group brainstorming: The illusion of group productivity. *Personality and Social Psychology Bulletin*, *19*(1), 78-89.

79. Parel, A. (1992). *The machiavellian cosmos*. Yale University Press.

80. Perrin, S., & Spencer, C. (1981). Independence or conformity in the Asch experiment as a reflection of cultural and situational factors. *British Journal of Social Psychology*, *20*(3), 205-209.

81. Petsko, G. A. (2008). The wisdom, and madness, of crowds. *Genome Biology*, *9*(11), 112.

82. Pinker, S. (2004). Why nature & nurture won't go away. *Daedalus*, *133*(4), 5-17.

83. Pinker, S. (2005). *The blank slate*. Southern Utah University.

84. Pinter, B., & Greenwald, A. (2010). A comparison of minimal group induction procedures. *Group Processes & Intergroup Relations*, *14*(1), 81-98. doi: 10.1177/1368430210375251

15

85. Ross, L., & Nisbett, R. E. (2011). *The person and the situation: Perspectives of social psychology*. Pinter & Martin Publishers.

86. Savage, Neil. "Gaining wisdom from crowds." *Communications of the ACM* 55, no. 3 (2012): 13-15.

87. Schliger, H. D. (2002). Not so fast, Mr. Pinker: A behaviorist looks at the Blank Slate. A review of Steven Pinker's the Blank Slate: The Modern Denial of Human Nature. *Behavior and Social Issues*, *12*(1), 75.

88. Shelton, J., & Richeson, J. (2005). Intergroup Contact and Pluralistic Ignorance. *Journal Of Personality And Social Psychology*, *88*(1), 91-107. doi: 10.1037/0022-3514.88.1.91

89. Stangor, C., & Leary, S. P. (2006). Intergroup beliefs: Investigations from the social side. *Advances in experimental social psychology*, *38*, 243-281.

90. Stella, M., Ferrara, E., & De Domenico, M. (2018). Bots increase exposure to negative and inflammatory content in online social systems. *Proceedings of the National Academy of Sciences*, *115*(49), 12435-12440.

91. Synnott, J., Coulias, A., & Ioannou, M. (2017). Online trolling: the case of Madeleine McCann. *Computers in Human Behavior*, *71*, 70-78.

92. Taffler, R. (2014). Emotional finance: theory and application. *Warwick School*, 1-28. https://www.semanticscholar.org/paper/Emotional-Finance-%3A-Theory-and-Application-Taffler/bcf3740582e5655b2fc7b3ec9ae7fb264a583da5#citing-papers

93. Tajfel, H., Billig, M., Bundy, R., & Flament, C. (1971). Social categorisation and intergroup behaviour. *European Journal of Social Psychology*, *1*(2), 149-178. doi: 10.1002/ejsp.2420010202

94. Tajfel, H., & Turner, J. C. (1986). The social identity theory of intergroup behavior. In S. Worchel, & W. G. Austin (Eds.), *Psychology of intergroup relations* (pp. 7–24). Chicago: Nelson-Hall Publishing.

95. Toch, H. (2013). *The Social Psychology of Social Movements (Psychology Revivals)*. Routledge.

96. Triandis, H. (1988). Collectivism v. individualism: A reconceptualisation of a basic concept in cross-cultural social psychology. In *Cross-cultural studies of personality, attitudes and cognition* (pp. 60-95). Palgrave Macmillan, London.

97. Trump, B. D., Wells, E., Trump, J., & Linkov, I. (2018). Cryptocurrency: governance for what was meant to be ungovernable. *Environment Systems and Decisions*, *38*(3), 426-430.

98. Valls, R., & Kyriakides, L. (2013). The power of Interactive Groups: how diversity of adults volunteering in classroom groups can promote inclusion and success for children of vulnerable minority ethnic populations. *Cambridge journal of education*, *43*(1), 17-33.

99. Von Hippel, W., Sekaquaptewa, D., & Vargas, P. (1997). The linguistic intergroup bias as an implicit indicator of prejudice. *Journal of Experimental Social Psychology*, *33*(5), 490-509.

100. Welinder, P., Branson, S., Perona, P., & Belongie, S. (2010). The multidimensional wisdom of crowds. *Advances in neural information processing systems*, *23*, 2424-2432.

101. Wing, L. (1991). The relationship between Asperger's syndrome and Kanner's autism. In U. Frith (Ed.), Autism and Asperger's syndrome (pp. 93—121). London: Cam-bridge University Press.

102. Wright, C. (2018). Forking and Passing Off…. Retrieved 10 January 2021, from https://craigwright.net/blog/law-regulation/forking-and-passing-off/

103. Wrightsman, L. S. (1991). *Assumptions about human nature: Implications for researchers and practitioners*. Sage Publications.

104. Yan, H. Y., Yang, K. C., Menczer, F., & Shanahan, J. (2020). Asymmetrical perceptions of partisan political bots. *New Media & Society*, 1461444820942744.

105. Zagenczyk, T. J., Restubog, S. L. D., Kiewitz, C., Kiazad, K., & Tang, R. L. (2014). Psychological contracts as a mediator between Machiavellianism and employee citizenship and deviant behaviors. *Journal of Management*, *40*(4), 1098-1122.

106. Zebrowitz, L. A., Bronstad, P. M., & Lee, H. K. (2007). The contribution of face familiarity to ingroup favoritism and stereotyping. *Social Cognition*, *25*(2), 306-338.