

Author Version

Hegarty, P., & Bruckmüller, S. (2013). Asymmetric explanations of group differences: Experimental evidence of Foucault's disciplinary power in social psychology. *Social and Personality Psychology Compass*, 7, 176-186.

Abstract

Whilst the same group differences can be explained in many ways, explanations of group differences tend to spontaneously *figure* the distinctive attributes of lower-status groups against a *background norm* of high-status groups' attributes. We suggest that this asymmetry occurs in the explanations of scientists and laypeople because of 'disciplinary power' and works to disempower lower-status people by making them visible to the human sciences. We argue that social groups who are habitually studied first in research programs, more commonly encountered social groups, and prototypical social groups are all less likely than their counterparts to be marked in spontaneous explanations of empirical group differences. We present evidence that groups who are explicitly mentioned in such explanations are assumed to be lower in power. We describe some limitations to current knowledge about such asymmetric explanations and suggest some directions for further research, including our thoughts about how to integrate existing findings with the possibility of formulating cognitive alternatives to the status quo among minority groups.

Introduction

Social psychologists have long been aware that the same social event can be interpreted in many ways. People can construct the same action as typical of the actor or specific to the situation (Maass, 1999) or describe their personal histories as tragedies or triumphs (Ross & Wilson, 2003). *Scientists* must also choose how to construct the meanings of results. But scientists' accounts are special, because those accounts are often presented and interpreted as 'objective truths' that cannot be influenced by individual, group, or systemic political interests (Shapin, 1996). In this article, we engage with this description of science by describing some systematic ways that lay and scientific descriptions of differences between social groups are skewed, and some important consequences of those skewed descriptions.

Psychologists' accounts of group differences have contributed to inequalities in the past. Happily, psychological studies of 'race' and intelligence, of women's capacity to do particular jobs, and of the 'adjustment' of gay and lesbian people are all topics that students learn about only in their history of psychology classes. However, we argue that contemporary scientists' practices of interpreting evidence about group differences continue to selectively privilege Whites, men, and heterosexuals in subtle but systematic ways. We first summarize empirical findings showing that laypersons and psychologists alike explain group differences by making lower-status groups the *figure* and higher-status groups the *background* for comparison. We then suggest a framework for understanding why this effect occurs. Our framework includes factors that range from distal to proximal causes, including historical contexts, communication pragmatics, learning processes and category activation. We also explain how groups are advantaged or disadvantaged when they are positioned as the background norm for comparison or the figural 'effect to be explained.'

Figure-Ground Relationships in Explanations

Our research draws on the Gestalt principle that it is possible to impose different *figure-ground* relationships on the same external stimulus. We have studied figure-ground relationships within accounts of empirical differences between social groups. Experiments with US college students have shown a preference to focus explanations of differences upon lower-status groups against a background of higher-status groups. When Miller, Taylor, and

Buck (1991) presented such participants with results of studies that showed gender differences in political behavior, both women and men participants in these studies focused their explanations of those gender differences more frequently on women than on men. That is to say, the participants explained gender differences more often as being ‘about women’ than ‘about men’; women’s attributes were made figural and men’s attributes were made the background norm for comparison. Later studies extended this finding beyond the domain of gender, showing that sexual identity differences are most often explained as being about gay/lesbian people more than about straight people (Hegarty & Pratto, 2001, 2004), and ‘race’ differences as being about African-Americans more than about European-Americans (Pratto, Hegarty, & Korchmaros, 2007). These asymmetries are large; typically only 1/4 of explanation content focuses on higher-status groups in such studies (Pratto, Hegarty et al., 2007).

Asymmetric explanations are not only observed in experiments, they are also visible in scientific discourse. Hegarty and Buechel (2006) coded descriptions and explanations of gender difference findings in 40 years of articles published in four journals of the American Psychological Association. Both women and men authors explained gender differences by making women and girls the figure and men and boys the background, albeit to a lesser extent than in the experimental studies described above. Because experiments with lay participants and studies of scientific reporting have shown figure-ground biases in the explanations of both men and women (Miller et al., 1991; Hegarty & Buechel, 2006), this body of research suggests that biases in explanatory focus can best be described as focusing on lower-status groups rather than on outgroups. Below we review evidence that these biases can be seen as resulting from history, communication pragmatics, learning and knowledge activation.

Disciplinary Power

We begin by suggesting a historical reason why explanations might locate the causes of differences in some groups’ characteristics more than in others’. These asymmetries bear on the form of power that Foucault (1975/1995) called “disciplinary power.” Foucault described a transformation in the form of social power that occurred when ‘Western’ societies began to apply the scientific method to studying humans in the 19th century. Whilst the earlier *sovereign* mode of power relied upon the often visible exercise of the power of monarchs, disciplinary power works through making people visible. People who are ‘disciplined’ are disempowered by being made visible, so that it is easier for institutions to selectively act on those individuals in a manner that appears objective, rational and fair. At the same time, disciplinary power makes those who exercise the power less visible by justifying their actions as rational. To exemplify disciplinary power, Foucault described Jeremy Bentham’s design of the ‘panopticon,’ an idealized prison with a radial architecture in which myriad prisoners could all be observed in their individual cells from a central observing tower, whilst no prisoner could ever be sure when they were being observed.

The emergence of disciplinary power provides one historical explanation of why scientists and laypeople in the West might explain group differences in asymmetric ways (Hegarty & Buechel, 2006; Pratto, Hegarty et al., 2007); such people live in a cultural context where people who are described by the human sciences have historically been disempowered. Foucault saw the invention of disciplinary power as entrenching existing status differences. He noted that:

In a system of discipline, the child is more individualized than the adult, the patient more than the healthy man, the madman and the delinquent more than the normal and the non-delinquent (Foucault, 1975/1995, p. 193).

The finding that such asymmetries occur in *scientists'* explanations (c.f., Hegarty & Buechel, 2006) renders their comparison to Foucault's disciplinary power all the more compelling. Foucault used the term 'disciplinary' both because this form of power lead individuals to internalize the discipline of institutions, such as panopticons, *and* because this form of power generated academic disciplines such as criminology, education, and psychiatry which justified treating people differently and subjecting them to surveillance in institutions. Indeed, Hegarty and Buechel's (2006) observations of asymmetric explanations in *psychological science* are particularly relevant to Foucault's claim that "[a]ll the sciences, analyses or practices employing the root 'psycho-' have their origins in this historical reversal of the procedures of individualization" (Foucault, 1975/1995, p. 193).

Large asymmetries in people's explanations of group differences may evidence processes that have their origins in disciplinary power. It is important to note that Foucault defined 'power' differently from the common definition of power in social psychology as the capacity to influence other people (e.g., Fiske, 1993). Simon and Oakes (2006) have similarly described power as a process, and usefully distinguished between seemingly static *status* group differences, and processes of *power* that melt and freeze those differences. Their social identity perspective usefully incorporates Foucault's insight that power consists of processes by which status differences might be reproduced or broken down. Similarly, we argue that the focus on lower-status groups in explanations constitutes a form of power, through which status differences are communicated and reified. We think such power processes that work through scientific knowledge are worth studying because they operate invisibly and seem legitimate, *and* because it seems possible to interrupt them with individual and collective effort.

Why are Explanations of Group Differences Asymmetric?

Whilst Foucault's description of the emergence of disciplinary power provides a broad historical explanation of asymmetries in explanations of group differences, it says little about the more proximal processes by which status differences might affect the contents of individual's (scientific) explanations. In this section we suggest three reasons why groups might habitually become figural or background in people's explanations. These factors are loosely associated with status; (1) some groups are studied earlier than others in research programs (2) some groups are encountered more frequently than others, and (3) some groups are deemed more prototypical of general categories than are others.

Who is Studied Before Whom?

The historical order in which groups studied in research programs may affect the focus of explanations of group differences. Early 20th century psychological scientists in the United States drew attention to the institutional locations of some of their research participants (e.g., hospitals, prisons, and schools). But over time, the institutional location of university student participants was mentioned with less frequency (Danziger, 1990). We might understand this process to have put in motion a kind of disciplinary power in psychological science as the particulars of college students become invisible whilst other, less privileged groups remained marked as particular.

We are, of course, not the first to mention the over-reliance of psychological science on college student participants (e.g., Henry, 2008; McNemar, 1940; Sears, 1986). Here, we emphasize how the historical order in which groups are sampled within a research program can affect the form that explanation of group differences takes (see also Sue, 1999). We have conducted experiments in which British college students and older adults were presented with data about one group, and then asked to consider whether the findings would generalize to a

second group. In the domains of nationality (Hegarty & Chryssochoou, 2005), age (Robinson & Hegarty, 2005), and gender (Hegarty, 2006), the resulting explanations of predicted group differences focused on the second-sampled group, or ‘the effect to be predicted.’

Psychologists are increasingly cognizant of how the knowledge base of psychological science rests disproportionately on WEIRD (Western, Educated, Industrial, Rich, Democratic; Henrich, Heine, & Norenzayan, 2010) settings. Consequently our experiments on generalization and explanation suggest that psychologists are more likely to consider patterns observed outside the WEIRD world as the phenomena that require explanation in cross-cultural research (Adams & Salter, 2007). Indeed, the often resulting practice of exporting research and interventions based on WEIRD settings to the rest of the world can be seen as a new form of colonial power that might in subtle ways contribute to global inequalities (Adams, Bruckmüller, & Decker, 2012).

There are at least two reasons why people focus explanations of differences on social groups that are studied later or about whom we make a prediction. The first explanation derives from Gricean pragmatics. According to Grice (1975), one of the cooperative norms that govern conversation is that speakers should only include necessary information, whilst information that can be assumed to be "common ground" - such as default group identities - should not be mentioned explicitly. Consistent with this model, people are more likely to mention explicitly the race or gender of a celebrity in the course of communicating who that person might be when they believe that their communication partner might not already have that race or gender identity in mind (Pratto, Korchmaros, & Hegarty, 2007). Conversational norms for marking can also be set implicitly between partners, as when people look to conversation partners for evidence of social norms of when they should or should not mention social identities explicitly (Apfelbaum, Sommers, & Norton, 2008). Importantly, what people make explicit in conversation and what remains implicit is not only influenced by what is assumed to be common ground, it also (re-)establishes common ground (Kashima, Klein, & Clark, 2007). We would argue that conversations among researchers likely have a similar form, as socialization into an academic discipline requires learning tacit rules for conduct as well as explicit methodologies (Kuhn, 1970). Researchers may socialize each other into traditions that “ground” the norm of focusing explanations on lower-status groups, while higher status groups just *are*.

A second explanation of why we focus more on the attributes of groups representing "the-effect-to-be-predicted" could be derived from Sloman’s (1993) model of *feature-based induction*. This connectionist model predicts that when people consider whether it is possible to generalize from category A to category B, only the distinct features of category B, and not the distinct features of category A, affect their judgment. Consistent with Sloman’s model, people considering the generalizability of findings call to mind the distinct attributes of groups to whom they might generalize, rather than groups from which the original data are drawn. Consequently, people consider out-groups and in-groups to be more similar when generalizing from in-groups (of which many distinct attributes are known) to out-groups (of which fewer distinct attributes are known) than when generalizing from out-groups to in-groups (Hegarty & Chryssochoou, 2005). In sum, there are both communicative and cognitive explanations of why we tend to focus explanations of group differences on those groups who are considered ‘particular’ rather than those who we habitually consider normative, by virtue of our sampling habits.

Which Groups Do We Encounter Frequently?

Frequency may be a second factor that skews explanation content. More frequently-encountered groups may become the background in explanations, and more rarely-

encountered groups the ‘figure’ of such explanations because of attentional shifts that occur during category learning (Kruschke, 2003). Consider the *inverse base-rate effect* described by Medin and Edelson (1988). These authors asked participants to learn about diseases which were presented either frequently or rarely, and the diseases had both *common* symptoms and *distinct* symptoms. Participants later inferred which disease was present on a symptom common to both diseases. In such trials, participants typically guessed the more common disease. However, when demanded to guess which disease was indicated by the presence of two distinct symptoms, participants typically guessed the *less* frequently presented disease. This inverse base rate effect shows how common features become more readily associated with frequently-encountered categories whilst distinct features become more strongly associated with rarely-encountered categories during category learning.

The inverse base-rate effect may partially account for explanations of group differences that reference distinct features of statistically rarer groups more often than they reference distinct features of statistically more common groups. Indeed this focus of attention on statistical minority groups is attenuated in experiments where participants are told that a majority of the sample has been drawn from the statistically minority lower-status group (see Hegarty & Pratto, 2001, Experiment 2 on sexuality, and Pratto, Hegarty et al., 2007, Study 1, on race). However, not all higher-status groups are statistical majorities; there are fewer adult men than women in most populations, and elites are statistical minorities. Other processes must also affect the framing of explanations.

Which Groups are Implicitly More Prototypical?

A third reason why explanations might focus on lower-status groups is that such groups are not perceived as being as *prototypical* of larger social categories as are higher-status groups. There is ample evidence that people sometimes conflate the attributes of all with the attributes of higher-status groups (e.g., Devos & Banaji, 2005; Eagly & Kite, 1987). Consider the case of ‘androcentrism’ through which men and the attributes associated with them are taken as the standard for humanity (see Hegarty, Parslow, Ansara & Quick, in press for a review). As Simon and Oakes (2006) note, higher status groups often deliberately conflate their particular high-status identities and interests with the identities and interests of all, to successfully appropriate the efforts of lower-status groups. Kahneman and Miller’s (1986) norm theory describes how people construct mental representations of (social) categories called ‘category norms’ that might similarly conflate the attributes of higher-status groups with the general category. Category norms are constructed on-the-fly when category labels are invoked. These category norms aggregate the attributes of category members that are called to mind when the category label is invoked (so-called ‘exemplars’). These authors specified both that prototypical members of the category would be most often brought to mind *and* that situational factors might affect the range of exemplars brought to mind. Thus, higher-status groups may be more likely to be the background than the figure in explanations because those groups are more prototypical within most social categories. This explanation implies that figure-ground relationships in explanations should vary at least somewhat across contexts. In support of this hypothesis, explanations focus less on women when gender differences within a female-generic category are explained (such as elementary school teachers, Miller et al., 1991; Experiment 3), and differences between gay and straight men within a category for which gay men are the most prototypical (e.g., men living with HIV/AIDS) do not prompt the usual focus of explanations on gay men (Hegarty & Pratto, 2001, Study 2).

In sum, both professional psychological scientists and laypeople may explain group differences in asymmetric ways because they are influenced by a history of focusing attention on disempowered groups that has given rise to the psychological disciplines (Foucault,

1975/1995), and which may be reproduced as common ground within those disciplines. Cognitive psychology suggests why explanatory attention tends to focus on the distinct attributes of groups that are studied more recently (Sloman, 1993); encountered less frequently (Medin & Edelson), or are taken to be less prototypical of overarching social categories (Kahneman & Miller, 1986). We next turn to the question of how such explanation asymmetries can empower and disempower groups and reproduces status differences.

Communicating Power by Framing Difference

In this section we describe empirical findings on the consequences of asymmetric explanations and on what information may be (re-)established as common ground when explanations focus on either higher-status or lower-status groups. Research in linguistic pragmatics demonstrates that sentence structure on its own provides a *cue* to the characteristics of objects. Gleitman, Gleitman, Miller, and Ostrin (1996, Experiment 5) provided their participants with symmetrical statements about nonsense syllables (e.g., “ZUM is near GAX”). Participants intuitively inferred that the *referent* syllable (i.e., GAX) was more famous, more important, older, bigger, and less mobile than the *subject* syllable (i.e., ZUM). Extending these findings from nonsense syllables to more meaningful referents, Bruckmüller and Abele (2010) showed that people similarly derive inferences about social groups from the position of those groups as figure/subject or ground/referent in comparative statements. Their participants read a text about differences between real groups of similar status (i.e., university students with different majors) or fictitious groups, in which one (figural) group was always compared to the other (background) group, varying between participants which group was figure/subject and which group was ground/referent. Participants inferred that the background group had higher status and more power than the figural group, and attributed stereotypes associated with status to the groups in response to the comparative framing.

In these first studies, the linguistic figure-ground framing was the only available information on status. When social groups differ in status this figure-ground framing seems to communicate different things about group status depending on the adherence to, or violation of, context-specific conventions of framing (Bruckmüller, Hegarty, & Abele, 2012). We asked German student participants to read about gender differences framed either in terms of how women differ from men or how men differ from women; they either read about gender differences in leadership - a domain where men are perceived to be much more prototypical than women, often to women's disadvantage (Eagly & Sczesny, 2009) - or about gender differences in leisure time, a domain where a pretest had shown women and men to be equally prototypical. Among participants reading about gender differences in leadership, status differences between men and women were judged to be greater and more legitimate, and status-related gender stereotypes were enhanced when gender differences were framed conventionally, with women as the figure and men as background. Varying the framing of differences in leisure time use had less systematic effects on gender stereotypes and beliefs about status.

Thus, for groups that differ in status the choice of which group to figure and which to background seems to only affect beliefs about status in contexts where shared assumptions about prototypicality and associated conventions for framing differences exist. Adhering to these conventions re-establishes the assumed common ground on status and prototypicality, whilst violating conventions of framing seems to challenge these assumptions. There are additional implications of asymmetric explanations. First, because people draw upon stereotypes to explain differences, stereotypes about lower-status groups are 'aired'

more often than are stereotypes about higher-status groups (Hegarty & Pratto, 2001). Second, the framing of group differences can affect the way group members feel about their social identity (i.e., their collective self-esteem). In recent studies singles and people in relationships read or wrote either about how singles differ from coupled people or the reverse (Bruckmüller, in press). Singles - an often stigmatized lower-status group (DePaulo & Morris, 2006) - indicated that they felt better about being single when coupled people were compared against a background norm of singles than when singles were compared to coupled people, irrespective of how positive or negative the respective statements about singles were. In a parallel study, left-handed participants felt better about being left-handed when they wrote about how right-handers differ from left-handers than when they wrote about how left-handers differ from right-handers. There were no effects of framing for coupled or for right-handed participants. Thus being 'singled out' because of one's membership in a lower-status or statistical minority group can negatively affect one's collective self-esteem even if the stereotypes that are aired are positive.

Taken together, these studies suggest dynamic feedback loops by which status differences and habits of framing group differences mutually reinforce each other. Beliefs about status (and prototypicality) affect how we frame group differences, and the way we frame differences in turn not only reinforces these beliefs and associated stereotypes but also affects the way we feel about ourselves.

Future Directions

Although the work of the philosopher-historian Michel Foucault engaged continually with the history of psychology, and that work has had profound influence on many disciplines, psychologists have been slow to engage his descriptions of 'power-knowledge' processes by which social power works through scientific descriptions of people. In this paper, we have suggested that there is evidence that *disciplinary power* still works to disempower people by making them visible, and that such power works through psychological science itself. We reviewed evidence of a widespread tendency to explain group differences as being about lower-status groups, described communicative and cognitive dynamics that sustain these patterns and described their consequences for the people so described. In conclusion, we point to future directions for this research.

First, Foucault's theory and early work on asymmetric explanations may both be overly simplistic in assuming that visibility always leads people to be normalized. Foucault assumed that disciplinary power served to bring individuals conduct closer to a social norm. Similarly, Miller et al. (1991) argued that explanations focus on less prototypical groups because they are perceived to have more mutable attributes. However, later studies did not replicate Miller et al.'s mutability effect (Pratto, Hegarty et al., 2007), and Gleitman et al. (1996) also found that the inference that background syllables were more *immobile* than figural syllables was independent of inferences of importance, size, age and fame. This pattern of results suggests that asymmetric explanations may at least sometimes simply be the result of trying to make sense of and to effectively communicate about group differences in a socio-cultural context that privileges certain groups as the default - with the unintended consequence of reaffirming these privileges.

Second, both Foucault's account of disciplinary power and Kahneman and Miller's (1986) norm theory assume that normalization is based on prototypical features. The idea of the 'normal' was first used to describe differences among people only in the sciences of the late 18th century (Canguilhem, 1966/1989), and Foucault's account of normalization describes well the explosion of statistical thinking in the early 19th century in which Bourgeois groups in many new nations produced an avalanche of statistics about the features

of their ‘populations’ (Hacking, 1990). During this period, deviations from *average* patterns were constructed as a threat to Bourgeois power and social stability in new nation states. Historians of statistics also emphasize a second wave of post-Darwinian thinking about norms and standards exemplified by *eugenics* (Hacking, 1990; Gigerenzer et al., 1989). This later form of Galtonian normalization aimed at improving the population of nation states through artificial interventions, and held up *rare* kinds of people as ideal standards for the rest of us (e.g., Galton, 1869). Foucault’s description of normalization and disciplinary power does not capture this latter process of Galtonian normalization very well (Hegarty, 2013).

Similarly, Kahneman and Miller’s (1986) norm theory assumes that category norms are assembled from the most common features of exemplars that are called to mind to represent the category. Of course, a ‘category norm’ is only a metaphor; there is nothing cognitively natural about a ‘norm,’ and like many metaphors in cognitive psychology, norm theory draws on statistical practices for its inspiration (c.f., Gigerenzer, 1991). Not all categories have common features at their centre. Mental norms for many natural categories revolve around *average* ‘best exemplars’ (Rosch & Mervis, 1975), whilst many human-made goal-directed categories include uncommon *ideal* cases as their best exemplars (Barsalou, 1985). Research on asymmetric explanations has not yet examined how people explain differences between ordinary people and rare people who are sometimes considered ideal, such as the very rich, very beautiful, very moral, or very intelligent.

Finally, neither Foucault’s account of power, nor norm theory, assumes that power simply expresses individual or group interests (Tajfel & Turner, 1979). Research has found gender *similarities* in the ways that women and men focus attention in explaining gender differences (Hegarty, 2006; Hegarty & Buechel, 2006; Miller et al., 1991), suggesting that lower- and higher-status groups may contribute to the justification of unfair social systems by the way they explain group differences. However, it also seems plausible that members of lower-status groups will shift their worldviews away from dominant perspectives that position their group identities as different-from-the-norm as their social identities develop (Cross, 1991), or they collectively form ‘cognitive alternatives’ to the prevailing status quo (Reicher & Haslam, 2006). Again, it is likely that lower-status groups define themselves as different, but for different motivations than higher-status groups. Whilst our work on linguistic framing has found little evidence of effects of group identity on explanation content, there are suggestive findings that people engage with science in ways that are affected by social identity concerns (e.g., Hegarty, Lemieux, & McQueen, 2010; Morton, Haslam, Postmes, & Ryan, 2006). More work is needed on this question of how the focus of attention might shift when people explain group differences as individuals, and when they explain group differences as members of higher- and lower-status social groups.

In conclusion, we hope that we have raised awareness of an ongoing practice in our science, a practice that we would be loath to call a ‘bias’ because that would suggest that we know what an ‘unbiased’ position on group differences would be. At this point in its history, psychology must wrestle with its legacy of constructing quite skewed universal theories based on a narrow data base from WEIRD people. Our research suggests that we will not have egalitarian theory simply by recruiting more diverse people into our studies, as differences between groups are too readily attributed to unfamiliar groups, often in pathologizing ways (Adams & Salter, 2007). In addition, psychologists need to devote conscious effort to think about what is particular about WEIRD societies. By describing the dynamics of disciplinary power in such societies, and the continued focus on lower-status groups in explanation in those societies, we hope to have contributed to such theoretical refinement. Asymmetric accounts of difference are common, psychologists construct them, and they have consequences for people. Forming cognitive alternatives to these accounts of

difference is necessarily a collective task. Elsewhere, one of us has suggested some concrete ways that psychologists might work against these effects (Hegarty, 2007). These include not only changing the framing of our explanations and particularizing the characteristics of 'normative' groups, but also being more cautious about the order in which we graph groups, the metaphors that we draw upon from the social world to structure understanding of, and communication about abstract phenomena, and supporting other scientists whose work breaks those incumbent norms for representation. We urge you to engage in these and other practices that will change the ways that psychologists represent diverse people, and to continue to develop the knowledge base about the ways that representations of group differences affect people.

Author Note

Please direct correspondence about this article to Peter Hegarty, Department of Psychology, University of Surrey, Guildford, GU2 7XH, United Kingdom, p.hegarty@surrey.ac.uk, or to Susanne Bruckmüller, College of Life and Environmental Sciences, University of Exeter, Exeter, EX4 4QG, United Kingdom, S.Bruckmuller@exeter.ac.uk.

References

- Adams, G.E., Bruckmüller, S., & Decker, S.K. (2012). Self and agency in context: Ecologies of abundance and scarcity. *International Perspectives in Psychology: Research, Practice, Consultation*, 1, 141-153.
- Adams, G., & Salter, P. S. (2007). Health psychology in African settings: A cultural-psychological analysis. *Journal of Health Psychology*, 12, 539–551.
- Apfelbaum, E.P., Sommers, S.R., & Norton, M.I. (2008). Seeing race and seeming racist? Evaluating strategic colorblindness in social interaction. *Journal of Personality and Social Psychology*, 95, 918-93.
- Barsalou, L.W. (1985). Ideals, central tendency, and frequency of instantiation as determinants of graded structure in categories. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 11, 629-654.
- Bruckmüller, S. (in press). Singled out as the effect to be explained: Implications for collective self-esteem. *Personality and Social Psychology Bulletin*.
- Bruckmüller, S., & Abele, A.E. (2010). Comparison focus in intergroup comparisons: Who we compare to whom influences who we see as powerful and agentic. *Personality and Social Psychology Bulletin*, 36, 1424-1435.
- Bruckmüller, S., Hegarty, P.J., & Abele, A.E. (2012). Framing gender differences: Linguistic normativity affects perceptions of power and gender stereotypes. *European Journal of Social Psychology*, 42, 210-218.
- Canguilhem, G. (1966/1989). *The normal and the pathological*. (Trans C.R. Fawcett). Zone Books: New York.
- Cross, W.E. (1991). *Shades of black: Diversity in African-American identity*. Temple University Press.
- Danziger, K. (1990). *Constructing the subject: Historical origins of psychological research*. Cambridge, UK: Cambridge University Press.
- DePaulo, B. & Morris, W. L. (2006). The unrecognized stereotyping and discrimination against singles. *Current Directions in Psychological Science*, 15, 251-254.
- Devos, T., & Banaji, M. (2005). American = White? *Journal of Personality and Social Psychology*, 88, 447-466.
- Eagly, A.H., & Kite, M.E. (1987). Are stereotypes of nationalities applied to both women and men? *Journal of Personality and Social Psychology*, 53, 451-462.

- Eagly, A. H., & Sczesny, S. (2009). Stereotypes about women, men, and leaders: Have times changed? In M. Barreto, M. K. Ryan, & M. T. Schmitt (Eds.), *The glass ceiling in the 21st century: Understanding barriers to gender equality*, (pp. 21-47). Washington, DC: American Psychological Association.
- Fiske, S. T. (1993). Controlling other people: The impact of power on stereotyping. *American Psychologist*, *48*, 621-628.
- Foucault, M. (1975/1995). *Discipline and Punish: The Birth of the Prison*. (Trans A. Sheridan). New York: Vintage.
- Galton, F. (1869). Hereditary genius: An inquiry into its laws and consequences. London: Macmillan and Co.
- Gigerenzer, G. (1991). From tools to theories: A heuristic of discovery in cognitive psychology. *Psychological Review*, *98*, 254-267.
- Gigerenzer, G., Swijtink, Z., Porter, T., Datson, L., Beatty, J., & Kruger, L. (1989). *The empire of chance: How probability changed science and everyday life*. Cambridge, UK: Cambridge University Press.
- Gleitman, L.R., Gleitman, H., Miller, C., & Ostrin, R. (1996). Similar, and similar concepts. *Cognition*, *58*, 321-376.
- Grice, H. P. (1975). Logic and conversation. In P. Cole, & J. L. Morgan (Eds.), *Syntax and semantics: Vol. 3. Speech acts* (pp. 41-58). New York, NY, US: Academic Press
- Hacking, I. (1990). *The taming of chance*. Cambridge, UK: Cambridge University Press.
- Hegarty, P. (2006). Undoing androcentric explanations of gender differences: Explaining “the effect to be predicted”. *Sex Roles*, *55*, 861-867.
- Hegarty, P. (2007). Slaying the Witch King: Androcentrism in psychology, and the seven habits of anti-normative people. *Dialogue: The Official Newsletter of the Society for Personality and Social Psychology*, *22* (1), 6-7, 10, 30.
- Hegarty, P. (2013). *Gentlemen's disagreement: Alfred Kinsey, Lewis Terman and the sexual politics of smart men*. Chicago, IL: University of Chicago Press.
- Hegarty, P.J., & Buechel, C. (2006). Androcentric reporting of gender differences in APA journals: 1965-2004. *Review of General Psychology*, *10*, 377-389.
- Hegarty, P. & Chryssochoou, X. (2005). Why ‘our’ policies set the standard more than ‘theirs’: Category norms and generalization between European Union countries. *Social Cognition*, *23*, 491-528.
- Hegarty, P., Lemieux, A., & McQueen, G. (2010). Graphing the order of the sexes: Constructing, recalling, interpreting, and putting the self in gender difference graphs. *Journal of Personality and Social Psychology*, *98*, 375-391.
- Hegarty, P., Parslow, O., Ansara, Y.G., & Quick, F.L. (in press). Androcentrism: Changing the landscape without levelling the playing field. In M.K. Ryan & N.R. Branscombe (Eds.), *The Sage Handbook of Gender and Psychology*. London: Sage.
- Hegarty, P., & Pratto, F. (2001). The effects of social category norms and stereotypes on explanations for intergroup differences. *Journal of Personality and Social Psychology*, *80*, 723-735.
- Hegarty, P., & Pratto, F. (2004). The differences that norms make: Empiricism, social construction, and the interpretation of group differences. *Sex Roles*, *50*, 445-453.
- Henrich, J., Heine, S. J., & Norenzayan, A. (2010). The weirdest people in the world? *Behavioral and Brain Sciences*, *33*, 61-83.
- Henry, P.J. (2008). College sophomores in the laboratory redux: Influences of a narrow data base on social psychology's view of the nature of prejudice. *Psychological Inquiry*, *19*, 49-71.
- Kahneman, D. & Miller, D. T. (1986). Norm Theory: Comparing reality to its alternatives. *Psychological Review*, *93*, 136-153.

- Kashima, Y., Klein, O., & Clark, A. E. (2007). Grounding: Sharing information in social interaction. In K. Fiedler (Ed.), *Social Communication* (pp. 27-77). New York, NY, US: Psychology Press.
- Kruschke, J. K. (2003). Attention in learning. *Current Directions in Psychological Science*, 12, 171-175.
- Kuhn, T. (1970). *The structure of scientific revolutions*, Second edition. Chicago: University of Chicago Press.
- Maass, A. (1999). Linguistic intergroup bias: Stereotype perpetuation through language. *Advances in Experimental Social Psychology*, 31, 79-121.
- McNemar, Q. (1940). Sampling in Psychological Research. *Psychological Bulletin*, 37, 331-365.
- Medin, D. L., & Edelson, S. M. (1988). Problem structure and the use of base-rate information from experience. *Journal of Experimental Psychology: General*, 117, 68-85.
- Miller, D., Taylor, B., & Buck, M.L. (1991). Gender gaps: Who needs to be explained? *Journal of Personality and Social Psychology*, 61, 5-12.
- Morton, T.A. Haslam, S.A., Postmes, T., & Ryan, M.K. (2006). We value what values us: The appeal of identity-affirming science. *Political Psychology*, 27, 823-838.
- Pratto, F., Hegarty, P.J., & Korchmaros, J.D. (2007). How communication practices and category norms lead people to stereotype particular people and groups. In Y. Kashima, K. Fiedler, & P. Freytag (Eds.), *Stereotype dynamics: language based approaches to the formation, maintenance, and transformation of stereotypes* (pp. 293-313). Mahwah, NJ: Lawrence Erlbaum Associates Publishers.
- Pratto, F., Korchmaros, J. N., & Hegarty, P. (2007). When race and gender go without saying. *Social Cognition*, 25, 221-247.
- Reicher, S., & Haslam, S.A. (2006). Rethinking the psychology of tyranny: The BBC prison study. *British Journal of Social Psychology*, 45, 1-40.
- Robinson, E., & Hegarty, P. (2005). Premise-based category norms and the explanation of age differences. *New Review of Social Psychology*, 4, 138-143.
- Rosch, E., & Mervis, C.B. (1975). Family resemblances: Studies in the internal structure of categories. *Cognitive Psychology*, 7, 573-605.
- Ross, M., & Wilson, A. (2003). Autobiographical memory and conceptions of self: Getting better all the time. *Current Directions in Psychological Science*, 12, 66-69.
- Shapin, S. (1996). *The scientific revolution*. Chicago, IL: University of Chicago Press.
- Sears, D.O. (1986). College sophomores in the laboratory: Influences of a narrow data base on social psychology's view of human nature. *Journal of Personality and Social Psychology*, 51, 515-530.
- Simon, B. & Oakes, P. (2006). Beyond dependence: An identity approach to social power and domination. *Human Relations*, 59, 105-139.
- Slooman, S. A. (1993). Feature-based induction. *Cognitive Psychology*, 25, 231-280.
- Sue, S. (1999). Science, ethnicity and bias: Where have we gone wrong? *American Psychologist*, 54, 1070-1077.
- Tajfel, H., & Turner, J. C. (1979). An integrative theory of intergroup conflict. In W. G. Austin & S. Worchel (Eds.), *The social psychology of intergroup relations* (pp. 33-47). Monterey, CA: Brooks-Cole.