

• 主编特邀(Editor-In-Chief Invited) •

编者按:

本期“主编特邀”的作者黎岳庭(Yueh-Ting Lee)是北京师范大学心理学硕士,美国纽约州立大学社会心理学和人格心理学博士,美国宾州大学博士后。现为美国俄亥俄州托莱多大学(University of Toledo, Ohio, USA)心理学教授,博导。曾担任过美国托莱多大学(前)文理学院院长,以及该校协理副校长。

在过去 20 多年中,黎岳庭教授同美国新泽西州罗特格斯大学心理系的里佳斯教授(Professor Lee Jussim at Rutgers University, New Jersey, USA)和美国宾州大学及布伦摩学院心理系的克拉克 马可利教授(Professor Clark McCauley at Bryn Mawr College and University of Pennsylvania, USA)一起从事类属性思维的正确性和群体(民族)文化关系等研究,他们合著过多部专著,其中包括由美国心理学会出版的《类属性思维的正确性》(Stereotype Accuracy)一书。他们的属性思维的正确性的研究发表在一流学术期刊上,诸如《American Psychologist》、《Psychological Review》、《Journal of Personality and Social Psychology》、《Personality and Social Psychological Bulletin》,其中他们的类属性思维的正确性的研究成果曾被美国《科学新闻》(Science News)系统介绍,同时被美国主流心理学的教科书多次引用。他们研究结论是:类属性思维(stereotypes and stereotyping)是人类相互影响和生存的有效类属性识别。

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## Stereotypes as Categories of Knowledge: Complexity, Validity, Usefulness, and Essence in Perceptions of Group Differences\*

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**Abstract:** Stereotypes are categorical beliefs, which are more or less accurate representations of group differences. Stereotypes are more complex than is generally assumed. First, we address the multidimensionality of stereotypes under the framework of the cubic EPA model, which suggests that stereotypes are characterized by three dimensions: evaluation, potency, and accuracy. Specific attention is given to the relationship between stereotypes and totemic beliefs as collectively shared representations. Second, we review controversial research on the accuracy of stereotypes as a subset of human beliefs. Cultural stereotypes, personal stereotypes, judgment of individuals and groups, judgment criteria and meta-analytical results are examined, revealing the robust relationship between stereotypes and reality. Finally, we point to the importance of explanations of group differences, especially the perception of essence that is encouraged by group entitativity (perceptual ‘oneness’). We suggest that stereotyping is particularly powerful for groups with high entitativity and a perceived essence, and that a group’s totem is the manifestation of the group’s essence. Though we cannot resolve all the controversies relating to stereotyping, our perspective emphasizes stereotypes as categories useful for human interaction and survival.

**Key words:** stereotype accuracy; totems and beliefs; perceptual essence; group difference

Received date: 2012-05-15

\* Thanks are extended to Professor Harry Triandis, Professor Carey Ryan, Professor Li Liu, and Heather Haight, Timothy Bodie, Michelle Beddow, Wenting Chen and other research assistants in Dr. Lee’s SCIR (Social Cognition and Intercultural Relations) Laboratory for valuable comments. Thanks are also extended to Editor Shu Li and reviewers for their constructive criticisms. Correspondence regarding this article should be directed to Yueh-Ting Lee, Department of Psychology, MS 948, University of Toledo, Toledo, OH 43606 USA (E-mail: YT.Lee@Utoledo.edu or 1549788167@qq.com).

## Introduction

Stereotypes serve as categories of human knowledge. Human beings have survived for millions of years partially because their minds can categorize information around them. Though necessary in our daily life, stereotypes have been misunderstood or abused in their scientific area in the past three decades (Jussim, 2012). To provide a more scientifically accurate and complete picture of stereotypes as categories of knowledge, this article addresses three important issues. First, we examine how stereotypes are culturally related to totemic beliefs as part of human categorical representations both today and in ancient times. Second, we review recent literature on stereotype accuracy and stereotype-based judgment of individuals. Third, we address how stereotypes as categories are connected to the constructs of essence and entitativity.

Before we address these three important issues, a note is in order here. We need to review briefly classic work of stereotypes for generic and specific reasons. For the generic reasons, our research on perception (including stereotype) accuracy does not start from scratch. Explicitly and implicitly, research on stereotypes is rooted in classic work in the psychology of perception and cognition. For this specific reason, the classic work below can help us to understand totemic beliefs, accuracy of judgment and social groups as constructs of essence and entitativity. We begin by reviewing briefly some of the relevant research, which will help us to understand the accuracy of stereotypes as categories.

Stereotypes are generally understood as perceptions and beliefs about members of certain groups or segments in a society (Lee, Jussim & McCauley, 1995). Over 120 years ago, William James (1890/1981), who conceived of beliefs as based in reality, wrote that:

Everyone knows the difference between imagining a thing and believing in its existence, between supposing a proposition and acquiescing in its truth. In the case of acquiescence or belief, the object is not only apprehended by the mind, but is held to have reality. Belief is thus the mental state or function of cognizing reality... 'Belief' will mean

every degree of assurance, including the highest possible certainty and conviction. (p. 913)

Though James was making a conceptual statement about beliefs more generally, his conception implies that stereotypic beliefs, more specifically, are unlikely to be totally false but based at least to some degree on reality.

Perhaps independent of William James, Lippmann (1922/1965) was the first to describe stereotypes explicitly as "pictures in our heads" (p. 3). Does this mean that stereotypes are completely imagined pictures containing no base in reality? That is exactly how this passage, and, indeed, much scholarship on stereotypes has been interpreted. The perspective taken here, however, is that stereotypes are more than myths.

In this we join Lippmann, who argued that:

The myth is not necessarily false. It might happen to be wholly true. It may happen to be partly true. If it has affected human conduct a long time, it is almost certain to contain much that is profoundly and importantly true. (p. 80)

Although Bartlett (1920, 1932), one of the pioneering cognitive and memory psychologists, did not discuss the concept of stereotypes explicitly, he used the term "preferred persistent tendencies" (1932, p. 257) to address the objective differences between groups, an idea similar to that of stereotype accuracy or validity:

That every effective social group does possess temperament, or if these descriptive terms are disliked, its own organized cluster of preferred persistent tendencies, seems to me to be certain... Some of the most interesting products of the social group are decorative and realistic art forms, and folk stories... For example, in the culture-hero tales of the N.W. region of the N. America, we can find interesting comparisons between those of the group of Indians in the northernmost part of the coast area, those of Vancouver Island and the delta of the Fraser River, and those of the S. W. interior of British Columbia. The same basic stories are told in each group, but the first take the Raven as hero and center upon greed or voraciousness; the second take Mink as hero and center upon sex; and the third take Coyote as hero and center upon vaingloriousness or boasting. (Bartlett, 1932, p. 257)

Further, Bartlett held that “if we take different, and especially racially connected groups, we may find very much the same set of basic tendencies in them all, but with a characteristic arrangement of them in each” (p. 257).

Bartlett’s work (1920, 1932) has two important implications. First, preferred persistent tendencies are related to psychological types or stereotypes of groups, and they have a basis in reality (Lee, McCauley & Draguns, 1999). Second, though Bartlett did not address the internal connection between totems and preferred persistent tendencies explicitly, those animal heroes cited by him above are undoubtedly totems of the American Indians (see Wang & Song, 2007). Totem is a belief regarding certain things (e.g., animals, plants or objects) that are commonly and sacredly shared and worshipped by a group of people (family, clan, tribe) based on classic research (see Durkheim, 1902/1985; Freud, 1913/1950; Wundt, 1912/1916), which we will discuss further in this paper.

Similarly, from a philosophical perspective, Karl Popper (1979) had three worlds. World 1 is the objective reality or physical universe. World 2 is the psychological reality of mental objects and events. World 3 contains the outcomes of human thought, including abstract objects such as scientific theories, stories, myths, tools, and works of art. In other words, World 3 interacts with Worlds 1 and 2. Although stereotype research (e.g. Campbell, 1967) is related to the many worlds described by William James (1890/1981), this kind of research does usually accept the objective existence of groups as part of Popper’s World 1. For example, males and females, Black, White, Asian, tall and short or left or right handed people are real groups. Notably, there are differences between them.

According to Campbell (1958, 1967), groups and their objective differences could be regarded as World 1; the thinking or mental processing of those groups and their differences could be seen as World 2. Though not always accurate, our stereotypic perceptions or judgments about those groups and their differences could be referred to as World 3. World 3, being based on both Worlds 1 and 2, is, at least partially, based in reality.

Thus classic perspectives converge in suggesting that human beliefs and perceptions, including stereotypes, are based to some degree on reality. If this is the case, and we believe it is, stereotypes deserve more research attention and less effort toward blocking use of stereotypes. In the discussion below, we address three major issues relating to categorical and cultural beliefs about human groups. To reiterate, first, we examine how stereotypes are culturally related to totemic beliefs as part of human categorical representations both today and in ancient times. Second, we review recent literature on stereotype accuracy and stereotype-based judgment of individuals. Third, we address how stereotypes as categories are connected to the constructs of essence and entitativity.

## **Stereotypes and Totems as Human Categories**

### *Stereotypes and Stereotype Accuracy*

Many scholars and educators, and much public opinion, have agreed in associating stereotypes with prejudice and discrimination. In this view, a stereotype is something negative, harmful, and pernicious. More specifically, stereotypes are seen as rotten generalizations that smell up the mental household. They are seen as inaccurate, largely produced by prejudiced minds or shoveled into ignorant minds by a prejudiced culture. They are viewed as destructive, rigidly held, and impervious to disconfirming evidence. Just like any other evil, in this view, if possible, stereotypes should be eradicated.

Though no single definition of stereotype is unanimously accepted, scholars have come to the agreement that stereotypes involve ascribing characteristics to different social groups or segments of society (see Lee, Jussim & McCauley, 1995; Nelson, 2009; Schneider, 2004). These characteristics may include traits (e.g., industrious), physical attributes of body or face, clothing and hair style, societal roles (e.g., occupation), or even specific preferences and behaviors (e.g. food and music). Stereotypic characterizations of a social

group are implicitly comparative (i.e., an automatic comparison between group *x* and group *y*). For example, the belief that Chinese are hardworking (or industrious) suggests that Chinese are more industrious (or workaholic) than most other ethnic groups.

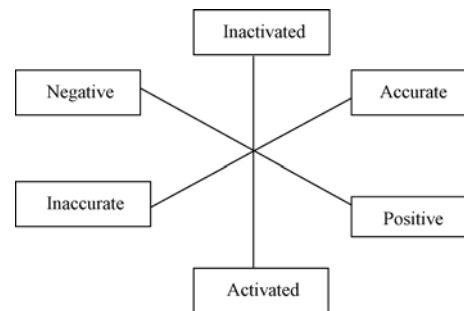
But there is a distinction between the mean and variance of each dimension composing a stereotype. An individual may believe that the average basketball player is extremely tall (compared with golfers, for instance), but also may recognize that there is considerable variability among basketball players and golfers along this dimension. European Americans are usually or on the average taller than Asians or Asian Americans. However, Yao Ming, a former basketball player of the Houston Rockets in Texas, is probably much taller than many European Americans. Thus, a stereotype may be accurate or inaccurate, depending upon which dimension we are using to compare, mean or variance.

In social psychology, research on stereotypes and stereotyping is complicated but fruitful. It has resulted in various models and theoretical perspectives (e.g., Fiske, 1998; Lee, Jussim, & McCauley, 1995; Nelson, 2009). However, we focus here on the cubic EPA model of stereotypes and stereotyping (see Lee, 2011; Lee, Vue, Seklecki, & Ma, 2007; Lee, Bumgarner, Widner & Luo, 2007) to illustrate the complexity and challenge associated with research on the process and product of stereotyping.

### The EPA Model of Stereotypes

In the cubic EPA model, three dimensions of stereotypes (e.g., Lee, 2011; Lee, Jussim, & McCauley, 1995; Lee, Albright & Malloy, 2001; Lee, Bumgarner et al., 2007) are identified and emphasized. “**E**” represents evaluation or valence (stereotypes can range from positive to negative). “**P**” represents potentiality/potency or latency of activation (stereotypes can range from automatic activation to little or no activation in a perceiver). Finally, “**A**” represents accuracy (stereotypes can range from accurate to inaccurate). Evaluation

(positive-negative), Potency (active-inactive), and Accuracy (accurate-inaccurate) are not dichotomous, but continuous dimensions (also see Osgood, 1952, 1979). The impact of any stereotype is determined by its combination of valence, potency, and accuracy. A visual depiction is offered in Figure 1.



**Figure 1:** Cubic EPA Model of Stereotypes (i.e., shown as corners of a cube)

For example, “The United States of America is a debtor nation” is a stereotype. With respect to *evaluation*, it is more negative than positive. *Potency* exists if we can easily retrieve information from our experience or memory concerning the category of the “United States” and the concept of “debt.” To examine the degree to which this example of the stereotype is true, we will check how much money each country owes in the past three years in the world. If the United States owes more than most other countries, this example of the stereotype may be true.

To make the above chart (see Figure 1) on the EPA model more unambiguous, we break it down into two dimensions (evaluation and accuracy), and we can better visualize stereotypes; (see Figure 2) as follows.

Most discussion of stereotypes is limited to the bottom-left quadrant—i.e., inaccurate and negative stereotypes. However, according to Lee, Jussim & McCauley (1995, p. 17), it is essential that social scientists understand mental representations of social groups in the other three quadrants, as well. This is because stereotypes are not necessarily negative or inaccurate. Positive and accurate perceptions about individuals in certain groups or categories could help us to understand and

appreciate human differences. Even negative but accurate perception of certain individuals may help us to deal with some social problems more realistically and effectively rather than denying real social problems. For example, how much do we understand stereotypes being positive and accurate (see the upper-right quadrant) and being accurate and negative (see the bottom-right quadrant)?

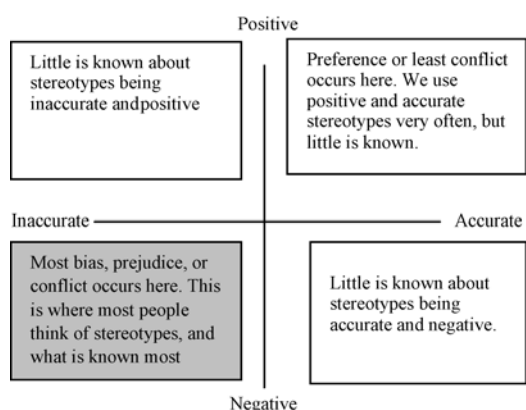


Figure 2: Evaluation and Accuracy of Stereotypes

Let us consider two positive and probably accurate stereotypes—Chinese food and/or German cars. Though these two examples appear to be categorical labels, the nature of stereotypes is to ascribe characteristics to certain groups (see Lee, Jussim & McCauley, 1995; Nelson, 2009; Schneider, 2004). More often than not, North Americans associate Germans with cars and Chinese with food, not vice versa. This is because German auto makers BMW, Mercedes, Porsche, etc., are well-known for making high quality cars, and because Chinese cuisine has been wildly popular in the U.S. and Canada. These stereotypes are based on reality.

Consider a negative and probably accurate perception—i.e., the stereotype “The United States of America is a debtor nation.” American citizens can accurately see it (auto-stereotypes), and many other people around the world can also sense it (hetero-stereotypes). One might argue that weaknesses exist in the American social, financial, and political systems, but not argue that human perception in this case is inaccurate. There is now overwhelming evidence that if *reality* (e.g., social

system, political and financial structure) changes, so will human perception, at least most of the time (e.g., Lee & Jussim, 2010; Lee, Jussim & McCauley, 1995; Oakes, Haslam, & Turner, 1994; Ryan, 2002; Triandis & Vassilisou, 1967). Although humans are not perfectly rational, recent research in both cognitive and social psychology indicates that people are far more rational and less prone to error and bias than once believed (next section: Jussim, 2005; Jussim, Stevens, & Salib, 2011; Katsikopoulos, Schooler, & Hertwig, 2010; Koriati, Goldsmith & Panksy, 2000).

### *Totems, Totemic Beliefs and/or Totemism*

Almost one hundred years ago, well-known psychologists Wundt (1912/1916) and Freud (1913/1950) were extremely active scholars and researchers of totemic psychology (Lee, 2010)—see also Boas (1916), Durkheim (1902/1985), Frazer (1910), Goldenweiser (1910), Lang (1905), and Jones (2005). What is a totem or totemism? Totem is a belief regarding certain things (e.g., animals, plants or objects) that are commonly and sacredly shared and worshipped by a group of people (family, clan, tribe). A general review of literature by the scientists above shows three primary “features of the relations between human beings and the classes of animals, plants or inanimate objects which constitutes the essence of totemism” (Rivers, 1909, p. 156) as follows:

The first and most important feature is that the class of animals or other objects are definitely connected with a social division, and in the typical form of the institution this social division is exogamous. Often the division takes its name from the totem, or this may be used as its badge or crest; but these points are less constant and essential. The second feature is the presence of a belief in kinship between the members of the social division and the totem, and in the most typical form there is belief in descent from the totem. The third feature is of a religious nature; in true totemism the members of the social division show respect to their totem, and by far the most usual method of showing this respect is the prohibition of the totem as an article of food. When these three features are present, we can be confident

that we have to do with totemism. (Rivers, 1909, p. 156)

There are various types of totems (tribe/group, sex, and individual; see Freud, 1913/1950):

Totems are of at least three kinds: (1) the clan totem, common to a whole clan, and passing by inheritance from generation to generation; (2) the sex totem, common either to all the males or to all the females of a tribe, to the exclusion in either case of the other sex; (3) the individual totem, belonging to a single individual and not passing to his descendants.... (p. 103)

According to Morgan (1877/1974), in the Ojibwa language the word totem, often pronounced as *dodaim* (p. 170), signifies the symbol or device of a gens; thus the figure of a wolf was the totem of the Wolf gens. In addition to the Wolf gens, there were also other gentes, such as Bear, Beaver, Turtle, Snipe, Crane, Duck, Snake, Carp, Cat Fish, and Pike which were their totems.

Also, "each sex can have an emblem, such as a bird or animal, which usually signifies solidarity of that sex as distinct from the other. Injuring or killing the sex totem animal is like challenging or attacking the sex associated with it. An example was observed among the Kurnai of Gippsland in Australia" ([http://austhrutime.com/aboriginal\\_totemism.htm](http://austhrutime.com/aboriginal_totemism.htm) also see Durkheim, 1915/2008, pp 164-165). Among these people "the emblems of the sexes are two different birds, one for each sex, who regard them as elder brother for men and elder sister for women. In this society marriages take place by elopement, and the girls can refuse a suitor. [http://austhrutime.com/aboriginal\\_totemism.htm](http://austhrutime.com/aboriginal_totemism.htm), see Durkheim, pp 164-165). Sex totems seem to be popular only among native Australians.

According to Frazser (1910), the last two (i.e., individual and sex totems) are less important than the tribal totems, and the clan totem is revered by its members who call themselves by the name of the totem, and they believe themselves to be of one blood, descendants of a common ancestor, who are bound together by common obligations to each other and by a common faith in the totem. Totemism (i.e., a belief in totem) could be considered both a spiritual and social system. There are two important

messages here. First, totem is a name indicative of ancestry. A totem animal is usually regarded as an ancestry animal (see Durkheim, 1915/2008; McLennan, 1869, 1870; Wundt, 1916). Second, totem is a group name. Good examples can be found among American Indians as discussed by Morgan (1877/1974).

While the meanings of totems are significant in relation to ancestry, totems have often become a nomenclature, which produces a decisive influence on tribal division and tribal organization. Nomenclature is "subject to certain norms of custom" (Freud, 1950, p. 106; also see Durkheim, 1915/2008). These "norms and their fixed place in the beliefs and feelings of the tribal members, are connected with the fact that originally, at all events, the totem animal was regarded, for the most part, as having not merely given its name to a group of tribal members but as having actually been its forefather" (Freud, 1950, p. 106).

#### *How Are Totems Related To Stereotypes?*

Almost 100 years ago, van Gennep wrote, "Totemism has already taxed the wisdom and the ingenuity of many scholars, and there are reasons to believe that it will continue to do so for many years" (Cited from Levi-Strauss, 1962, p. 4). Totems are common and important not only because they are elements of religious life (Durkheim, 1915/2008), but also because today we explicitly and implicitly cannot function without totemic classifications. Totems link the natural world and the human world, and help us to categorize both animals and humans. Modern stereotypes serve the same categorizing function.

More specifically, how are totems related to human stereotypes in modern society? To answer this question, let us use mascots of sports teams as an example. Many sports teams in the United States or Canada use animals as their mascots, which serve the same functions as totems. You might have heard of the Detroit Tigers. Tribes or clans of human beings in ancient times or even in modern times (e.g., among the Native Americans in North and South Americas and certain ethnic groups in

southwest China) still perceive animals as sacred totems as much as Christians honor and worship God (Alexander 1916/2005; He, 2006, 2007; Morgan, 1877/1974; Wundt, 1912/1916). As a category the Detroit Tigers can be a symbol to unite those who support this sports team. Thus tigers are group representations of totems both in the past and today.

The difference between a totem and a god is that the former case is concrete and vivid in our mind (e.g., animals, plants or inanimate objects) whereas the latter is abstract and developed from the former (Durkheim, 1915/2008; Wundt, 1912/1916):

So we must be careful not to consider totemism a sort of animal worship. The attitude of a man towards the animals or plants whose name he bears is not at all that of a believer towards his god, for he belongs to the sacred world himself. Their relations are rather those of two beings who are on the same level and of equal value. The most that can be said is that in certain cases, at least, the animal seems to occupy a slightly more elevated place in the hierarchy of sacred things. It is because of this that it is sometimes called the father or the grandfather of the men of the clan... The totemic animal is called the friend or the elder brother of its human fellows. Finally the bonds which exist between them and it are much more like those which unite the members of a single family... On account of this kinship, men regard the animals of the totemic species as kindly associates upon whose aid they think they can rely. (Durkheim, 1915/2008, p. 139)

But how are group representations related to stereotypes in modern time? If the Yi ethnic group in southwest China still worships Tigers as their ancestors (He, 2006; Wang & Song, 2007), in the eyes of the Han people (majority group), the Yi ethnic group is typically seen as tiger people with the trait of courage—a heterostereotype. This is the convergence of perceptions of Ethnic Han, Ethnic Wei, and Ethnic Hmong with regard to the Ethnic Yi. If the Yi people agree with the perceptions of the other ethnic groups (e.g., Han, Wei, Hmong) in China and believe that they are the offspring of tigers and see themselves as brave and courageous, chances are the auto-stereotype will agree with the

heterostereotype.

Consistent with Levi-Strauss (1966) and Durkheim (1915/2008), Moscovici pointed out the tight relation between human perceptions and totems as part of his theory of social representations. All social representations aim to “make something unfamiliar, or unfamiliarity itself, familiar” (Moscovici, 1984, p. 24; also see Moscovici, 1973, 1988) via anchoring and classifying ideas or things in relation to everyday categories (p. 29). Thus, the Chinese Ethnic groups, Detroit baseball team, and animals (e.g., tigers) come together as representations and categorizations (also see Liu, 2004).

Levi-Strauss noted that one of the primary tasks of human beings, including both scientists and ethnic tribes, is to classify or categorize things around us and to minimize disorder and chaos, “Scientists do tolerate uncertainty and frustration, because they must. The one thing that they do not and must not tolerate is disorder.” (Levi-Strauss, 1966, p. 9). Human observations and systematic categorizations of relations and connections “can sometimes lead to scientifically valid results” (p. 10). The Blackfoot Indians were able to prognosticate the approach of spring by the state of the development of the foetus of bison which they took from the uterus of females killed in hunting. The Navaho Indians “regard themselves as great as classifiers” (p. 39). Any classification, including totemic classification or stereotypic categorization, is “superior to chaos and even a classification at the level of sensible properties is a step towards rational ordering” (p. 15). One of the primary functions of stereotypes is to categorize individuals of groups based on certain properties (Lee, Jussim, & McCauley, 1995; Triandis & Vassiliou, 1967). Thus both stereotypes and totems are the outcomes of human categorization (i.e., social representations, see Moscovici, 1973, 1984, 1988). Understanding totems can help us to understand human beliefs (including stereotypic beliefs) and human social categories.

In Northwest America (e.g., West Canada and Alaska), totem poles are physically and symbolically seen as sacred books of their cultures, heritages and communities, and they are

substantially shared and respected among tribal members (see Alexander, 1916/2005; Jonaitis & Glass, 2010; Lin, 2001; Stewart, 1993; Wang & Song, 2007). If stereotypes are “pictures in our heads” (Lippmann, 1922/1965), then totems and totem poles are vivid and meaningful pictures in the heads of today’s North American Indians and of many ancient peoples.

In sum, totems and stereotypes are closely related. Deeply rooted in cultural or social reality, stereotypes and totems as social categorical representations (see Moscovici, 1973, 1984, 1988) involve a belief that is shared by a group of people. In certain situations, both ingroup and outgroup members can notice and accept this cultural belief or perception involving members of a group. The uniqueness of Chinese food or the quality of German cars are stereotypes which are not invalid but the outcome of the perceptions based in real group differences. Totem is a name of a clan or tribe which is real, and it also involves an animal, a plant or an inanimate object which is real and sacred to the members of that clan or group. A national or group flag is a kind of totem because it represent a group socially—i.e., a social representation (see Durkheim, 1915/2008). If we stereotype the USA or China, their national flag is the totem pole that occurs to us. Categorically, both stereotypes and totems play a role in social organization and social interaction.

## The Unbearable Accuracy of Stereotypes

### *Are Stereotypes Inaccurate by Definition?*

As noted already in relation to the Cubic EPA Model, lay people and social scientists alike often assume that stereotypes are inherently inaccurate. A common way to dismiss a person’s claim about a group (e.g., “they are “ [bad drivers, rich, smart, dumb, aggressive, ...]) is to declare “That’s just a stereotype.” To accuse someone of “stereotyping” is to accuse them of doing something bad, unjustified, unfair, and inaccurate. There are, however, serious problems inherent in defining stereotypes as inaccurate. To understand why, we must first define accuracy.

Social perceptual accuracy refers to correspondence between people’s beliefs (expectations, perceptions, judgments) about one or more target people and what those target people are actually like. Stereotype accuracy, therefore, refers to the correspondence of the stereotype with what the target group is actually like. When laypeople and scientists define stereotypes as inherently inaccurate, or assume that stereotypes are inaccurate, this leaves only two logical possibilities regarding what they might mean, and both are seriously problematic. They might mean that:

1. all beliefs about groups are stereotypes and all are inaccurate;

or

2. not all beliefs about groups are stereotypes, but stereotypes are the subset of all beliefs about groups that are inaccurate. The difficulties of each of these interpretations are considered next.

### *The Logical Incoherence of Assuming All Beliefs about Groups Are Inaccurate*

No social scientist has ever explicitly claimed anything quite as silly as “all beliefs about groups are inaccurate.” Nonetheless, for decades, stereotypes were predominantly defined as inaccurate, with virtually no evidence demonstrating inaccuracy. Furthermore, in empirical studies, the social scientific scholarship has considered people’s beliefs about almost any attribute (personality, behavior, attitudes, criminality, competence, demographics) regarding almost any type of group (race, ethnicity, sex, class, age, religion, occupation, dorm residence, sorority membership, college major, and many more) to be a stereotype. It seems then, that for all practical purposes, the social sciences consider any and all lay beliefs about groups to be stereotypes (see reviews by Jussim, 2012; Jussim, Cain, Crawford, Harber, & Cohen, 2009).

Putting these implicit points together: Stereotypes are inaccurate; all beliefs about groups are stereotypes; therefore, all beliefs about groups are inaccurate. Again, no researcher has ever made such an absurd claim, but it is a reasonable, even



inevitable, conclusion reached on the basis of defining stereotypes as inaccurate and considering any and all beliefs about groups to be stereotypes.

Such a definition, however, is untenable on purely logical grounds. It would mean that:

1. Believing that two groups differ is inaccurate and

2. Believing that two groups do not differ is inaccurate. Both 1 and 2 are not simultaneously possible, and logical coherence is a minimum condition for considering a belief to be scientific.

So, if defining stereotypes as inaccurate means that all beliefs about groups are inaccurate, this definition can be discarded out of hand as logically incoherent and, therefore, scientifically inadmissible. The alternative interpretation, that stereotypes are the subset of beliefs about groups that are inaccurate — is similarly incoherent but for very different reasons.

### ***The Incoherence of Assuming that Stereotypes are the Subset of Beliefs about Groups that Are Inaccurate***

On logical grounds, this perspective includes a tautology that limits its utility. **If not all beliefs about groups are inaccurate, but stereotypes are defined as the subset of beliefs about groups that are inaccurate, then: 1. accurate beliefs about groups are not stereotypes; and 2. beliefs of unknown validity cannot be known to be stereotypes.**

The core problem with this perspective is that it sets the standard for figuring out whether some belief is a “stereotype” exorbitantly high. Only when beliefs have been empirically demonstrated to be inaccurate can one conclude that they are a “stereotype.” The core implication of this exorbitant standard is that it invalidates nearly all existing research on “stereotypes” because so little has demonstrated that the beliefs about groups are inaccurate.

No research on “stereotypes” has ever been framed as follows:

***“Is THIS belief about THAT group a stereotype? We are going to figure out whether***

***THIS belief about THAT group is a stereotype by assessing whether that belief is inaccurate. If THIS belief is inaccurate, we will conclude that it is a stereotype. If THIS belief is accurate, we will conclude that it is not a stereotype.”***

Unfortunately, that is precisely how the question must be framed and answered before one can know one is studying a stereotype, if “stereotype” is defined as the subset of beliefs about groups that are inaccurate. If that question is not answered prior to conducting a study on “stereotypes” one cannot know that one is actually studying a stereotype!

Holding psychology to this type of definition would mean concluding that decades and decades of research framed as addressing stereotypes really has not. In the future, perhaps those social scientists promoting a view of stereotypes as the subset of beliefs about groups that are inaccurate will articulate what they would consider evidence that could disconfirm their view of stereotypes as inaccurate, or the criteria they use for classifying some beliefs (the erroneous ones) as stereotypes, and others as nonstereotypes.

### ***Accuracy of Stereotypes***

*Types of stereotype accuracy.* Stereotype accuracy has been most commonly assessed in either of two ways in the scientific literature (see Jussim, 2012). With discrepancy scores, researchers assess how close to perfection people’s beliefs come. They assess the stereotype belief (e.g., “how tall, rich, aggressive, ... is the average woman in the U.S.”) and compare the belief to criteria (e.g., the average height, wealth, aggressiveness, ...) of the average woman. The difference indicates how far people are from perfection. Researchers also use correlations to assess how well people’s beliefs about groups correspond to what those groups are like (see Jussim, 2012). They assess several stereotypic beliefs and then correlate them with criteria (e.g., they might correlate people’s ratings of women’s average height, wealth, and aggressiveness, with criteria for women’s height, wealth, and aggressiveness).

Discrepancy scores and correlations have been used to assess two types of stereotypes: cultural and personal stereotypes. *Cultural stereotypes* refer to the extent to which a stereotype is shared by the members of a culture, or a particular sample, and are usually assessed by sample means (e.g., the mean belief about women's height in a sample is the best estimate of the cultural stereotype for women's height for the group sampled). *Personal stereotypes* are simply any individual's beliefs about a group, regardless of whether that belief is shared by others.

*Nature of the evidence.* Despite the pervasiveness of the assumption that stereotypes are inaccurate, little scientific research actually investigated the accuracy of stereotypes until the 1970s. Since that time, however, over 20 studies have examined the accuracy of people's beliefs about groups (see Jussim, 2012). This research has several major strengths: It has examined all sorts of stereotypes, including those regarding race, ethnicity, sex, occupation, sorority residence, college major, nationality, and political parties. It has also examined all sorts of beliefs: personality, behaviors, attitudes, demographic characteristics (e.g., income, levels of education, etc.), behaviors, competencies, achievement, and tastes. Furthermore, the research has used all sorts of criteria for accuracy, including U.S. Census data, other government records (such as board of educational achievement data), results from meta-analyses of hundreds of studies (of sex differences, for studies of sex stereotypes), and self-reports from representative or comprehensive samples of the target population. Consequently, the results of this research do not reflect some idiosyncratic pattern unique to some odd stereotype, target group, or criteria. The results of this research provide evidence of levels of accuracy that should be surprising to anyone steeped in the "inaccuracy" tradition of stereotypes, although they also provide evidence of some inaccuracy (see reviews by Jussim, 2012; Jussim et al., 2009).

*Cultural stereotypes.* In general, the accuracy of cultural stereotypes has proven to be one of the strongest effects in all of social psychology (Jussim, 2012). Correlations of the

means of people's beliefs about groups with criteria typically exceed .7, meaning that, on average, cultural stereotypes are accurate about 85-90% of the time. Discrepancy scores, too, show that cultural stereotypes (average beliefs) correspond very closely, typically within 10%, of groups' real characteristics (see reviews by Jussim, 2012; Jussim, Cain, Crawford, Harber, & Cohen, 2009).

*Personal stereotypes.* Personal stereotypes also show considerable accuracy, although typically not as stunningly high as that of cultural stereotypes. Correlations between personal stereotypes and criteria are typically about .4 to .5 (meaning that individual stereotypes are typically about 70-75% accurate). Personal stereotype discrepancy scores, however, have received far less attention in the scientific literature, so less is known about them (see reviews by Jussim, 2012; Jussim et al., 2009).

*Limitations to this literature.* Despite its strengths, this literature also has some important limitations. First, the accuracy of two major types of stereotypes – of religion and social class – has never been examined. Second, the existing research has overwhelmingly examined the stereotypes held by college students, largely because those samples are convenient, although the few studies that have used nonstudent samples have found essentially the same. Third, most of the research on stereotype accuracy to date has been conducted in the U.S. and Canada. Perhaps stereotypes in other countries are less (or more) accurate.

### ***Stereotyping***

"Stereotype" is a noun and refers to a thing – people's beliefs about groups (see entry on Stereotypes). "Stereotyping" is a verb and refers to action – the use of stereotypes to judge other people. It typically refers to using stereotypes to judge a particular person. If, for example, people rate the intelligence of a student from a lower social class background less favorably than they rate the intelligence of a student from a higher social class background, despite identical academic performance on identical tests, people's social class stereotypes would appear to be influencing and

biasing their judgments of these particular students. The primary questions addressed by research on stereotyping have been: 1. What types of influences do stereotypes exert on how we judge individuals; 2. To what extent do people rely on stereotypes versus individuating information (see below) when judging other people?; and 3. Under what conditions are people more or less likely to rely on stereotyping when judging other people?

*Perceiver, target, and individuating information: some necessary jargon.* Everyone in social interaction both perceives other people and is a target of other people's perceptions. Nonetheless, in order to have a comprehensible discussion of the role of stereotypes in person perception, it is necessary to distinguish the "perceiver" from the "target." The perceiver is the person holding and possibly using a stereotype to judge the target. Thus, despite the fact that everyone is both perceiver and target, this discussion, like most on stereotypes and person perception, relies on the artificial but necessary distinction between perceiver and target.

What is the alternative to "stereotyping"? It is the use of individuating information – judging individual targets, not on the basis of stereotypes

regarding their group, but, instead, on the basis of their personal and individual characteristics. "Individuation," therefore, refers to judging a person as a unique individual, rather than as a member of a group, and "individuating information" refers to the unique personality, behaviors, attitudes, accomplishments, etc. of a particular target.

*To what extent do stereotypes bias judgments?*

About 300 studies have addressed the role of stereotypes in person perception. These data are summarized in Table 1. When considering them all together, they show that, on average, stereotypes have only a very small influence on person perception (correlation of target group membership and target judgment about .10). Furthermore, even this .10 effect is probably an overestimate, because the correlation of the bias effect with the number of studies included in each meta-analysis shown in Table 1 is  $-.39$ . Meta-analyses including more studies yielded smaller average biasing effect of stereotypes, which raises the possibility of bias in favor of publishing studies demonstrating bias (it suggests that when there are few studies in some domain, they are more likely to provide evidence of bias; as more and more studies are conducted on

**Table 1** Average Biasing Effects of Stereotypes on Person Perception are Very Small

Meta-Analysis	Topic/Research Question	Number of Studies	Average Expectancy Effect
Swim, et al. (1989)	Do sex stereotypes bias evaluations of men's and women's work?	119	$-.04^1$
Stangor & McMillan (1992)	Do expectations bias memory?	65	.03
Mazella & Feingold (1994)	Does defendant social category affect mock juror's verdicts?		
	<i>Defendants':</i>		
	Attractiveness	25	.10
	Race (African-American or White)	29	.01
	Social class	4	.08
	Sex	21	.04 <sup>1</sup>
Kunda & Thagard (1996)	Do stereotypes bias judgments of targets in the absence of <i>any</i> individuating information?	7	.25
Kunda & Thagard (1996)	Do stereotypes bias judgments of targets in the presence of individuating information?	40	.19

Note. Effect size is presented in terms of the correlation coefficient,  $r$ , between expectation and outcome. All meta-analyses presented here focused exclusively on experimental research. "Individuating information" refers to information about the personal characteristics, behaviors, or accomplishments of individual targets. The effect size shown in the last column for each meta-analysis represents the average effect size obtained in that study. Effect sizes often varied for subsets of experiments included in the meta-analysis. Only meta-analyses of outcomes, not of moderators or mediators, are displayed.

<sup>1</sup> A negative coefficient indicates favoring men; a positive coefficient indicates favoring women.

some topic, the data slowly creep toward showing how much smaller bias actually is than first believed).

Regardless, this overall effect is small by any reasonable standard, which can be seen in several different ways. First, it can be interpreted to mean that, overall, stereotypes substantially affected 5% of the judgments in those 300 studies (Rosenthal, 1991). This, of course, means the same thing as concluding that stereotypes did not substantially affect 95% of the judgments. Second, it means that, on average, stereotypes lead to about two tenths of one standard deviation difference in how people view targets. Such an effect is “small” by Cohen’s (1988) system of classifying effect sizes. Third, an effect size of .10 places stereotype effects among the smallest effects obtained by social psychologists (Richard et al., 2003). In this context, claims that stereotypes exert some sort of extraordinary influence on person perception, and those that emphasize difficulty in limiting stereotype effects, do not seem to rest on scientific *terra firma*. Instead, it seems that stereotype effects on person perception are, in general, weak and easily eliminated.

### ***Clear, Abundant, Individuating Information***

Sometimes, people have abundant, clear, relevant individuating information. For example, they may receive information about a target who engages in some sort of assertive or aggressive behavior (e.g., interrupting a classmate, yelling at a spouse), and then be asked to rate the target’s assertiveness or aggressiveness. Or, they may receive information about students’ performance on tests and assignments for a class, and then evaluate those students’ academic achievement.

So, how much do people rely on relevant and useful individuating information? A great deal. The effects of the assertiveness of the targets’ behavior in Locksley et al.’s (1980) early and classic studies of the role of sex stereotypes versus individuating information were consistently around  $r = .5$ . Even stronger effects of clear, relevant individuating information have been found in most other studies, which is why Kunda & Thagard’s (1996)

meta-analysis of dozens of studies of stereotypes and person perception produced an overall effect size of about  $r = .7$  for individuating information. Like stereotype accuracy effect sizes more generally, these are among the *largest* effects in all of social psychology.

This is worth contemplating for a minute. The .10 average stereotype effect is *one of the smallest in social psychology*. The .7 average individuating information effect is *one of the largest*. And, yet, there has been a broad consensus in the social sciences that getting people to ignore their stereotypes when judging individuals is extraordinarily difficult, and, even worse, that “once people categorize others, they judge those others as being all alike.” How much do people rely on stereotypes when they have clear, relevant individuating information? Somewhere between not at all and hardly at all. In the Locksley et al. (1980, 1982) studies of sex stereotypes and stereotypes of day and night people, not at all. Similar patterns have been found in many other studies, including experimental studies (see reviews by Jussim, 2012; Jussim et al., 2009).

Occasionally, however, even in the presence of clear and abundant individuating information, small stereotype effects emerge. For example, even though teachers had ample access to students’ performance in class and on standardized tests, teachers’ sex stereotypes still had a small biasing effect (of about .10) on their judgments of boys’ and girls’ math performance (Jussim, et al., 1996; Madon et al., 1998). A similar pattern of small bias in the presence of clear individuating information was found for the extent to which children’s racial stereotypes bias their perceptions of one another’s grades (Clarke & Campbell, 1955). Exactly why these very small stereotype effects persisted even in the face of clear individuating information is unclear, and a question that must be left for future research.

It is, perhaps, worth noting that in all three studies, even though stereotypes did slightly bias judgments, the effects of individuating information was (typically) much larger (.4 to .7). Which is yet another demonstration of several main themes of

this article: 1) Biases and accuracy can and often do occur simultaneously right alongside one another; 2) Bias is generally small compared to accuracy; and 3) People are not perfectly rational and unbiased, but they are often pretty good.

Returning to “conditions under which,” the bottom line is that, when people have the option of using clear, abundant, relevant individuating information or stereotypes to judge a particular person, they usually rely on that individuating information very heavily. Usually, they do so to the exclusion of stereotypes; occasionally, stereotypes will still exert a small biasing effect on judgments even in the presence of clear individuating information.

*Relying on accurate stereotypes increases the accuracy of person perception.* In the social sciences, almost any influence of stereotypes on person perception is routinely assumed to constitute an unjustified bias and distortion of reality (see Jussim, 2012, for a review). Such an assumption, however, seems to reflect researcher's political motivations because: 1) Whether such an influence undermines accuracy is an empirical question, not a philosophical one; and 2) The few studies that have actually assessed accuracy have consistently shown that influences of stereotypes on person perception increase accuracy of person perception judgments (see Jussim, 2012 for a more detailed review).

Cohen (1981) assessed people's memories for information in a videotaped conversation about a woman who was labeled as either a librarian or waitress. Half received the label before watching the tape; half afterward. Stereotypes could influence the processing of the information only among those who received the label before viewing the tape (the label received afterward could influence memory, but not the initial processing of the information). Results showed that accuracy increased by 7% when the label was received before viewing the tape.

Macrae, Milne, & Bodenhausen (1994) gave people lists of traits about individual targets, who either were or were not labeled as being members of a stereotyped group (skinheads or estate agents). In each of three separate experiments, people accurately remembered about 30%~60% more traits

when they had the label than when they had no label.

Brodt & Ross (1998) first surveyed those residents of dorms well-known on campus for being havens for “hippies” (politically leftwing, unconventional) or “preppies” (politically rightwing and conventional) about their behaviors and preferences (e.g., do they prefer to eat at a fast food hamburger joint or a vegetarian restaurant). They then showed people pictures of these residents to people and asked them to predict the residents' behaviors and preferences. When perceivers predicted targets to be consistent with their dorm (for a preppie dorm resident to have preppie attributes or for a hippie dorm resident to have hippie attributes), 66% of their predictions were correct (they matched the targets' self reports). When perceivers jettisoned their dorm stereotypes, and predicted targets to be inconsistent with their dorm, 43% of their predictions were correct.

These types of results are not restricted to the odd sorts of groups studied by Cohen (1981), Macrae et al. (1994) or Brodt & Ross (1998). A series of studies have shown essentially the same pattern holds for gender and racial stereotypes (Gosling, Ko, Mannarelli, & Morris, 2002; Jussim, Eccles, & Madon, 1996; Madon et al., 1998). Jussim et al. (1996) and Madon et al. (1998) studied the role of gender stereotypes in teachers' perceptions of their students. Both studies found that: 1) teachers' accurately perceived performance differences between boys and girls; 2) gender stereotypes had modest effects on teacher perceptions of students' performance; and 3) those effects almost exactly equaled the perceived differences, which means that the accuracy in perceived differences resulted almost entirely from relying on stereotypes.

Gosling et al. (2002) found a conceptually similar pattern for both racial and gender stereotypes. They examined the accuracy of people's judgments of targets' personality characteristics on the basis of the possessions shown in a photograph of the target's bedroom. Results suggested: 1) Reliance on stereotypes; and 2) That the ultimate judgments of race and sex differences were quite

accurate (although the analysis demonstrating high accuracy—correlations in the .5 to .9 range—can be found in Jussim, 2012, who provided a re-analysis of Gosling et al.'s (2002) published results).

*Conclusions regarding stereotypes and person perception: The stereotype rationality hypothesis.* These broad patterns of results are broadly consistent with The Stereotype Rationality Hypothesis (Jussim, 2012). It is rational and reasonable to use stereotypes in the complete absence of individuating information, when the individuating information is perceived to be useless, and when individuating information is either scarce or ambiguous. It is also rational and reasonable to jettison stereotypes and rely on the individuating information when that information is clear, credible, relevant, and abundant. This pattern, it seems, closely corresponds to how people actually use their stereotypes. Not perfectly (e.g., there are sometimes small stereotype effects even when individuating information is relevant, clear, and abundant), but pretty closely.

In terms of process, people seem to use their stereotypes both gingerly and reasonably. Based on the dramatically larger (on average) effect size of individuating information over stereotypes, people seem to strongly prefer judging others on the basis of individuating information. When both stereotypes and individuating information are available, individuating information appears to be the primary basis for person perception. When it is present and abundant, people generally use it far more than stereotypes.

Instead, it seems people rely on stereotypes only hesitantly and reluctantly. Only when they have no individuating information, or when the individuating information they do have is irrelevant or ambiguous, do they use stereotypes to any substantial extent. Stereotypes, apparently, function not as a first option, but, instead, as a best guess of last resort when there is little else to go on.

### **Stereotypes as categories: Essence and entitativity**

As already described, the “picture in our

heads” metaphor of stereotype proved inadequate and was replaced with an understanding of stereotypes as perceptions of probabilistic group differences (McCauley, Stitt, & Segal, 1980). The group differences conception of stereotypes then led directly to research testing stereotype accuracy, with results already described. In this section, we enlarge the conception of stereotypes still further, to put stereotyping in the context of the cognitive psychology of natural kind categories. In particular we connect stereotyping research with research on entitativity and essence.

### ***Stereotypes are more than perceived group differences***

If stereotypes are beliefs about group differences, what do these beliefs have to do with attitude and behavior? There are two levels of answer to this question. At the intergroup level, stereotypes may be more consequence than cause of intergroup relations. At the interpersonal level, stereotypes may determine feelings and behavior toward individual members of a stereotyped group.

The famous Princeton trilogy of stereotype studies shows how intergroup conflict can change stereotypes. In 1933 Katz and Braly found Princeton University undergraduates had mostly positive views of both Germans and Japanese; both nations were seen as industrious, efficient, and modern. In 1952 Gilbert found a new generation of Princeton undergraduates were more negative about both Germans and Japanese, now seen as aggressive, militarist, and (for Japanese) treacherous. In 1968 Karlins et al. found that a third generation of Princeton students had returned to most of the positive stereotypes reported by Katz and Braly.

It is clear that American stereotypes of Germans and Japanese changed with change in political relations between the U.S. and these two countries, in particular with change from trading partner to WWII enemy and back to trading partner. Here is clear evidence that stereotypes follow intergroup relations, and that positive national stereotypes cannot control deteriorating political relations. At the level of intergroup relations, then,

stereotypes may be more effect than cause.

Quite a different relation emerges at the interpersonal level, where an individual must choose whether or how to interact with individual members of a stereotyped group. Here stereotypes of how another group differs from our own provide a kind of default prediction of how best to treat strangers from the other group. This prediction is not just cognitive but affective.

Fishbein's model of attitude (Ajzen & Fishbein, 1980) makes attitude (affect) the sum of the positive and negative evaluations of the characteristics of an attitude object. In this model, attitude toward a stereotyped group is the resultant of positive and negative evaluations of the perceived differences that distinguish them from us. Then the attitude, along with norms and habits, determines intention to act for or against the stereotyped group. Of course the evaluations are group centered: Chinese and Americans can agree that Chinese are more inhibited with strangers than Americans are, but disagree about whether being more inhibited is good or bad.

Unfortunately the Ajzen and Fishbein (1980) model of attitude, and any model that treats stereotypes as collections of beliefs about group characteristics, can take us only part way to understanding how stereotypes affect attitude and behavior.

Consider two observers who agree that Chinese are more inhibited than Americans. They have the same stereotype, that is, they agree on the size of the correlation between ethnicity and inhibition. They also agree that being more inhibited is not desirable, that is, they agree on the evaluation of the perceived difference. But they have different theories of origin. One believes that the difference between Americans and Chinese is a result of nature: different blood, different genes. The other believes that the difference is the result of nurture: different history, different culture, and different socialization.

These two stereotypes are not the same because the perceived origin of group differences can affect attitude and behavior. This importance of perceived origin is particularly obvious for

stigmatized groups. Attitude toward a member of one of these groups depends on the observer's construction of how the stigmatized came to be different from others: by accident, ignorance, culpable error or choice. Reactions toward the obese, alcoholics, handicapped, or homosexuals are likely to be more positive to the extent that the condition is seen as unchosen. On the contrary, reactions toward an ethnic outgroup are likely to be more positive if the differences are seen as a result of nurture rather than nature. Why difference by nature rather than nurture should be exculpatory for some groups but indicting for others is a puzzle for the future.

It follows from these examples that the study of stereotype beliefs—about a stigmatized group, an ethnic group, or any other kind of group—should include study of the theories of origin that are part of these beliefs. This same conclusion has arisen in cognitive psychology in relation to understanding of natural kind categories.

### *Theories of origin in natural kind categories*

Stereotyping must begin with groups as percepts, that is, with perception of boundaries that divide people into categories. How categories are acquired and how they are represented are major issues in developmental and cognitive psychology.

The classical view was that categories are defined by necessary and sufficient conditions. Although logical categories such as *even number* can be thus defined—divisible by two without remainder—most people have nothing like a classical definition of *bird* or *vegetable*. Cognitive psychologists have suggested instead that natural kind categories are derived from perceptions of similarity, although opinions differ as to whether similarity is represented in relation to a category *prototype*, in relation to previously encountered *exemplars*, or in relation to abstract *feature lists* (Smith & Medin, 1981).

But natural kind categories are more than lists or concatenations of correlated features. A cat is more than the combination of fur, claws, purr, mouse hunting, and so forth. The concept of *cat*

includes some theory about the origins of being a cat (Medin & Ortony, 1989).

Keil (1989) has argued the special importance of theories of ontogeny in categorizing living things: an animal is a cat no matter what it looks like if its parent was a cat. Developmentally, this realization occurs for U.S. children about four or five years old. Before this age, a child follows appearance in determining category membership. If you show a younger child a picture of a cat, then describe plastic surgery and dyeing the fur, then show a picture of a raccoon as the result, the younger child will say the resulting animal is now a raccoon. An older child will say it is still a cat. Asked why it is still a cat, the older child will likely scratch his head in uncertainty and perhaps come up with a proto-biological explanation: "If it had babies, they'd still be kittens."

Something similar occurs in other cultures: at the age of four or five, an African child comes to know that a gazelle made to look like an impala is still a gazelle. Why it is still a gazelle is again puzzling for the older child but the answer is likely to refer to the "spirit" of the gazelle. The idea of essence is the common root of cultural instantiations such as species, spirit, soul, nature, substance, and being: the hidden something that makes a living thing what it is despite the transformations of growth and development. The perception of essence is what makes the Ugly Duckling story work for Western children: the essence of swan takes time to do its work. Sometimes essence does not produce essential characteristics: an albino three-legged toothless tiger is still a tiger.

### *Essence in social categories*

Hirschfeld (1996) took Keil's focus on ontogeny a big step further with research suggesting that at least some social categories depend upon a biologically-based cognitive module that prepares human children and even adults to interpret the world of human differences in terms of essences. This human-kind-creating mechanism interacts with culture to produce essentialized categories such as gender and race. Hirschfeld argued that a similar but

independent module prepares us to interpret the non-human animal world in terms of essences that distinguish, for instance, ducks and swans.

An essentialized social category such as gender or race, according to Hirschfeld, combines immutability (essence expressed in physical characteristics or behavioral tendencies that cannot be changed in an individual's lifetime), discrimination (only some characteristics differ by essence), and heritability (essence-related characteristics determined from family background—by blood—and fixed at birth). Racial and gender categories are near-universal outcomes of the human-kind-creating module, and kinship categories are likewise commonly essentialized.

Although gender and race are often essentialized, ethnicity is more variable. Irish and Italians have sometimes but not always been essentialized in the U.S., Jews and Christians have often but not always essentialized one another, but Germans and Jews have essentialized their own groups in "laws of return" that grant citizenship to anyone who can show blood descent from the privileged ethnicity. Han Chinese may essentialize their ethnicity despite cultural variation that makes many Chinese dialects mutually incomprehensible (see Lee, McCauley, Moghaddam & Worchel, 2004).

Hirschfeld (1996, p. 61) notes that class has at least as much potential as race for explaining group conflict, but may just be less easy to *think*—that is, less easy to perceive and less salient in perception. In social psychology the ease of "thinking" of a group is represented in the concept of *entitativity*.

### *Entitativity in social categories*

Entitativity is the tongue-twisting name given by Campbell (1958) to the degree to which an aggregation is perceived as a single entity. Campbell identified four Gestalt features of an aggregation that contribute to entitativity: *proximity*, *similarity*, *common fate*, and *pregnancy* (good form). A column of marching soldiers in uniform is high on all four features; an equal number of individuals clustered at a bus stop are low on all except



proximity.

Entitativity thus refers to a dimension of “groupness” that ranges from low to high. Perception of an aggregation as a single entity means that the aggregation is treated as one thing, as if it were a single individual. The attributes of the high entitativity group are like the attributes of an individual: a high entitativity group is seen to have personality, abilities, habits, and history. Consistent with this formulation, McConnell, Sherman, & Hamilton (1997) show that information processing about groups and individuals is similar when groups are perceived as having high entitativity.

In addition to perceptual factors, aspects of group dynamics can affect entitativity. Groups seen to have high interdependence, high cohesion, high levels of interaction among members, and high organization tend to be seen as having high entitativity (for review see Yzerbyt, Corneille, and Estrada, 2001, p.142). It is worth noting that these factors are the group dynamics correlates of the perceptual cue called *common fate*. In general, research points to both social coherence and perceptual coherence as sources of entitativity.

#### *Essence and entitativity in social categories*

Haslam, Rothschild, and Ernst (2000) have extended the implications of essentializing a social category to include nine elements: the group should appear natural (vs. artificial), discrete (vs. fuzzy boundary), immutable (vs. individual choice), stable (vs. historical change), uniform (vs. dissimilar members), informative (vs. no useful predictions about members), exclusive (vs. members belong to many other categories), inherent (vs. no underlying reality), and having necessary features (vs. no necessary features).

Haslam et al. suggested that the nine elements could be represented in two factors, *natural kind* and *reification/inherence*, but Yzerbyt et al. (2001) prefer a conceptualization in which the elements are understood in terms of two factors of *essence* (natural, inherent) and *entitativity* (uniform, informative, necessary features).

Obviously there is a link between entitativity

and essence. Entitativity is the perception of unity; essence is an explanation of unity. Entitativity is the degree to which visible features support an inference of group oneness; essence is an inference about an invisible feature that can explain visible similarities and connections within a group. Yzerbyt, Corneille, and Estrada (2001) show that high entitativity leads to inferences of essence, and inferences of essence lead to entitativity (search for perceptual and social coherence within the group).

The importance of essence in stereotyping has been emphasized in the *category divide hypothesis*. Differences between two individuals in either abstract skills (perceptual style) or points of view are seen as larger when the two individuals differ in race or gender than when they are of the same race and gender. Such differences are also generalized to the respective groups (Miller & Prentice, 1999). Differences between members of essentialized categories thus may develop and reinforce stereotypes in a powerful fashion.

#### *The importance of essence and entitativity*

In summary, this section has shown that the study of stereotyping is no longer a ghetto within social psychology; rather stereotype research has joined with cognitive psychology and developmental psychology in trying to understand how humans make and use categories. Stereotypes are more than “pictures in our heads” and more than probabilistic perceptions of group differences; rather stereotypes are representations of human categories, and are like representations of other natural categories in implicating theories of origin.

The convergence of essence and totem (as described in the first section of this paper) is striking. The human tendency to see group differences in terms of different essences is made manifest in the human tendency to represent different groups with different animals—not just any animals but animals that represent specific group characteristics. An invisible human essence is made visible and concrete in the totem animal. The invisible essence that determines courage, for instance, is made visible in the tiger totem that

represents a 'tiger people.' Similarly the tendency to see the totem as an ancestor—on the face of it an incredible idea—makes sense when the totem represents the ancestral essence. For a human group, their totem is the animal avatar of their distinguishing essence.

Totem and essence go deep in human cultures and histories because essentializing is something like a default human interpretation of differences in living things, both individual and group differences. Thus stereotyping seems to be particularly powerful for groups with high entitativity and a perceived essence. This is the beginning of understanding the political power of ethnicity and nationalism, which drove political conflict and political violence in the twentieth century and shows no sign of weakening (McCauley, 2001). Mass murder and genocide become all too understandable once the enemy is seen as having a bad essence, especially if the murderers are confident in their own good essence (Chiot & McCauley, 2006).

## Conclusion and Prospect

We have offered a brief overview of stereotypes as categorical beliefs and perceptions that are often surprisingly accurate.

First we addressed the three dimensions of stereotypes — Evaluation, Potency, and Accuracy — and suggested a relationship between stereotypes and totemic beliefs. Stereotypes and totems are human categorical representations concerning members of a group, clan, or tribe. It is almost impossible that human beings can function efficiently without categorizations such as stereotypes and totems. This argument was based on one hundred years of research in psychology, sociology and anthropology.

Second, we reviewed the controversial research on the accuracy of stereotypes as a subset of human beliefs. Cultural stereotypes, personal stereotypes, judgment of individuals and groups, judgment criteria and meta-analytical results were briefly summarized. Stereotype accuracy, unthinkable for many social scientists, is well documented in four decades of recent research.

Third, we argued that stereotypes include beliefs about where group differences come from, that a particularly powerful explanation is the perception of a group essence, and that entitativity or perceptual 'oneness' of a group makes essentializing easier. Thus stereotyping seems to be particularly powerful for groups with high entitativity and a perceived essence. The striking convergence of essence and totem was noted and we offered the interpretation that a totem is the animal symbol of a distinctive group essence.

Running through all three sections of our paper is a single theme: stereotypes are representations of social categories, and will be best understood in the larger context of perceptual, cognitive, and cultural psychology.

In prospect, future research on stereotypes will continue to be scientifically and politically challenging, but we expect that more and more studies will show the substantial validity of human perceptions of group differences. We expect that a new generation of social psychologists will join everyman in seeing category or stereotype-based judgments as substantially better than chance, especially when there is no individuating information about the individual being judged. Finally, we expect that stereotypes and stereotyping will be of growing interest to a broadening range of specialists concerned with how human categories of humans are developed, represented, and employed — including political scientists, economists, sociologists, ethnologists, social workers, lawyers, policy-makers, and physicians. Once the only important question about stereotypes was how to get rid of them, but even our brief review shows that stereotype research is moving on.

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## 具有类属知识性的思维：群体区别判断过程中的复杂性、有效性、有用性和实质性

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**摘要** 类属性思维(stereotypes)在一定的程度上是对群体区别正确反映的类属信仰。类属性思维比我们一般假想的更为复杂。首先，我们在本论文中探讨了在立体性的类属性思维 EPA 理论框架之下的多维度，即类属性思维的三维度：评估、激活和准确度。同时还特别讨论了类属性思维与具体集体共识的表征特点的图腾信仰之间的密切关系。其次，对于作为人类信仰一部分的类属性思维准确性莫衷一是的研究，我们进行了全面综述，并且本文还仔细考查文化类属性思维，个体类属性思维，个体与群体的判断，准确性评判的标准，和原分析的数据等等，同时进一步表明类属性思维和客观现实性有密不可分的关系。最后，我们指出类属性思维对解释群体和民族的区别非常重要，特别是人的感知的实质性寓于实在的客观群体本身(“感知的同一性”)。我们认为，类属性思维的过程，对于高度的实体性和感知的实质性的群体来说，具有深刻影响，况且群体或部落(民族)的图腾也是其群体或民族的实体性的外在表现。尽管我们不可能解决同类属性思维的过程有关的所有争论，但我们所强调的观点是：类属性思维是人类相互影响和生存的有效类属性识别。

**关键词** 类属性思维的准确性；图腾与信仰；感知的实质性；群体的区别

**分类号** B849: C91