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R. W. Jackman

Social Categorization, Psychology of

Humans experience the world through a filter of categorization. They distinguish among natural kind categories such as plants, animals, and minerals, and among artifact categories such as tools, machines, and works of art. Still other categories are abstract (e.g., peace, love, happiness) or *ad hoc* (e.g., things I need to pack for a trip). Social categorization is mainly concerned with the way people categorize themselves and others. Like any other kind of categorization, social categorization raises two fundamental questions. How do categories come to be coherent, and how do they affect human perception and action (Sternberg and Ben-Zeev 2001)

Before addressing these questions, one may wonder what would happen if there were no social categories. People would either be lumped together or considered individually. Though intuitively appealing, both options are impractical. Neither an all-inclusive human category nor all-exclusive person categories allow precise inferences about individuals. Such inferences are important because of their adaptive functions. People need to be able to predict—beyond chance levels—what others are like and what they are likely to do. Social categorization facilitates and constrains two kinds of inductive inferences. Downward induction occurs when the features of a category are attributed to individual members; upward induction occurs when the features of individuals are generalized to the

category at large. Both inferences become more precise as categories become smaller and more homogeneous (Holland et al. 1986). Knowing that Jacques is French, for example, suggests more precise attributions than merely knowing that he is European. These attributions, in turn, may change when even more exclusive categories (e.g., Parisian) are used (Nelson and Miller 1995). Similarly, the discovery that Jacques is a connoisseur of fine wine is more readily generalized to the French than to Europeans, and it is even more readily generalized to other people from Jacques' region.

Precision and economy are two inversely related aspects of the quality of inductive inferences. The use of exclusive and homogeneous social categories benefits precision, but it is not economical. Any given inference, be it attribution or generalization, can reach only few individuals. Conversely, large (and heterogeneous) categories permit attributions and generalizations to many members, but these inferences lack precision. Like object categories, social categories form hierarchies in which large heterogeneous categories comprise smaller and more homogeneous ones (Sternberg and Ben-Zeev 2001). In a hierarchy of religious categories, for example, the distinction between Christians and Muslims lies at a highly inclusive level. Further distinctions between Catholics and Protestants, and between Sunnis and Shiites, lie at more exclusive levels.

Social categorization is extraordinarily flexible because any particular category falls within a web of overlapping and conflicting hierarchies (Wattenmaker 1995). When Jacques is considered Parisian, French, and Catholic, three hierarchies intersect. Most Parisians are French, and most French are Catholic, but no category is contained fully within another. Parisians can also be classed with other city-dwellers (e.g., Romans) as urbanites, and the French can also be classed with other nations (e.g., the Italians) as Europeans. The availability of alternative groupings permits strategic choices among equally valid depictions of the social world. Whether the choice of a social category is apt depends heavily on the context in which it is made. Natural kind categories are more resistant to changes in context. Most of the time, a furry companion is simply a dog.

1. Coherence

Categories are coherent if induction effectively differentiates among them. Downward induction is effective if the features of a category can be attributed to its own members at a higher rate than to the members of other categories. Upward induction is effective if the features observed in an individual can be generalized to other members of this category at a higher rate than they can be generalized to members of other categories.

Inspired by Aristotle's beliefs about the structure of nature, the classic theory postulated the existence of features that are individually necessary and jointly sufficient for categorization (Sternberg and Ben-Zeev 2001). When there are defining features, inferences are certain and deductive instead of probabilistic and inductive. Because, for example, all geometric shapes with three sides and angles summing to 180 degrees are known to be triangles, no generalization needs to occur. Incidental features, such as the color of the shapes, have little inductive interest. Most social categories lack defining features. To illustrate, Allport (1954) noted that the Jews 'cannot be classified as racial, ethnic, national, religious, or as any other single sociological type.' The lack of classic definitions in the social domain creates a psychological challenge. How can we perceive and judge people by categories that we are unable to define?

The idea of essences protects the faith in classic definitions of social categories. Essences are invisible—or at least so far undetected—defining features. No matter how much a person's surface features may change, the philosophy of essences assumes the existence of an immutable underlying nature (Rothbart and Taylor 1992). Essentialist beliefs thus obscure the social origin of many categories. Even during the nineteenth century, some scientists believed that differences observed between human races were actually differences between species (Gould 1996). Since essences, by definition, are postulated rather than discovered, they tend to follow rather than precede social categorization. Once a set of social categories—be it by cultural convention or political expediency—is established, people tend to accept it as natural. They tend to believe that there must be defining features even if they are unable to name them.

Wittgenstein (1958), who was more interested in language than in nature, refuted the classic theory when he asked what games are. Although they have little in common, chess and bingo can be grouped together because other games share features with either one or the other (e.g., poker requires both skill and luck). Family resemblance makes categories cohere without requiring that a single feature is shared by all members (Rosch and Mervis 1975). The term family resemblance aptly describes what many vintage portraits of extended families reveal. The patriarch seated in the center is obviously related to everyone, but the cousins on either side have no apparent similarities.

Categorization by family resemblance is effective because it captures the lumpiness of the social world. Family resemblance categories comprise members of varying typicality, they have unstable and fuzzy boundaries, and their features tend to be correlated with one another (Rosch and Mervis 1975). Consider the social category of 'actors.' Typical members, or prototypes (e.g., Humphrey Bogart), have more features in common with members of the same category

than with members of other categories. Prototypes come to mind faster and are recognized more easily than less typical members. Atypical members (e.g., Ronald Reagan) are not categorized effectively. Minor changes in their feature sets, or even changes in the perceiver's attention to some features, can lead to categorization elsewhere. Crossing a fuzzy boundary, Ronald Reagan went from being a moderately typical actor to being a prototypical politician. His example illustrates how some features (e.g., the ability to portray sincerity) can contribute to separate family resemblance categories. Individual features tend to be correlated across categories. Feathered animals also tend to fly, and people who prefer Beaujolais over beer tend say *santé* instead of *prosit*. Correlations among features and across categories provide useful, though partly redundant, information. They increase the perceiver's confidence that categorization has been correct and they allow inductive inferences from one feature to another.

2. Consequences

Unless categorization is random (see discussion of 'thin categories' below), most individuals are more similar to other members of the same group than to members of other groups. Both attribution and generalization inferences benefit from this basic similarity relation. If there is no specific information about a group member, any trait can be attributed to him or her with a probability corresponding to the perceived prevalence of the trait in the group. To make such trait attributions is to stereotype. Stereotyping may be questioned on ethical grounds—especially when the expectations are incorrect (Banaji and Bhaskar 2000)—but as an inductive inference, stereotyping is necessary if beliefs about categories and their members are to be coherent (Krueger and Rothbart 1988). Conversely, traits observed in individuals may be generalized to the group. If there are many observations, the prevalence of a feature in a sample is the best estimate for its prevalence in the group at large. But is it possible to justify a generalization to the category if only a single category member has been observed?

Mill (1843/1974) noted that people sometimes generalize from single instances, whereas at other times they do not. He realized that this fundamental problem of induction can only be understood by taking into account *a priori* expectations about the homogeneity of the group. In the simple case of dichotomous features (i.e., a person either does or does not possess a given trait), the group becomes more homogeneous as the prevalence of the trait approaches either zero percent or 100 percent. If traits are thought to be either present in all group members or in none, a single observation of a particular trait can

be generalized to everyone. If the group is thought to be more heterogeneous, generalizations are 'regressive,' which means they shift further towards the 50 percent mark.

Suppose half of the traits are presumed common (with $p = 0.8$) and half are presumed rare ($p = 0.2$). Before there is relevant information about an individual, any particular trait may be expected with the average of these probabilities (i.e., $p = 0.5$). When the person turns out to be friendly, the trait of friendliness is more likely among the common ones than among the rare ones. The probability that friendliness is a common trait (0.8) may then be multiplied with the probability of encountering a friendly person if friendliness is indeed common (also 0.8). An analogous calculation is done for the possibility that the trait is rare (0.2×0.2), and the products are summed and multiplied by 100. The result is an estimate for the prevalence of friendliness (68 percent), which, although it does not match either of the assumed base rates, minimizes the expected error in the long run (Dawes 1990). Generalizations allow the formation and the change of stereotypes. Because generalizations, unlike attributions, are regressive, stereotypes are harder to change than to apply.

Categories are coherent inasmuch as similarities within categories are greater than similarities between categories. This simple rule suggests that similarity relationships are there to be detected, and that social categorization is free from errors if this detection task is mastered. Somewhat surprisingly, however, no theory of similarity can fully explain why people use certain categories and not others. Before similarity can be estimated, a finite number of features must be selected from the infinite pool of possible features (Sternberg and Ben-Zeev 2001). These selections partly depend on value judgments or other (social) intuitions that may have little to do with similarity itself. In other words, categorization depends heavily on the perceiver's theories of how to construe the world and what features to ignore. Some social categories are so 'thin' that they are held together by little more than the label itself. Thin categories are superimposed on social reality rather than extracted from it (Krueger and Clement 1994). Labels create quasi-Aristotelian categories because they do double duty as defining features. Labels create patterns of inclusion and exclusion that might as well be different. The US Census 2000, for example, distinguishes between Hispanics and non-Hispanic Blacks, not between Blacks and non-Black Hispanics. Despite meager underlying similarity relations, these categories organize perception and thought, and thus provide a platform for prejudice, stereotyping, and intergroup relations.

The perceiver's perspective on social categories depends critically on their own sense of identity (Oakes et al. 1994). Some categories include the self, whereas others exclude it. The egocentric distinction between

ingroups and outgroups, which is peculiar to social categorization, has two major consequences: ingroup favoritism and perceptions of outgroup homogeneity. Both phenomena are related reciprocally to the thinness (or arbitrariness) of categorization and to inductive reasoning.

3. Ingroup Favoritism

Typically, a group is judged more favorably by people who are in it than by people who are not. In real social categories, ingroup favoritism has many causes, such as competition for scarce resources, a history of ideological or symbolic conflict, or unrepresentative interactions among group members. Therefore, it is important to note that the same bias emerges in the so-called minimal group situation. Minimal groups are very thin categories created in research laboratories. Group membership is completely arbitrary; often it depends merely on the luck of the draw in a lottery. There is no contact among members, no information about the attributes of others, and no dependence on their actions. Still, people discriminate (Tajfel et al. 1971). Compared with outgroup members, ingroup members give away more money or symbolic rewards, they are more interested in making friends, and they expect to see and are prepared to remember more positive personality traits.

These differences point to the crucial role of self. When people find themselves in an unfamiliar group, self-knowledge is the only information available to support judgments about others, and social categorization provides the only framework for the generalization of this knowledge. Indeed, people 'project' their own features to others with whom they know they have something salient in common, namely group membership (Krueger and Clement 1994). Because most people have favorable self-images, generalization creates a favorable description of the group. Outgroup members do not generalize, believing that their own features do not represent the group. This lack of induction results in a more neutral description of the group. Whose judgments are mistaken? The interplay of induction and categorization suggests that the judgments made by outgroup members are biased. When a population is arbitrarily broken up into different categories, these categories inherit the same features. Therefore, any individual is similar to both ingroup and outgroups. Ingroup favoritism primarily reflects a failure to generalize one's own favorable features to outgroups, rather than any excessive tendency to ascribe desirable features to the ingroup.

Although egocentric and asymmetric induction patterns go a long way to explain ingroup favoritism, other motives also come into play (Abrams and Hogg 1999). Being able to discriminate against an outgroup

can strengthen a sense of social identity and heighten self-esteem while reducing feelings of uncertainty. These motives can be so strong that people forfeit possible gains for the ingroup as long as the ingroup is better off than the outgroup.

4. *Perceptions of Outgroup Homogeneity*

The mere act of categorization suggests that the categorized instances can be treated as equivalents. In social categorization, the assimilation of instances (people) to the group average is asymmetric. People who do not belong to the group usually perceive it to be even less variable than group members do (Park and Rothbart 1982). Italians, for example, may appear to be more homogeneous to Americans than to Italians themselves. This homogeneity bias is expressed in several ways. Individual group members are easily confused with one another; individual traits appear to be either extremely common or extremely rare; and judgments about individual group members on a given trait dimension do not depart much from the average of these judgments.

The homogeneity bias is not a mere by-product of ingroup favoritism because it affects both positive and negative attributes, and because it is absent in minimal groups where ingroup favoritism is common. The psychological need to differentiate ingroups from outgroups—which contributes to ingroup favoritism—would lead people to perceive the ingroup as homogeneous. Moreover, the homogeneity bias does not simply reflect differences in induction. Although outgroup members may have less information than ingroup members do, differences in familiarity do not necessarily produce a bias. Statistically, sample size is unrelated to sample variance (unless the samples are very small). Finally, the selective induction from the self to ingroups works against the outgroup homogeneity bias. Induction reduces perceptions of variability and thus uncertainty. Not using self-related information to make inferences to outgroups thus supports perceptions of heterogeneity.

The main source of perceived outgroup homogeneity are processes of categorization themselves. People who belong to a group are more likely to perceive differentiated subgroups (Park and Rothbart 1982). Italians more than Americans, for example, further categorize Italians by geographic origin, distinguishing between Tuscans, Romans, Calabrians, and so forth. To ingroup members, the group is thereby located at a higher level in the hierarchy than it is to outgroup members. The homogeneity bias then results from the assumption that categories not divided any further are more homogeneous than divisible categories. The error is the failure to realize that members of other groups consider their own categories to be as divisible as we consider our own.

5. *Conclusion*

Frameworks of social categorization may change across time and place, but they are functional in that they enable people to reason inductively and to situate themselves within the social world. Making predictions about the self and others is potentially more adaptive than withholding judgment altogether (Krueger 1998). In the process, however, social categorization also enables the persistence of prejudicial beliefs and discriminatory behavior. The tension between the adaptive and the biasing effects of categorization highlights the importance of this topic.

See also: Stereotypes, Social Psychology of

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J. Krueger

Social Change: Types

Two sets of assumptions must be made explicit to identify different types of social change. The actor's attributes are needed to understand what they do and why. The social structure—options and payoffs—within which the actors choose and act are needed to explain what happens and why. The two sets of assumptions are needed to construct a logical narrative of systemic effects.

Changes can consist in either

(a) *the actors changing*: what they want, know, do, obtain, or are burdened with, i.e., actor change in cognition, attitudes, sentiments, attributes, actions; or

(b) *the structure changing*: i.e., change of states, their correlatives or distributional aspects. These face the actors as facts, options, or structured costs and benefits, such as property rights, vacancies, socially available marriage partners, health hazards, or language boundaries.

The structure may change the actors, their hearts and minds. The actors may change the structure, its positions and possibilities. And the actors may react to conditions they have brought forth—by an echo effect, to speak, from an edifice of their own making.

From answering two questions: (a) do the actors change, and (b) does the structure change, we may

		Does the structure change?	
		No	Yes
Do the actors change?	No	Aggregate effects	Structural effects
	Yes	Actor effects	Dialectical effects

Figure 1
Types of models of social change

identify four kinds of models of social change, as shown in Fig. 1. Examples from classical texts below illustrate these types.

1. Models of Aggregate Effects

An example of a model of 'aggregate effects' is found in microeconomic theory. Under 'pure barter,' each actor is assumed to prefer certain combinations of goods, to know who commands what goods, etc. Among the structural assumptions are that actors have rights to goods, that goods can be exchanged freely without transaction costs, etc. From such assumptions it follows that the actors will barter goods they like less for goods they want more. The driving force is the initial gap between what they have and what they want—between what they actually prefer and what they initially control. Hence, a new distribution of goods will arise among the actors from which nobody will want to move because none can get more satisfaction from another exchange. The actors themselves remain unchanged, as does the value of their goods. The model is one of change only in the sense that the actors' bundles of goods at the end are different from the outset. Hence economists call this genre 'models of static equilibrium,' though a process runs until this equilibrium is reached. Distributional characteristics may be modified—e.g., the degree of concentration of goods. But they have no further motivational effects in these models—the actors' choices shape the final allotment of goods, but they do not react to it once equilibrium is reached. The distribution of final control is just an aggregate outcome, not input for further action. Economics has many variations on this theme. It is a separate, empirical question to what extent such a model agrees with a barter process in the real world.

There are even more stripped down models of aggregate effects. A stable population model assumes nothing about what the actors want or know—only that they have constant probabilities of offspring and death at specific ages. Initially the population pyramid may deviate from its final shape. Having arrived there, it will remain unchanged. The stable proportions in the different age/sex categories are equilibrium states which represent the 'latent structural propensities of the process characterized by the [parameters]' (Ryder 1964, p. 456)—the values that proportions move toward when parameter values remain constant. For some, even important, phenomena, cut down actor models (no intentions or knowledge) are powerful. Simple assumptions can take you a long way in making a logical narrative.

2. Models of Actor Effects

The second type of model is illustrated by 'learning by doing.' In *Capital*, Marx describes how a specialist (a 'detail laborer') acquires skills within manufacture