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ABSTRACT
        This document discusses person perception or social
cognition, as it affects relationships between people and nations. An
important part of living together in harmony is for people to be able
to perceive each other accurately, for individuals to understand one
another's values, customs, goals, and resources. The need for
accurate and sympathetic understanding among parties is true at the
international and intercultural levels as well as interpersonally.
Topics in social cognition that may be adapted for peace education
include: (1) the nature and use of categories; (2) dimensional
analysis of social interaction; (3) cognitive consistency; (4)
prototypes and stereotypes; and (5) two-stage theories of
inference-making. Additional topics, considered briefly, are:
attributional analysis, biases in attributions, heuristics, and
implicit personality theory. For each topic, an exercise relevant to
peace education is described. Better understanding of the principles
of social cognition and attendant biases can help in structuring a
more peaceful and just world. Given both the challenges and
opportunities in the world today the seemingly intractable conflicts
in some places, and the need to nurture newly emergent democratic
ideals in others, it is important to stress both prevention and cure
of hostility. At least one facet of prevention of bias, and in the
reinforcing of a meaningful and just peace, is to facilitate
knowledge about the perceptual origins of at least some forms of bias
and misunderstanding. Contains 30 references. (Author/DK)

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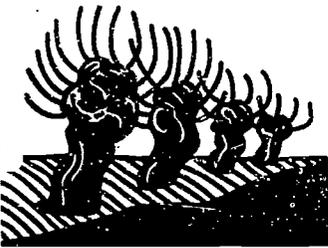
Department of Educational and Psychological Research

School of Education Malmö • Lund University
Box 23501, S-200 45 Malmö, Sweden

Perception and misperception of others: Social-cognition implications for peace education

HERBERT H. BLUMBERG

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PERCEPTION AND MISPERCEPTION OF OTHERS: SOCIAL-COGNITION IMPLICATIONS FOR PEACE EDUCATION

Herbert H. Blumberg

Topics in social cognition that may be adapted for peace education include: the nature and use of categories, dimensional analysis of social interaction, cognitive consistency, prototypes and stereotypes, and two-stage theories of inference-making. Additional topics, considered briefly, are: attributional analysis, biases in attributions, heuristics, and implicit personality theory. For each topic, an exercise relevant to peace education is described. Better understandin; of the principles of social cognition and attendant biases can help in structuring a more peaceful and just world.

Keywords: Attribution, cognition, inference. peace education, personality theory, social interaction, social perception, stereotyped attitudes.

PERCEPTION AND MISPERCEPTION OF OTHERS: SOCIAL-COGNITION IMPLICATIONS FOR PEACE EDUCATION

Herbert H. Blumberg
Goldsmiths' College
University of London

An important part of living together in harmony is for people to be able to perceive each other accurately – for us to understand one another's values, customs, goals, and resources. The need for accurate and sympathetic understanding among parties is true at the international and intercultural levels as well as interpersonally. (Continuing the progression inward, harmonious co-existence among the "selves" *within* each person is no doubt also important – Rowan, 1983.) The area of social psychology known as person perception, or sometimes as social cognition, merits a place within peace education.

Although knowledge about some of the principles involved in person perception has grown fairly dramatically in recent years (Jones, 1990), person perception as such has not, however, been heavily represented in the peace-psychology literature. Table 1 shows a typical list of major peace-related topics in the psychological literature (Blumberg, in press, based on Blumberg & French, 1992, p. 203). Peace education itself does of course figure very visibly in this list--and all of the other entries can moreover be the subject of educational efforts. Questions about how parties perceive one another are not altogether absent. They are touched on in studies concerned with attitudes, with international relations, and with various images--but none of the areas displayed in the table is *centrally* concerned with social perception.

Table 1. Frequency Distribution for Peace Psychology Categories

Category	Frequencies
Aggression	20
Attitudes (incl. effects of TV docs.)	204
Bibliographies	14
Children & adolescents	169
Conflict resolution	105
Education & peace studies	64
Effects of conflicts, incl. nuclear war	41
Emergency decision-making & crisis management	33
Feminist aspects	16
General (but specif. psychol.) contributions	73
Govt. policy-making; international relations: arms-race analysis	182
Images (e.g., of future. of cooperation, & of nuclear war effects)	60
Miscellaneous	68
Peace movements; war prevention	74
Peacemaking efforts; wars and crises; historical perspectives	91
Philosophical & religious aspects: morality	44
Psychodynamic aspects, mental health, anxiety & related concepts	171
Risk assessment & reduction	19

Note. Data refer to number of abstracts in a particular category, as manifest in the title index to Blumberg & French (1992). Some items are classed in more than one category. Genocide (6 items) is here included within *Miscellaneous* rather than as a small separate category.

Deutsch's (1993) suggestions on "educating for a peaceful world" do not dwell on person perception, but implicit in the benefits he describes for cooperative learning programs and conflict resolution training are the likelihood that parties will come to perceive each other more accurately and appreciate the value of assembling diverse viewpoints.

In the present paper I review the sources of various principles and biases in social perception. In each case, the principle or bias is described, some possible implications for peace psychology are delineated, and an exercise is provided, showing how the effect might be demonstrated in an educational context. Peace education in general requires practical experience as well as instruction (Deutsch, 1993, p. 515). The same is true as regards the understanding of social cognition: education about principles is important, but it is not enough. One also needs real-world practice in noticing and dealing with the facts of social perception.

Ten features related to perception and misperception are considered below. The first five deal with concepts and categories: use of categories, major dimensions, cognitive consistency in the linking of elements, stereotypes as prototypes, and a two-stage theory of assessing parties. The

remaining five areas, which are considered much more briefly, deal mainly with heuristics and biases: attributional analysis, attributional biases, insufficient attention to base-rates (a known "heuristic" and an example of biased judgment under uncertainty), other heuristics, and implicit personality theory as a source of both accuracy and bias.

Remembering the list might be aided by recalling the initials (a) CDC-P2 (or "cats, dogs, cogs, proto-2"!) for categories, dimensions, cognitive consistency, prototypes, two-stage inferences; and (b) AA HH I for attribution (principles and biases), heuristics (base rates and other), and implicit personality theory.

Concepts and Categories

1   Categories
One is tempted to say that it is simply "wrong" to categorize people – that we should not treat people according to our expectations based on their nationalities, age, sex, and so on – but rather we should treat all people equally or on the basis of their demonstrated skills and behaviors. Clearly it is wrong to jump to conclusions about particular groups of people or to discriminate against them simply because of their group memberships or otherwise to be intolerant of the richness of human diversity. Categorization itself may however be less easily dismissed – indeed it seems central to the way we think about things. As Brown (1986, pp. 468-481), Rosch et al. (1976), and others have indicated, familiar objects such as pens, chairs, and birds are instantly named as such.

Moreover, categories are arranged into hierarchies, as exemplified in Figure 1 (cf. Brown, 1986, p.487, and Rosch et al., 1976). On any one occasion we will name something at the "most useful" level, and we adjust ourselves almost automatically to the appropriate perspective. Thus if I hold up an apple, people will usually identify it (not surprisingly) as an apple. But specialists may need to refer to a more specific, subordinate category: if I ask a greengrocer in a supermarket to say what the item actually is, he or she will probably say something like, "it's a New Zealand Braeburn apple"; in the opposite direction, in some circumstances we may need to jump up to a more general, superordinate identification of objects--for instance, in suggesting "fresh fruit for dessert – maybe an apple". The same sort of hierarchical identification applies to people, who may be identified according to a variety of criteria and at different levels along each criterion. If, at an American psychological conference, some-

Super-ordinate Category	Basic-level Category	Subordinate Category
furniture	chair	ordinary wooden rocking bridge chair heavily upholstered
	table	dining-room coffee table
fruit	apple	Braeburn Golden Delicious Granny Smith
	pear	Bartlett Comice

(Based in part on Brown, 1986, p. 477, and Rosch et al., 1976.)

Figure 1. Categories: Example of some elements in a hierarchical structure

body asks "Where are you from?" the expected answer is probably an institutional affiliation plus perhaps a city and state. The answer to a similar question asked at a county fair might be the name of a particular local village. And at an international conference, it may suffice simply to say what country you are from (thereby helping the conversation along but at the price of claiming that some of one's "essence" is imbedded in one's nationality).

Research on the perception of categories suggests that in part we identify categories on the basis of particularly good exemplars or images (apples and bananas are "clearer" examples of fruit than are tomatoes and kumquats; "happy" and "angry" are "clearer" examples of emotional traits than is "peaceful") and partly by their relatively high likelihood of having c rtain characteristics (as when most but not all male members of a particular religious sect have beards or believe in the literal interpretation of some sacred text).

Exercise: View Heider's four-minute animation of triangles and squares. [I could lend a copy to interested readers]. We use categories not only to

identify objects and people but also to describe actions, motives, and traits. Watch this brief animated video (prepared years ago by Fritz Heider, virtually a founder of the field of social cognition). Can you describe it *without* using words like chase, angry, and aggressive?

Alternative exercise: Name an object held up (e.g., book or a pen). Why not use broader or narrower names? How would you describe a prototypical Russian or American? Or an ally or competitor?

2   Major dimensions – SYMLOG and semantic differential

If we want to rate and compare almost anything – categories, concepts, people, or peace action programs, or the same actor at two different points in time – using what researchers have found to be a very widespread set of categories for distinguishing among concepts, we have a choice of schemes. In the case of objects, people can reliably rate most items (including people) in terms of how positive, potent, and active they are (Osgood, Suci, & Tannenbaum, 1957). Using what is called a "semantic differential" measure, most people agree, for example, that rocks are strong, passive, and neither friendly nor unfriendly. A rather similar scheme, called SYMLOG, can also be used for rating people and their social interaction (Bales, Cohen, & Williamson, 1979). In SYMLOG analyses, the main dimensions are (1) dominant-submissive (how talkative or active a person or group is) [graphed as U D, for Up-Down], (b) evaluative (whether something is viewed favorably or unfavorably) [graphed as P N, for positive and negative, which are graphed as right and left respectively], and (c) a mixture of task-social, serious-emotional, and conforming-unpredictable [graphed as F B, for forward-backward on three-dimensional axes]. There is also typically provision for recording a specific description of the person or action.

The system can be used to help understand the dynamics of disputes or of cooperative work groups. I used a similar scheme (Blumberg, 1988) to analyze accounts of nonviolent responses to violence: it appears that moderately positive, moderately dominant (assertive) responses were most effective.

Exercise: Fill out two copies of Figure 2, as follows, and score each. (a) Rate yourself as you think others usually see you. (b) How would you rate a "typical maximally-effective cooperative work partner"? (Separate scores should be calculated for each of U D P N F B by adding the frequency scores of all items listed for that code.) Discuss the results.

Your Name_____ Group_____

Name of person described _____ Circle the best choice for each item:

		(0)	(1)	(2)	(3)	(4)
U	active, dominant, talks a lot	never	rarely	sometimes	often	always
UP	extroverted, outgoing, positive	never	rarely	sometimes	often	always
UPF	a purposeful democratic task leader	never	rarely	sometimes	often	always
UF	an assertive business-like manager	never	rarely	sometimes	often	always
UNF	authoritarian, controlling, disapproving	never	rarely	sometimes	often	always
UN	domineering, tough-minded, powerful	never	rarely	sometimes	often	always
UNB	provocative, egocentric, shows off	never	rarely	sometimes	often	always
UB	jokes around, expressive, dramatic	never	rarely	sometimes	often	always
UPB	entertaining, sociable, smiling, warm	never	rarely	sometimes	often	always
P	friendly, equalitarian	never	rarely	sometimes	often	always
PF	works cooperatively with others	never	rarely	sometimes	often	always
F	analytical, task-oriented, problem-solving	never	rarely	sometimes	often	always
NF	legalistic, has to be right	never	rarely	sometimes	often	always
N	unfriendly, negativistic	never	rarely	sometimes	often	always
NB	irritable, cynical, won't cooperate	never	rarely	sometimes	often	always
B	shows feelings and emotions	never	rarely	sometimes	often	always
PB	affectionate, likeable, fun to be with	never	rarely	sometimes	often	always
DP	looks up to others, appreciative, trustful	never	rarely	sometimes	often	always
DPF	gentle, willing to accept responsibility	never	rarely	sometimes	often	always
DF	obedient, works submissively	never	rarely	sometimes	often	always
DNF	self-punishing, works too hard	never	rarely	sometimes	often	always
DN	depressed, sad, resentful, rejecting	never	rarely	sometimes	often	always
DNB	alienated, quits, withdraws	never	rarely	sometimes	often	always
DB	afraid to try, doubts own ability	never	rarely	sometimes	often	always
DPB	quietly happy just to be with others	never	rarely	sometimes	often	always
D	passive, introverted, says little	never	rarely	sometimes	often	always

Figure 2a. The SYMLOG Adjective Rating Form

From R.F. Bales (1983). SYMLOG: A practical approach to the study of groups. In: H.H. Blumberg, A.P. Hare, V. Kent, and M.F. Davies (Eds.), *Small groups and social interaction* (Vol. 2, pp. 499-523), Chichester and New York: Wiley, p. 500.
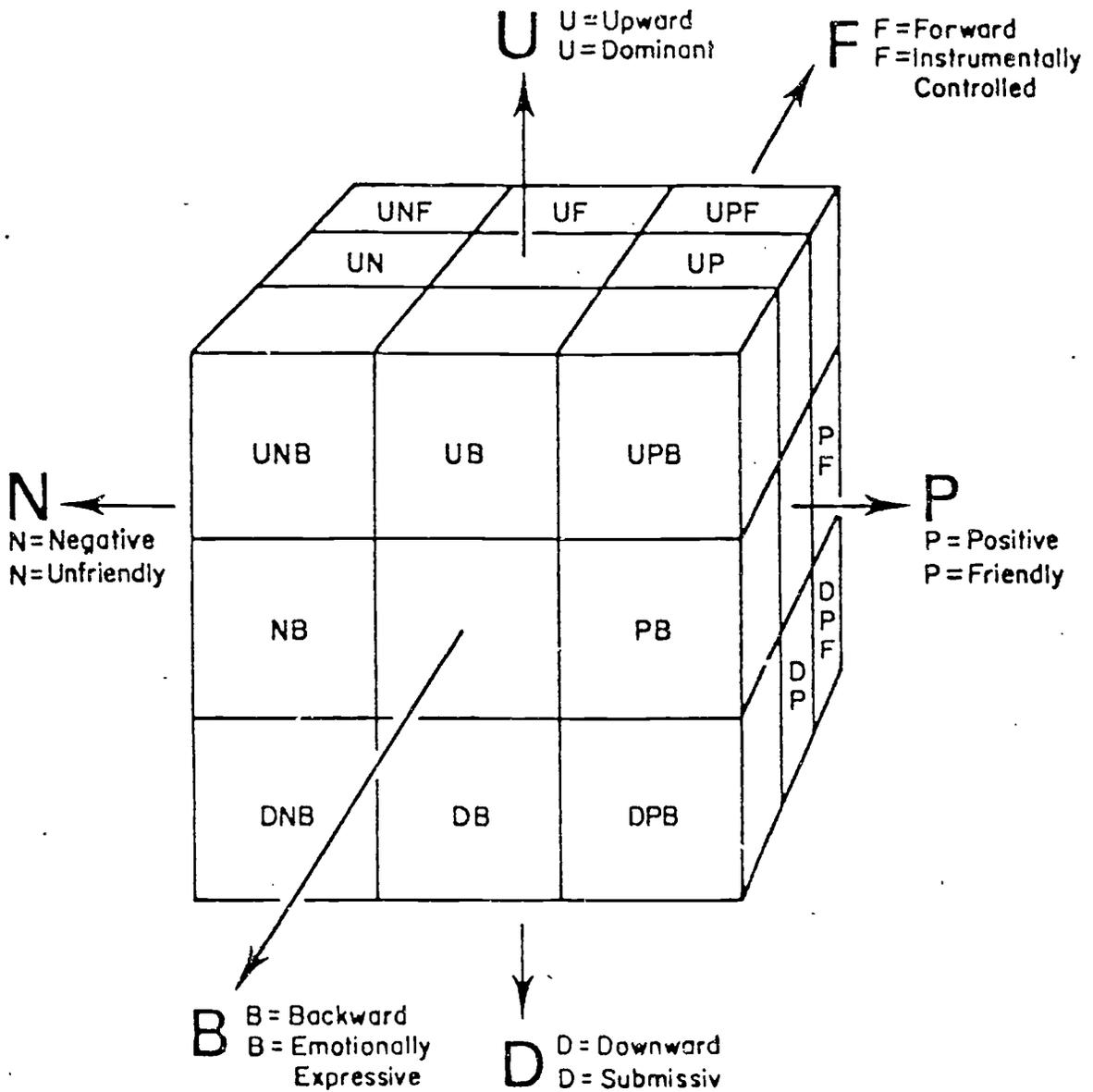
Figure 2b. The SYMLOG three-dimensional space

(Source: As for Figure 2a, p. 503.)

3   Cognitive consistency in the linking of elements

We strive for consistency in our understanding of objects, of people, and of their likes and dislikes. We are more benign in interpreting the actions of our friends than those of our adversaries. The fabric of our world-view consists, as it were, of a consistent pattern of elements. Truth – a view of the world as it really is – may be compromised (or bolstered) in the service of maintaining consistency. This now-classic view is manifest in Heider's balance theory, Festinger's theory of cognitive dissonance, and Osgood's congruity theory (Zajonc, 1960).

In order to demonstrate the ways in which we deal with imbalance, one could take any example of seeing something good in an adversary or a problem with our friends. We can list the mechanisms that people use to restore balance. The challenge is to be able to predict which mechanisms people will use on particular occasions and, perhaps even more important, to find a way of facilitating changes toward "truth" rather than necessarily toward consistency.

Let us take a fairly inoffensive hypothetical example in which we expect urban people to be curt and rushed and rural people to be relatively friendly and relaxed. We come across a person from a large city who is nevertheless peaceful and friendly. How do we deal with this? The situation is diagrammed in Figure 3. To deal with the imbalance we can change the sign of an element or a bond (or move in that direction – e.g., by concluding that the person is not so friendly after all), split an element (decide that *some* urban people are friendly), tolerate the imbalance, repress it or fail to notice or remember it, or imbed this troublesome cognitive band into a larger generally balanced structure (e.g., in which this person is seen as part of a larger network of mainly-friendly non-urban people). Note that the same mechanisms may be used to maintain a consistent picture of one's adversaries in relation to each other, and the cognitive adjustments are not necessarily veridical. During the cold war, for instance, Americans may have imagined that Chinese-Russian relations were better than they really were.

Exercise: Diagram a situation (from the point of view of an observer) in which peacekeepers are badly provoked and retaliate against a group. How might the observer reduce dissonance between one's generally nonviolent image of peacekeepers and this particular incident? What might one need to know about the incident in order to counsel the peacekeepers themselves?

11

+3

+2

-2

Person X　　　　　(Person-Group link)　　　Group G (urban people)
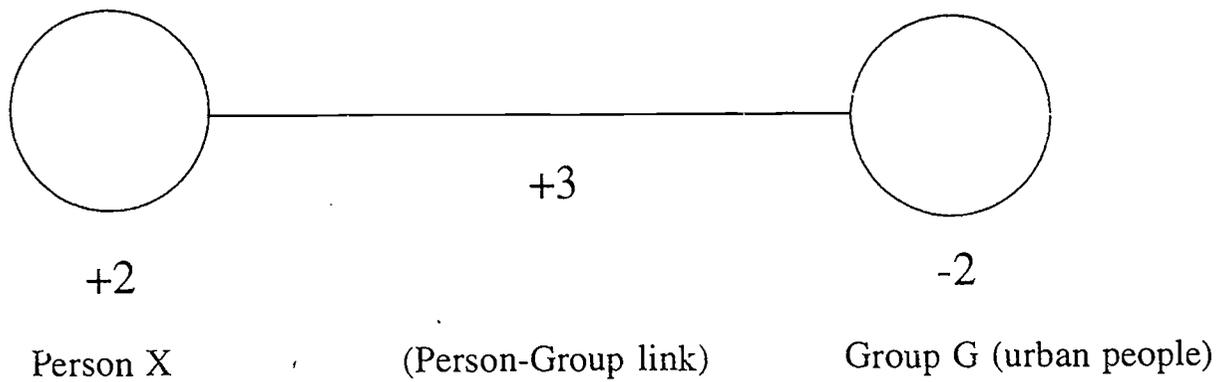
(Diagram of a single cognitive band)

Figure 3.　Mechanisms for restoring balance

4　Stereotypes as prototypes

Stereotypes about various categories of people are rather like prototypes, idealized images of what the group members are like. Stereotypes of people and of groups are changeable but nevertheless more robust than heretofore thought. No doubt American and Russian stereotypes of each other have changed over the past few years, possibly in the direction of being more positive, but large changes are the exception rather than the rule. This is partly because of the above-described forces toward maintaining balance and indeed t ›ward maintaining views which are broadly similar to those of our friends and relatives.

The robustness of stereotypes is also due to the fact that, like other prototypes, we "store" them in probabilistic as well as absolute terms. A chair is a particularly "good" example of a piece of furniture – if asked to imagine or draw an item of furniture, people are more likely to come up with a simple wooden chair or a table than, say, a hassock or a sideboard. However, our stereotyped image of furniture is unlikely to be much shaken if somebody points out to us that some pieces of furniture lack legs, or are round rather than rectangular, or are made of metal rather than wood, or (like a Murphy bed or the tables in some restaurants) are secured to the wall rather than freestanding, or (like a freestanding coat-rack) have neither a place to sit nor a flat surface to work on. Indeed we know all of this already. We moreover know that few if any pieces of furniture have *all* of the defining properties, even though each one adds to the "family

resemblance" (Armstrong, Gleitman, & Gleitman, 1983; and adapted by Brown, 1986, p.4¨3). In Figure 4, there is undoubtedly a family resemblance among the faces, even though few if any have *all* of the relevant features.

Figure 4. The Smith Brothers

From Armstrong, Gleitman, & Gleitman (1983), p. 269, Figure 3. By permission of Elsevier Science Publishers, Academic Publishing Division (North-Holland Publishing Co.) Amsterdam

Stereotypes of groups of people are even more robust than prototypes of objects because, ironically, the characteristics which the group are presumed to have are typically difficult or impossible even to document. In the early research on stereotypes, now part of popular lore, people broadly agreed as to what traits they thought were particularly characteristic of various national groups (Brown, 1986; Katz & Braly, 1933). For example, Japanese people might be seen as intelligent and industrious, the French as cultured and sophisticated.

When people are asked for percentage estimates, however, it turns out that all that most people *really* believe is that the "characteristic" traits are more common in the particular group than in the general population (McCauley & Stitt, 1978): most people are friendly, but "even more Italians" are thought to be friendly. The characteristic may even – indeed may often – apply to only a minority of the group in question: comparatively few people are "scientifically-minded," but the percentage is seen as being a little higher for Germans than for non-Germans.

One might hope that peace education should be directed toward reducing pejorative stereotypes, but this is a tall order, given their robustness (difficult to prove or disprove and often thought to apply only to a minority of the group in question). One's main hope, I think, is to increase awareness of the ultimate vagueness of most stereotypes and to remove the negative connotations. Oddly enough, group members may tend to agree with others as to what traits they hold, but to choose more favorable words to describe these characteristics. In the Philippines, for instance, samples of Filipinos and Chinese people were agreed that Filipinos are readier to spend their money than are the Chinese. Compared with Filipinos' descriptions of them, however, the Chinese people were more likely to describe themselves as thrifty than as stingy; and Filipinos were more likely to describe themselves as generous rather than extravagant (Peabody, 1968). Fortunately, this finding – that one describes other groups using words with less favorable connotations than one uses for one's own group – may prove to be of limited replicability (Peabody, personal communication, 1993).

Nevertheless, people's social identities clearly affect the inferences they make. Tajfel (1970) and others have shown that one may have a lower or less-differentiated opinion of "outgroup members" even when (for instance) they are merely names which have been randomly allocated to a list of names consisting of a different "group" rather than to the "group" that includes one's own name.

There is no reason why people cannot learn to be more tolerant and less negative about the differences among groups. The goal is not necessarily

one of ignoring supposed differences among people. Indeed, some research on mindfulness, suggests the value of focussing on realistic appraisal of differences among people and the advantages as well as disadvantages which these differences may confer – for example, people with particular physical disabilities may be *better* than others at certain skilled jobs rather than equal (Langer et al., 1985).

Possible exercise (could use any contemporary example): Thinking back to the time of the Persian Gulf War, list the traits which characterize the Iraqis. Guess at what percentage of Iraqis would have each of these traits. What percentage of people in the countries represented by the UN coalition? What difficulties, if any, did you encounter in trying to answer these questions? Can you find more positive words for any negative qualities you named, or more negative words for any positive qualities?

Alternative exercise: Each person receives a stack of 20 photographs – 19 of them unfamiliar and one of self – randomly divided into two groups of ten (labeled Group A and Group B). Everyone then rates each photograph on the three SYMLOG dimensions (e.g., using ten-point scales of friendly-unfriendly, dominant-submissive, and serious-emotional). Is the "group" that includes one's self seen as more friendly on average? Are the ratings for that group more widely dispersed?

5 Two-stage theories of assessing parties

Typically, we begin by making a rough assessment about the people we see and then (secondly) we fine-tune that assessment according to situational circumstances (Trope, 1986). If the first stage is heavy going, the second stage may be skimped over.

In a study using a "dating game" (Gilbert et al., 1992), male contestants were portrayed as having either traditional or modern sex-role orientation, and the context as to what their supposed dates expected and hoped-for was similarly varied. Subjects – who listened to a tape of the proceedings – were asked to rate what the male contestant was really like. Ordinarily, the subjects would strongly temper their estimates about the male contestant as acting according to their dates' preferences. When an electronically-degraded copy of the tape was used, however, this sensitivity to context disappeared. Although subjects were able to understand how the male presented himself and what the female was expecting, they (the subjects) had to spend so much effort in understanding the basic meaning that they had little energy left to adjust their face-value estimates.

One lesson is that in times of crisis, when it is most important to be realistic and understanding about people, but when communication between

parties is relatively likely to be clouded, we are comparatively unlikely to take full account of circumstances in making judgments. This finding is in line with totally different research showing that simplistic thinking is especially likely in times of national crises, though crises which *are* dealt with in complex, flexible ways are more likely to have positive outcomes for all parties concerned (Janis, 1982, 1985; Tetlock, 1985).

Exercise: Use selected faces (fear, happiness, and ambiguous fear-happy) from the photographs extracted in Figure 5 (from Trope, 1986). For each of the possible captions shown in the next paragraph, rate each photograph on fearful and on happy (using a line with 4 marked points: e.g., not at all happy, slightly happy, happy, and very happy). The idea which might (or might not) be demonstrated is that people are ready to compile a judgment from more than one source – for instance, direct impression of a face, or surrounding circumstance (caption), giving more weight to whichever is the less ambiguous.

Captions (wording could be adjusted so as to be more specific, though the favorability of (c) should remain ambiguous): (a) Has just read that a United Nations plan for dealing with an environmental problem has succeeded in eliminating that problem, (b) Has just learned that an adversary has met with misfortune, and (c) Has heard the outcome of a dispute.

Ambiguous Faces

Anger-Happiness   Fear-Happiness(1)   Fear-Happiness(2)

Fear-Disgust   Fear-Sadness   Fear-Anger

Unambiguous Faces

Anger   Happiness   Fear(1)   Fear(2)

Calm(1)   Calm(2)   Calm(3)   Calm(4)

Figure 5.   Faces showing emotion

From Trope, 1986, p. 245. Reprinted with permission of the author; copyright 1986 by the American Psychological Association.

6 Attributions: one formulation of basic fabric

Attribution theories are virtually an extension of dissonance theories – both posit the view that we strive for a consistent picture of the world. In one version of attribution analysis (Kelley, 1967), we are said to look for patterns of similarity across people or across time in order to infer whether a creative idea or a hostile act, for instance, is to be attributed more to the situation (consensus) or to the particular acting party (distinctiveness) – and in order to decide whether the action is habitual or "one-off" (consistency).

Exercise (could be based on the following or similar): what inferences would one draw from the various combinations of the following circumstances? A student is hostile toward a teacher in school; this student is (is not) hostile toward other teachers; other students are (are not) hostile toward this teacher; this student is (is not) repeatedly hostile to this teacher.

7 Attribution: attendant biases

According to the "fundamental error of attribution" (or what Jones, 1990, calls an excess tendency to make correspondent inferences) we are apt to minimize the role of the environment in accounting for other people's actions (but not our own). Thus, it seems likely that we over-estimate the extent to which Yeltsin or Clinton are "responsible" for their reputed actions. In some cases of course, even a distant other may indeed be as responsible for his or her own actions as appears to be the case – there is some evidence that this is true in the case of Saddam Hussein's precipitous actions in the Gulf crisis, for instance. Additionally, a "self-serving" bias leads us to over-estimate our own responsibility for our successes and over-estimate situational or environmental causes for our failures. Jones describes other potential sources of bias as well, such as inferences based on others' presumed motives.

Exercise: Consider examples from recent newspapers in which political leaders have been reputed to take some particular action. Does the article also delineate – or can you imagine – situational constraints which may have restricted the choice of action?

8 Insufficient attention to base-rates: an example of biased judgment under uncertainty

Heuristics is now fairly widely known as the study of "mental shortcuts" that people commonly use in order to make sense of the world in an economic amount of time. Kahneman and Tversky provide detailed analyses

and examples of a variety of heuristics (see, for example, Kahneman, Slovic, & Tversky, 1982).

Some of the heuristics may occur only in special circumstances. For instance, a social problem such as violence toward women or children may (particularly in past decades) have had a high but publicly largely-unreported rate of true instances, plus a certain number of supposedly false reported accusations, with the net effect of leaving people comparatively unlikely to believe reported but unproven instances. Sometimes we ignore "base rates" even when we are familiar with them, simply because we fail to find the time or energy for making proper estimates. Sometimes, moreover, an *exceptional* behavior on the part of a minority-group member is perceived to be an *especially* regular occurrence because it is memorable. (For discussion of the "illusory correlation" see Hamilton, 1979; unlike the actual heuristic of ignoring base rates, one of the causes of illusory correlation entails misperceiving them.)

Exercise: Prepare a deck of 80 cards – 45 with black triangles, 15 with black squares, 12 with yellow triangles, and 4 with yellow squares. Shuffle the cards and display them one at a time to other people. Then ask them to write down what their best guesses as to what percentage of the black figures are squares and what percentage of the yellow figures are squares. Although both percentages are the same (25%), you may find (according to the illusory correlation) that the percentage of yellow squares is on average exaggerated.

9   Other heuristics

For example: attributing intent to what *might* be random; wrongly believing that punishment is more effective than rewards or incentives.

People may of course fail to appreciate the true causes of events but, perhaps more often, they attribute cause to what may in part be a random or spurious effect. Innocent remarks may be taken as if they were intended to be personal insults (or compliments), and responded to as such, thereby starting a chain of *actual* hostility (or friendship?).

Truly random events tend to include occurrences which look non-random. Apparently many people even believe that in tossing a coin eight times one is less likely to get HHHHHHHT than HHTHTHTT.

Generally speaking, extreme events are likely to be followed by less extreme ones, if only because extremes tend to have a relatively large "chance" component. The hottest ten days for a decade are likely to be followed by days which are unusually hot but not *as* hot. This effect, known as regression to the mean, has a variety of consequences. Unusually

peaceful or hostile events are likely to be followed by less extreme periods. If one is trying out a peace-keeping or peace-maintaining program (without experimental control), one may mis-estimate its efficacy.

Another known effect of such regression: if we reward people for particularly successful behavior (e.g., a helpful child), the reward may well have a positive effect which goes unnoticed because the behavior may temporarily regress toward the mean; whereas punishing unwanted behavior (e.g., aggression in a child?) may be counter-productive but *appear* to succeed because the unusually hostile behavior is statistically unlikely to be followed immediately by equally hostile activity. In other words the psychological evidence favoring the value of reward over punishment may be masked, in the real world, by regression effects which appear to favor punishment. (Incidentally, the efficacy of rewards, too, may be over-estimated, if they are so large or incommensurate with a situation as to cause people to change their behavior because of the reward per se.)

Exercise: Ask people to begin by writing down the last two digits of their telephone numbers and to regard the number as a two-digit percentage. They should then adjust the number 5% at a time (up or down, as may seem to them to be appropriate) until they reach what they would guess to be "the percentage of countries in the United Nations that have not been involved in a war for at least 20 years." [When using the exercise, one may need to adjust the "number of years" in order to elicit final estimates which are not near a floor or ceiling but are mainly between 30 and 70 percent.]

Is the average final percentage the same for those group members whose phone numbers were above the median (large initial percentages) as for those that were below the median? Often when we adjust initial impressions in order to allow for clear but ambiguous evidence, we do so insufficiently. The result depends of course on the situation and our own "latitudes of acceptance." If the suggested exercise yields significant results, as expected, these would support the conclusion that there is "insufficient adjustment" from the near-random starting points (based on telephone numbers).

10   Implicit personality theory: sources of accuracy and of bias
The brief but important point here is that people have implicit views as to which personality traits – and other characteristics – tend to co-occur. These views may be accurate and helpful but they may also lead to false conclusions and misunderstandings among people.

Fortunately, knowledge about self-fulfilling stereotypes, "mirror-image" mutual perceptions between antagonists, and reciprocating spirals of

hostility are by now well-appreciated in the field of peace studies (see, e.g., Bronfenbrenner, 1961; Deutsch, 1986; Jervis, 1976).

Initial impression formation is perhaps less-widely studied in peace education. The principles of initial impression formation, at an intercultural or international scale, would not require that a culture suddenly appear on the globe "from out of nowhere" but simply that a group come to notice after a hiatus or in a new context. If interpersonal principles hold at a larger scale, one would predict that too much weight is likely to be given to first impressions and that too little "uncertainty" is attached to uncorroborated impressions. If we are given a list of traits describing a "new acquaintance," the earlier terms would tend to be given more weight, as would "central" terms that have no near-synonyms on a given list (cf. Anderson, 1974; Asch, 1946; Jones, 1990).

Exercise (may be re-drafted, for instance with more specific group names): Have (different) people rate Groups A through F (as described below) on ten-point scales of friendly-unfriendly, dominant-submissive, and serious-emotional. (a) Do the first terms in the list carry more weight in predicting the subsequent ratings? Compare ratings of groups A and B on positive-negative (friendly-unfriendly). (b) Does the presence or absence of a term (warm) matter more when there are near-synonyms present? Is there more difference on friendly-unfriendly between groups C and D than there is between E and F? Discuss any other effects you may have noticed. Would you expect similar results if, instead of rating individuals you used nationality or other group labels--and, instead of trait adjectives, you used descriptive incidents with corresponding meanings?

> Group A: Outgoing, appreciative, tough-minded, resentful.
> Group B: Tough-minded, resentful, outgoing, appreciative.
> Group C: Active, analytical, warm, obedient, says little.
> Group D: Active, analytical, obedient, says little.
> Group E: Outgoing, expressive, warm, likeable, gentle.
> Group F: Outgoing, expressive, likeable, gentle.

Concluding comment
Given both the challenges and opportunities in the world today the seemingly intractable conflicts in some places, and the need to nurture newly emergent democratic ideals in others – it is important to stress both "prevention" and "cure" of hostility. At least one facet of prevention of bias – and indeed in the reinforcing of a meaningful and just peace – is to facilitate knowledge about the perceptual origins of at least some forms of bias and misunderstanding.

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Abstract card

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Topics in social cognition that may be adapted for peace education include: the nature and use of categories, dimensional analysis of social interaction, cognitive consistency, prototypes and stereotypes, and two-stage theories of inference-making. Additional topics, considered briefly, are: attributional analysis, biases in attributions, heuristics, and implicit personality theory. For each topic, an exercise relevant to peace education is described. Better understanding of the principles of social cognition and attendant biases can help in structuring a more peaceful and just world.

Keywords: Attribution, cognition, inference, peace education, personality theory, social interaction, social perception, stereotyped attitudes.

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