Processes underlying biased language use

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Chapter 1: General introduction[1]

On July 26th 2006, Jean Charles de Menezes was on his way to work. The 27-year old electrician of Brazilian origin entered a London subway station, and was accosted by men he did not know. Two weeks earlier, Jean Charles was attacked by some criminals, and he may have thought he was being harassed again. He struggled with the men, who turned out to be police officers. They killed him with five bullets in the head from close range. Jean Charles most likely saw some criminals attacking him. The police officers saw a suicide bomber who, if not stopped, would blow up the subway station just like four men had done some three weeks earlier. If terrorists had not committed suicide attacks just before, and if Jean Charles had not looked Arabic, the police officers would probably have interpreted the situation differently, resulting in a less tragic outcome. In short, one can assume that if the police officers in this story had encoded the information they perceived in a different way, they also would have behaved differently.

In reviewing the stereotype literature, Hilton and von Hippel (1996) point out that "if a single conclusion can be made from hundreds of experiments in cognitive and social psychology, it is this: Prior experience determines what we see and hear, how we interpret that information, and how we store it for later use" (p. 248). Expectancies can be defined as "beliefs about a future state of affairs, subjective estimates of the likelihood of future events ranging from merely possible to virtually certain" (Olson, Roese, & Zanna, 1996; Roese & Sherman, 2007). The idea that expectancies, for example the expectancies resulting from stereotypes, can bias the encoding of information, and consequently behavior, can be generalized across all kinds of behavior. Although the behavior of accidentally shooting an innocent person is extreme and not that common, the influence of biased encoding may also be evident in far more common behavior like communicating information about others.

Most of the world's population engages in communication daily, and this communication has important consequences, not only on the basis of the explicit content of the communication (e.g., van Dijk, 1989), but also on the basis of more implicit characteristics of the communication (e.g., Maass, 1999; Maass, Salvi, Arcuri, & Semin, 1989; Maass, Milesi, Zabbini, & Stahlberg, 1995; Wigboldus, Semin, & Spears, 2000). It is not unlikely that "social cognitions …

[1] This chapter is partly based on Wenneker & Wigboldus, 2007.

are acquired, shared, validated, normalized, and communicated primarily trough talk (and the media) rather than through perception" (van Dijk, p. 31). Therefore, it is important to study the implicit characteristics of communication and understand exactly how expectancies are implicitly communicated through language. Subsequently, an important question is how the implicit and the explicit content of communication may interact to influence the receiver. For example, how does the influence of implicit characteristics of communication interact with the influence of more explicit processes based on the motivations people have when communicating?

The main focus in this dissertation will be on biased encoding and language use, and more specifically, language abstraction. The past two decades have resulted in a wealth of research on language abstraction, building on the *linguistic category model* (LCM; Semin & Fielder, 1988, 1991, 1992), which gives a classification of verbs and adjectives into different categories of language abstraction. For example, when one says that Daniël is intelligent, this is a more abstract description than when one says that Daniël correctly answers a trivial pursuit question. As it turns out, these different descriptions have important consequences. The more abstract the description is (e.g., "Daniël is intelligent"), the more one attributes Daniël's behavior to the person and the less to the situation. The more concrete the description is (e.g., "Daniël correctly answers a trivial pursuit question"), the more one attributes Daniël's behavior to the situation and the less to the person (e.g., Semin & Fiedler, 1988). Research into the influence of motivation and cognition on language use, and vice versa, has shown that these differences in language abstraction constitute a reliable tool to measure subtle biases implicit in language. For example, influential research on the *linguistic intergroup bias* (LIB; e.g., Maass et al., 1989) showed that positive behavior of an in-group member and negative behavior of an out-group member is described more abstractly than negative behavior of an in-group member and positive behavior of an out-group member. Language abstraction as measured by the LCM will be the main dependent variable in all studies presented in this dissertation.

This dissertation will focus on processes underlying biased language use. An important argument that I will make in this dissertation is that the way information is encoded into memory influences language production, more specifically the level of language abstraction of subsequent communication of that information. To give a concrete example: Imagine two men fighting in public, one kicking the other who is lying on the ground. Afterwards you describe what you have seen to a friend. How would you describe this scene? It probably depends. For one thing, your description will be different if the man kicking the other is a skinhead or a priest, your best friend or a sworn enemy. If he is a skinhead or your enemy you might well describe the man in more

abstract terms (e.g., "violent"), but in more concrete terms (e.g., "kicking a man") if he is a priest or your friend. If your descriptions of these situations differ, that can be simply because you want to give the description you are giving, and indeed previous research has shown that the language people use is influenced by motivational processes active at communication (e.g., Douglas & Sutton, 2003; Semin, Gil de Montes, & Valencia, 2003). On the other hand your language can be biased because you have stored the information into memory in a certain way (biased encoding), which in turn results in biased language use. Although the idea that biased encoding can lead to biased language use has been implied or suggested before (e.g., Maass et al., 1989; von Hippel, Sekaquaptewa, & Vargas, 1995), this suggestion has never been put to (empirical) test. Moreover, it seems this idea has been somewhat overlooked in recent research stressing the important role of motivational processes in biased language use.

In this chapter, I will discuss the general theoretical background of the research presented in this dissertation. First, research on encoding processes is discussed, focusing on the influence of stereotypes on encoding. As I explained, the focus in this dissertation is on language production, but as the example at the beginning illustrates, research on biased encoding and its consequences can be placed in a much broader context. Second, all studies in this dissertation use language abstraction as their main dependent variable, and therefore research on language abstraction will be reviewed. Third, I will shortly discuss the focus of this dissertation: processes underlying biased language use. Finally, an overview of the remaining chapters is given.

Encoding processes in expectancy and stereotype maintenance

This dissertation started with the example of a man who was shot, because the policemen that chased him, based on their expectancies, did not see an innocent civilian but a deadly terrorist. This example does not stand by itself. Correll, Park, Judd, and Wittenbrink (2002) mentioned the story of Amadou Diallo, a West African immigrant living in New York, who was shot by the police because they thought he reached for a gun, while, in fact, he was unarmed. Correll et al. raise the compelling question of whether the officers' decision to fire was influenced by the stereotypic association between African Americans and violence. In a clever and appealing series of studies White as well as African American participants played a videogame. In the videogame White or African American targets were shown, holding either a gun or a harmless object (i.e., a cell phone). Participants had to decide as quickly as

possible whether to shoot the target. When holding a gun, both the White and African American participants were faster in deciding to shoot the target when he was African American than when he was White. On the other hand, when the target held a harmless object, they were faster in deciding not to shoot him when he was White than when he was African American. Of importance, this so called "shooter bias" was higher for participants that endorsed the stereotype more, but was not related to the level of prejudice. Presumably, based on the expectancies resulting from activated stereotypes, participants encoded the scene perceptually different depending on the race of the target. In other words, when the target was holding a harmless object, they were more likely to *see* him holding a gun when he was of African American origin than when he was White.

This research by Correll et al. (2002; also see Payne, 2001; Payne, Shimizu, & Jacoby, 2005) is only one of the many examples that remind us of how pervasive encoding effects can be in expectancy and stereotype maintenance. Von Hippel et al. (1995) stated that "nearly all the effects of stereotyping on perception, judgment, and memory take place at encoding" (p. 178).

Encoding

Encoding is mostly defined as the process by which information is stored as mental concepts into memory (e.g., Baron & Byrne, 2003), and became a front stage concept in psychology with the extensive research on the encoding specificity principle (e.g., Thomson & Tulving, 1970; Tulving, 1972; Tulving & Thomson, 1973; Tulving & Osler, 1968) that builds on the ideas of Semon (1921; as cited in Watkins, 2001). According to this principle, information can be encoded in different ways into memory (depending on the context), and how information can be retrieved from memory depends on how it is encoded. For example, the word "animal" is better remembered with the cue "something friendly" than with the cue "something ferocious" when it is encoded in the sentence "The camper petted the animal," while the reverse is true when it is encoded in the sentence "The camper escaped from the animal" (Barclay, Bransford, Franks, McCarrell, & Nitsch, 1974).

In this dissertation the usage of the concept "encoding" will adhere to the broad definition of registering information into memory. Some apply the term encoding also to processes regarding the transformation of internal representations into words. However, I will use terms such as retrieval and communication to refer to those kinds of processes (see Wigboldus & Douglas, 2007; Wenneker & Wigboldus, 2007). When one looks into the concept of encoding in more detail, a first and broad distinction that can be made is the

one between more perceptual or more conceptual encoding (for an overview, see von Hippel et al., 1995).

Perceptual encoding

The research into the shooter bias discussed in the previous paragraph (e.g., Correll et al., 2002), can serve as an example of biased perceptual encoding (but see Payne et al., 2005). Other research shows for example how group influence (i.e., minority versus majority influence) may cause a conversion in the perception of the afterimage of blue color (Moscovici & Personnaz, 1980, 1991), how expectancies can lead people to hear complete words along with a cough, while actually a phoneme was replaced by the cough (Samuel, 1981), or how participants are unable to reinterpret an ambiguous figure from memory when it was previously encoded in one of the two possible ways (i.e., the drawing could be seen as the head of a rabbit or of a duck; Chambers & Reisberg, 1985). Not only can stereotypes and expectancies actually change what we perceive, they can also facilitate and inhibit perceptual encoding in different ways. Although they facilitate initial identification of expected stimuli (e.g., von Hippel, Hawkins, & Narayan, 1994), they subsequently direct attention (e.g., looking time) to ambiguous stimuli and inhibit perceptual encoding of information in general. For instance, von Hippel, Jonides, Hilton, and Narayan (1993) asked participants to read an ambiguous paragraph with or without a title containing a clue to what the story was about ("Washing Clothes"). When subsequently asked to complete three letter word-stems -a measure sensitive to perceptual encoding- aschematic participants who had not received a title, completed more word-stems with words they had just read, than schematic participants who had received a title. This indicates that aschematic participants, who could not rely on a schema to facilitate processing, engaged in more perceptual encoding than schematic participants.

Conceptual encoding

A primary example of biased conceptual encoding is the finding that, in general, unexpected behavior is better recalled than expected behavior (the "memory incongruency effect"; e.g., Hastie & Kumar, 1979; Srull, 1981; for overviews, see Rojahn & Pettigrew, 1992; Stangor & McMillan, 1992). For instance, in a classical study, Hastie and Kumar asked participants to form an impression of a target person by reading aloud eight traits, all (almost) synonymous to each other (e.g., implying intelligence) and 20 behavioral descriptions. The descriptions included congruent behaviors (e.g., "won the chess tournament"), incongruent behaviors (e.g., "made the same mistake three times"), and neutral behaviors (e.g., "took the elevator to the third floor"). When subsequently asked to freely recall as many behaviors as possible,

participants recalled significantly more incongruent behaviors than congruent or neutral behaviors.

Importantly, and stressing the fact that these effects result from biased encoding, subsequent research has shown that this is the case only when an expectancy is induced *before* the information is presented; When an expectancy is induced *after* the presentation of information, the inconsistent information is remembered worse than the consistent information (e.g., Dijksterhuis & van Knippenberg, 1995; van Knippenberg & Dijksterhuis, 1996). Varying the stage at which expectancies are cued (before or after the information) is a common way to disentangle encoding from retrieval effects (e.g., Rothbart, Evans, & Fulero, 1979; cf. Snyder & Uranowitz, 1978). Because in both order conditions people have the same information available at recall, one can estimate the effect of encoding by subtracting the amount of recall when expectancies were active only at retrieval from the amount of recall when expectancies were active both at encoding and retrieval. The generally accepted explanation for the memory incongruency effect is that people process incongruent information more elaboratively, because they have to make sense of the incongruent information (for an overview, see Roese & Sherman, 2007). When expectancies are activated after the encoding of information, the information has already been processed.

Another example of biased conceptual encoding is research done by Wigboldus, Dijksterhuis, and van Knippenberg (2003). They conducted research on the effects of stereotypes on spontaneous trait inferences (STIs) with the probe-recognition paradigm (McKoon & Ratcliff, 1986; Uleman, Hon, Roman, & Moskowitz, 1996). A STI is the spontaneous inference of a trait that was not presented, but (strongly) implied by a presented behavior (for an overview, see Uleman, Newman, & Moskowitz, 1996). Participants were presented with stereotype-consistent and stereotype-inconsistent sentences. Whether a sentence was stereotype-consistent or stereotype-inconsistent depended on a category label that described the actor. An example of a sentence was "X hits the saleswoman". Wigboldus et al. disentangled encoding and retrieval effects by manipulating the stage at which expectancies were introduced: the category label was presented either before or after the sentences. When a stereotype inconsistent category label (e.g., "girl") preceded a sentence, weaker spontaneous trait inferences were made than when the sentence was preceded by a stereotype consistent category label (e.g., "skinhead"). That is, participants took longer to indicate that the implied trait (e.g., "aggressive") was not part of the preceding sentence when an inconsistent category label was presented right before the sentence. When a category label followed a sentence however, no difference in response times to the trait probes as a function of the stereotype consistency of the category labels was found. These results show that activation of stereotypes during encoding is of

influence on spontaneous trait inferences, in contrast to the activation of stereotypes during retrieval. As will be apparent in the next paragraph, trait inferences can be compared to the activation of the most abstract level of the LCM that is widely used to measure language abstraction. The research done by Wigboldus et al. therefore supports the idea that biased encoding can result in biased language abstraction use.

Language abstraction

Research on language abstraction has been performed mostly in the context of research on the LIB (e.g., Maass, 1999; Maass et al., 1989) and the *linguistic expectancy bias* (LEB; e.g., Maass et al., 1995; Wigboldus et al., 2000). This research suggests that the language used to describe a specific event may be biased (i.e., more concrete or more abstract) as a result of the typicality or group membership of the actor performing a behavior. In this research the LCM (Semin & Fiedler, 1988, 1991, 1992) is used to distinguish between different levels of linguistic abstraction, from the concrete to the increasingly abstract.

The LCM

The general idea that language influences how one perceives and conceptualizes the world (i.e., *linguistic relativity*), has a long history, and is also known as the *Whorf-Sapir hypothesis*, after the names of two (anthropological) linguists who revived the debate in the beginning of the twentieth century (for an overview, see Gumperz & Levinson, 1996). In the footsteps of linguistic relativity, researchers became interested in the phenomenon of implicit causality in interpersonal verbs: the finding that some verbs imply that the subject is the cause (e.g., "Roger helps Deborah"), and some verbs imply that the object is the cause (e.g., "Roger likes Deborah"; e.g., Au, 1986; Brown & Fish, 1983; Brown & Van Kleeck, 1989; Caramazza, Grober, Garvey, & Yates, 1977; Garvey & Caramazza, 1974; Garvey, Caramazza, & Yates, 1976). For example, Brown and Fish asked participants to rate to what extent behaviors (e.g., "helping" and "liking") were due to the subject or object of the sentence. They found that participants' ratings could be predicted by looking at the derived adjective of the verb (e.g., "helpful" and "likable"). In other words, an acceptable answer to the question why Roger helps Deborah is that Roger is helpful, and not that Deborah is "helpable." On the other hand, an acceptable answer to the question why Roger likes Deborah is that Deborah is likable, and not that Roger is "likeful."

By building and extending on this literature on the psychological implications of verbs, and also integrating this line of thinking with work on the

implications of adjectives (e.g., Semin & Greenslade, 1985), Semin and Fiedler (1988, 1991, 1992) advanced the LCM, which distinguishes between different linguistic categories, with different cognitive functions.

In its original form, the LCM consists of four categories differing in linguistic abstraction (Semin & Fiedler, 1988; see Table 1.1). *Descriptive action verbs* (DAV) constitute the most concrete category, and give an objective, valence neutral description of specific behaviors (e.g., "The doctor embraces the old man"). *Interpretative action verbs* (IAV) give a more general description of a behavior, generalizing across specific behaviors in valenced terms (e.g., "The doctor helps the old man"). The next category of the linguistic category model is constituted by *state verbs* (SV). These verbs do not refer to a specific behavior, but describe a state, and generalize across specific events (e.g., "The doctor likes the old man"). The most abstract category consists of *adjectives* (ADJ). These do not refer to a specific behavior, but only to the subject, thus generalizing across specific objects (e.g. "The doctor is friendly"). A fifth category added later (Semin & Fiedler, 1991, 1992) consists of *State Action Verbs* (SAV), a specific kind of IAVs, in which the action verb refers to the emotional consequence in the object of an action of the subject (e.g., "The doctor entertains the old man"). Because, as I will discuss shortly, SAVs behave the same as IAVs for the current purposes, I will use the (original) four level classification of the LCM.

Semin and Fiedler (1988, 1991, 1992) showed that two orthogonal dimensions underlie these different categories of the LCM. The first, and for the current research relevant dimension that underlies the four levels of the LCM is linguistic abstraction (Semin & Fiedler, 1988). In support of this, Semin and Fiedler found that the linguistic categories resulted in systematic variation across five psychological features related to abstraction. They asked participants to rate a representative sample of all four categories, summing up to 72 verbs and adjectives. Participants indicated that the more abstract the category, the greater the temporal stability (*enduringness*) of the information was, the more information was given about the subject (*subject informativeness*), the less information was given about the situation (s*ituative informativeness*), the less information could be objectively verified (*verifiability*), and the more one could disagree with the information (*disputability*). Subsequent research demonstrated that the more abstract a description, the more likely that a subject's behaviors would be repeated in the future (*repetition likelihood*; Maass et al., 1989, Study 3). In summary, the more abstract a description, the more is revealed about the person, the more concrete a description, the more is revealed about the situation.

The second dimension that underlies the LCM is the aforementioned implicit causality dimension that was already studied extensively (e.g., "Roger likes Deborah because Deborah is likable and Roger helps Deborah because

Table 1.1
The classification of linguistic terms in the interpersonal domain and their classification criteria

Category	Examples	Characteristic features
Descriptive action verbs (DAV)	Call Meet Kick Kiss	Reference to single behavioral event; reference to specific object and situation; context essential for sentence comprehension;
Classification criteria: Refer to one particular activity and to a physically invariant feature of the action; action has clear beginning and end; in general do not have positive or negative semantic valence		
Interpretive action verbs (IAV)	Cheat Imitate Help Inhibit	Reference to single behavioral event; reference to specific object and situation; autonomous sentence comprehension;
Classification criteria: Refer to general class of behaviors; have defined action with a beginning and end; have positive and negative semantic valence		
State action verbs (SAV)	Surprise Amaze Anger Excite	As IAV, no reference to concrete action frames but to states evoked in object of sentence by unspecified action
Classification criteria: As with IAV, except that the verb expresses emotional consequence of action rather than referring to action as such		
State verbs (SV)	Admire Hate Abhor Like	Enduring states, abstracted from single events; reference to social object, but not situation; no context reference preserved;
Classification criteria: Refer to mental and emotional states; no clear definition of beginning and end; do not readily take progressive forms; not freely used in imperatives		
Adjectives (ADJ)	Honest Impulsive Reliable Helpful	Highly abstract person disposition; no object or situation reference; no context reference; highly interpretive, detached from specific behaviors

Note. Taken from Semin & Fiedler (1991b, p.5)

Roger is helpful"; e.g., Brown & Fish, 1983). For this dimension the four verb categories of the LCM (DAV; IAV; SAV; SV) are relevant. For SVs (e.g., "to like") the most object inferences were made, while for IAVs (e.g., "to help") and SAVs (e.g., "to surprise") the most subject references were made and DAVs (e.g., "to hit") lies in between (Semin & Fiedler, 1992). The postulation of the LCM led to new research in this area, with studies that focused on the processes underlying implicit causality (Semin & Marsman, 1994), and implications of implicit causality in questions on the formulation of answers to those questions and inferences made (Semin & De Poot, 1997; Semin, Rubini, & Fiedler, 1995). In the current dissertation the abstractness dimension of the LCM is used as a dependent variable, as in the previous research into the LIB and the LEB.

The LIB and LEB

The first example of a LIB-effect was shown by Maass et al. (1989, Study 1; see also Maass, 1999), who conducted a study in a small city named Ferrara, where one of the many horse racing competitions that yearly take place in Italy was held. In such a horse race, a so-called *palio*, different sections of a city compete with each other, and the palio of Ferrara dates back to 1279. Not surprisingly, in-group identification during this festival is high, and as Maass et al. note: "intergroup hostilities are particularly frequent … and may take more or less playful forms, ranging from water balloon fights … to secretly drugging the other team's horses." In short, this is a perfect setting for social psychologists to conduct intergroup research.

In one of their studies, participants were shown cartoons with positive behaviors (e.g., interrupting the race in order to help an injured member of the opposed team) and negative behaviors (e.g., secretly drugging a horse of the competing team) said to have been performed by in-group or out-group members. Subsequently they were asked to choose the description that they thought best described the behavior depicted in each cartoon from four options increasing in linguistic abstraction according to the LCM. It was found that positive behaviors performed by an in-group member and negative behaviors performed by an out-group member were described more abstractly than negative behaviors performed by an in-group member and positive behaviors performed by an out-group member (a LIB-effect). Maass et al. (1989) found this effect not only with a forced choice format, but also with a free language production paradigm. Participants were asked to describe the scene depicted in each cartoon and responses were coded according to the LCM (DAV = 1; IAV = 2; SV = 3; ADJ = 4). Subsequently, the mean levels of abstraction for positive and negative behaviors were computed by adding the scores and dividing them by their number. Participants described positive behavior more abstractly for an in-group member than for an out-group member, replicating the LIB-effect.

Two explanations for the LIB have been advanced (Maass et al., 1995). The first explanation is based on social identity theory (Tajfel & Turner, 1979, 1986) and proposes that in an intergroup context people will try to defend and enhance their in-group identity (*the in-group protection hypothesis*). This goal is served by describing positive in-group behavior and negative out-group behavior more abstractly than negative in-group behavior and positive out-group behavior.

The second proposed mechanism is more cognitive and is based on the idea that expectancies guide language production (*the differential expectancy view*). Thus, expectancy-confirming behaviors are described more abstractly than expectancy-disconfirming behaviors. This explains the LIB-effect, because, in general, people expect more positive and less negative behavior from an in-group member than from an out-group member (Howard & Rothbart, 1980). For this reason, in many situations both proposed mechanisms yield the same predictions, the exceptions being circumstances in which one expects a certain negative behavior from an in-group member or a certain positive behavior from an out-group member.

Maass et al. (1995, Study 1) used the latter expectations to pit the two explanations against each other in a single design. They used Northern and Southern Italians as participants, because they form two competing groups that share positive and negative stereotypic beliefs (e.g., Southerns are hospitable and sexist, Northerns are industrious and materialistic) and manipulated the valence and typicality of the behaviors orthogonally. As in Maass et al. (1989), participants were presented with cartoons and asked to choose from four descriptions (increasing in linguistic abstraction according to the LCM) the one best describing each cartoon. Results supported the differential expectancy view: regardless of the valence of the behaviors, expected behaviors (e.g., hospitable and sexist behaviors for Southerns, and industrious and materialistic behaviors for Northerns) were described more abstractly than unexpected behaviors (e.g., industrious and materialistic behaviors for Southerns, and hospitable and sexist behaviors for Northerns). Apparently, differential expectancies are sufficient to produce biased language use.

Subsequently, the question became whether Maass et al. (1995) found no support for the in-group protection hypothesis because it was not viable, or because participants were just not motivated enough to demonstrate an intergroup bias in this specific intergroup context. Maass, Ceccarelli, and Rudin (1996) proposed that "in highly competitive, hostile, or in-group threatening situations … motivational considerations may become relevant and even override cognitive mechanisms" (p. 513). They manipulated in-group hostility between Northern and Southern Italians (Maass et al., 1996, Study 2) by asking participants to read an article (supposedly based on scientific research) that

made salient the differences between the two groups (increased hostility condition) or between Italians in general and the Swiss (reduced hostility condition). Participants were shown (largely) the same cartoons as in Maass et al. (1995, Study 1), and again were asked to choose the best description out of four. In addition to an effect based on differential expectancies, Maass et al. (1996) found support for the in-group protection hypothesis. In the increased hostility condition, but not in the reduced hostility condition, positive behaviors of an in-group member and negative behaviors of an out-group member were described more abstractly than negative behaviors of an in-group member and positive behaviors of an out-group member, independent of the stereotypic expectancy. The conclusion is that when people are motivated enough, they can adjust their language use and show a bias in language abstraction, resulting in a LIB-effect, in addition to and independent of an effect based on differential expectancies.

To summarize, the in-group protection mechanism seems especially important in an in-group threatening setting, whereas the cognitive mechanism seems to be a more general one. Of interest, the cognitive mechanism seems to operate not only at an intergroup level, but also at an interpersonal level (Maass et al., 1995, Study 2; Wigboldus, Semin, & Spears, 2006). For instance, Wigboldus et al. asked participants to think about a good friend and to write two stories about this friend, one in which the friend behaved as expected, and one in which the friend behaved unexpectedly. These stories were coded for their mean level of linguistic abstraction using the LCM. Results showed that expected behaviors were described more abstractly than unexpected behaviors. The phenomenon that, in general, regardless of valence or intergroup context, expected behavior is described more abstractly than unexpected behavior, is now commonly referred to as the linguistic expectancy bias (LEB; Maass, 1999; Wigboldus et al., 2000).

By now, support for the LIB and LEB has been found in different languages (e.g., Dutch, English, German, Italian, and Japanese) in numerous experiments, field studies, and analyses of mass media, and exploring different intergroup settings and stereotypes (e.g., Arcuri, Maass, & Portelli, 1993; Douglas & McGarty, 2001, 2002; Douglas & Sutton, 2003; Fiedler, Semin, & Finkenauer, 1993; Fiedler, Bluemke, Friese, & Hofmann, 2003; Franco & Maass, 1996, 1999; Guerin, 1994; Gorham, 2006; Karpinski & von Hippel, 1996; Maass et al., 1989; Maass et al., 1996; Maass, Corvino, & Arcuri, 1994; Maass et al., 1995; Maass, Montalcini, & Biciotti, 1998; Roberson & Stevens, 2006; Rubini & Semin, 1994; Schnake & Ruscher, 1998; Semin et al., 2003; Tanabe & Oka, 2001; von Hippel, Sekaquaptewa, & Vargas, 1997; Webster, Kruglanski, & Pattison, 1997; Wenneker, Wigboldus, & Spears, 2005; Wenneker, Wigboldus, Spears, & Coppens, 2006a; Werkman, Wigboldus, & Semin, 1999; Wigboldus et al., 2000,

2006; Wigboldus, Spears, & Semin, 2005). Importantly, evidence for both linguistic biases has been found using the "multiple choice" format described above, as well as using free language production methods in which participants were asked to describe pictures in their own words (e.g., Douglas & Sutton, Studies 3a and 3b; Maass et al., 1989, Study 2), pass on a story they received earlier on (e.g., Wigboldus et al., 2000, Studies 2 & 3), and generate their own story (e.g., Douglas & Sutton, Study 4; Wigboldus et al., 2000, Study 1; Wigboldus et al., 2005, Study 1). For overviews of the literature on language abstraction, see Maass (1999) and Wigboldus and Douglas (2007).

The intra- and interpersonal in biased language production

LIB- and LEB-effects have been investigated not only from an intrapersonal perspective, but also from a more interpersonal perspective. Research has demonstrated that the biased language people produce indeed influences subsequent inferences made by receivers (e.g., Maass et al., 1989, Study 3; Wigboldus et al., 2000, 2006). For example, Wigboldus et al. (2000) presented Dutch participants with stories about a Dutch or a Flemish actor that behaved stereotype consistently or stereotype inconsistently. After a filler task, they were unexpectedly asked to write the story down in their own words for another, unknown person. In a subsequent session, other participants read the stories that the participants in the first session had written, and answered four questions that were developed to measure to what extent behaviors are dispositionally versus situationally attributed. Results showed that the stories written by participants in the first session exhibited a LEB-effect, replicating the general finding in this line of research. More important, results demonstrated that participants in the second session attributed stereotypically Flemish behavior more dispositionally than stereotypical Dutch behavior, when the actor was Flemish. Most important, these differences in dispositional inferences were mediated by differences in linguistic abstraction of the stories. This and other studies (e.g., Maass et al., Study 3; Wigboldus et al., 2000, Studies 1 & 3; Wigboldus et al., 2006) highlight the importance of biased language use as an interpersonal as well as an intrapersonal one.

In recent years research on language abstraction has evolved from more intrapersonal research focused on mechanisms underlying linguistic biases to more interpersonal research focused on language abstraction as a communicative tool (e.g., Semin, 2000). Some have even proposed that having a communicative purpose is a necessary condition for the emergence of biased language use (Semin et al., 2003). Recent research showed that communication

goals may produce biased language use (e.g., Douglas & Sutton, 2003; Fiedler et al., 2003). For example, Douglas and Sutton showed participants cartoons of actors behaving positively and negatively. Participants were asked to choose from four descriptions, increasing in linguistic abstraction according to the LCM (Semin & Fiedler, 1988, 1991, 1992), the one that they found the most appropriate. In addition, participants received a positive or negative communication goal. Specifically, they were explicitly asked to portray the actor in a favorable way (positive communication goal) or in an unfavorable way (negative communication goal). Participants with a positive communication goal chose more abstract positive descriptions and more concrete negative descriptions than participants with a negative communication goal. This demonstrates that people can use linguistic abstraction as a tool to attain a desired communication goal. Communication goals that are activated during the communication of information will thus influence language use.

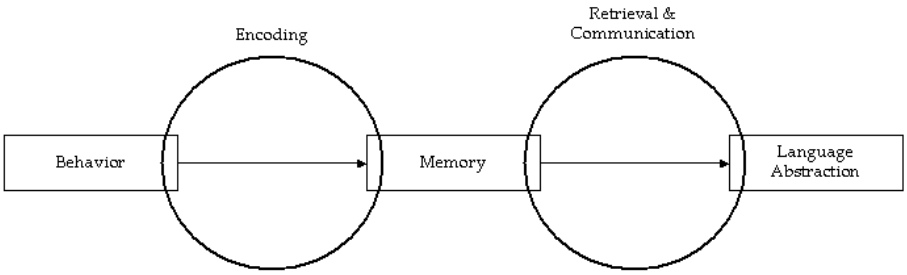
Notwithstanding the fact that this more interpersonal line of research produces relevant and interesting results, we can still learn more about the possible intrapersonal processes that underlie biased language use. As suggested before, biased encoding may play an important role. Therefore, I aim to integrate intra- and interpersonal perspectives on biased language use in this dissertation. In the next paragraph I will discuss the issues that were addressed in the studies presented.

Processes underlying biases in language abstraction

Although the LIB and the LEB are reliable effects, major questions regarding the underlying mechanisms still remain unanswered. In my view, there are two important moments when biased processing may lead to biased language use (see Figure 1.1; Wenneker & Wigboldus, 2007). First, biased processing may take place during the encoding of information into memory. This process initially defines the representation of the behavior in the individual mind. That is, information may be stored more concretely or more abstractly during the (conceptual) encoding stage. For example, when observing the two men fighting in public, a bystander may store this information more abstractly in memory when she knows the fighters are skinheads (e.g., "they are skinheads thus violent"). When subsequently asked to describe the scene, the bystander will retrieve the abstract information from memory, which may result in biased language use. As noted before, as yet, it has never been shown that biased encoding can result in biased language use in the domain of LIB- and LEB-effects.

Figure 1.1

Processes underlying biased language use



Second, biased processing may take place during the retrieval and communication of information.[2] Consider the example of the two men fighting in public again. Based on the goals activated at the moment of communication a bystander may adjust the level of linguistic abstraction of the message (e.g., Douglas & Sutton, 2003). For example, if a bystander wants to portray one fighter as positively as possible because they are friends, she is likely to use concrete language to describe this person's negative behavior, whereas she might describe the same behavior more abstractly if the aim is to convey a negative image of the fighter.

In short, the idea is that behavioral information is stored into memory, and later on retrieved from memory for communication. Processes that influence language abstraction do so during (1) encoding and (2) retrieval and communication of information. For instance, during encoding activated expectancies may influence at which level of abstraction the information is stored in memory, and during the retrieval and communication of information for example communication goals may influence language abstraction.

In the current dissertation I aim to explore the processes that may generate the LIB and LEB. Specifically, and first, I advance the idea that biased information processing at the encoding of information in itself can be the cause of biased language use. The implications of this idea are far reaching, because in this way we may not only form biased impressions of persons based on certain expectations, but also communicate these impressions in an implicit manner to

[2] In this thesis no distinction will be made between retrieval and communication processes, although, theoretically, separate effects of both processes are possible. Of course, both of these processes take place during the preparation of a message, and that is the important difference I focus on, in comparison with the process of encoding of information.

another person. As Wigboldus et al. (2000, 2006) have shown, biased language results in biased attributions of the receivers. The implication is that the impression of a person that was initially based on biased processing during encoding may have a life of its own when communicated to other persons. If biased encoding indeed can lead to biased language use, this would nicely map on the research done on STIs discussed in the paragraph on conceptual encoding, showing that activation of stereotypes during encoding is of influence on those STIs (Wigboldus et al., 2003). As all research on encoding processes, it would remind us of the fact that our senses have no one-on-one relationship with external reality, but that everything we think we sense is (partly) based on our own cognitions.

Second, I want to investigate the circumstances under which biased language use can result from biased processing during the encoding stage and during the retrieval and communication stage. As the recent research on language abstraction as a tool of communication (e.g., Semin, Higgins, Gil de Montes, Estourget, & Valencia, 2005) shows, people can manage their language very well, and with rather large effects on language abstraction (e.g., Douglas & Sutton, 2003). The interesting questions then are if, and if so, when, possible encoding effects on language abstraction will (not) be overwhelmed by the results of biasing processes during retrieval and communication. Answering these questions can lead to more insight on how intra- and interpersonal processes truly act "independently together" in the production of biased language.

Overview of the dissertation

As yet, it has been suggested that biased encoding can result in biased language use (e.g., Maass et al., 1989; von Hippel et al., 1995). However, this suggestion has never been put to (empirical) test. The first studies in this dissertation aim to make exactly this point. Of course, it is also important to know how and when this effect adds to effects at retrieval and communication (e.g., communication goals). Subsequent studies will explore the effects of biased encoding and communication goals on language abstraction. The main point of these studies is that under specific circumstances the initial encoding can be of influence in addition to communication goal effects. Finally, one can wonder whether priming effects affect encoding, and can influence language abstraction when no expectancies or communication goals are present. The final set studies of this dissertation will show that temporarily activated constructs can bias encoding and result in biased language use. In sum, this dissertation has one central argument: biased encoding can lead to biased language use. In

addition it is explored exactly how and when this is the case, and how it adds to other processes underlying biased language use.

Overview of the chapters

In Chapters 2 to 4, I will discuss a total of seven studies, to explore encoding effects in language abstraction. In all studies a free language production paradigm was used, in which participants were unexpectedly asked to communicate in their own words one or more stories they had previously heard (Chapters 2 & 3) or read (Chapter 4) to an unspecified participant in a next experiment.

First, in the second chapter two studies are presented that focused on the initial and most basic question: can encoding processes alone produce biased language? To compare encoding effects on the one hand, and retrieval and communication effects on the other, a category label (Study 2.1) or a group label (Study 2.2) was presented before or after the behavioral information about a subject was presented (e.g., Rothbart et al., 1979). If encoding effects add to the production of biased language use, the bias in language abstraction should be higher when the labels are presented before the behaviors than after the behaviors. In Study 2.1, encoding versus retrieval and communication effects were compared in the context of a LEB-effect, and in Study 2.2 this effect was replicated in the context of a LIB-effect.

In Chapter 3, two studies will be discussed that explored effects at retrieval and communication in addition to encoding effects. Recent research showed that communication goals can produce biased language use and that these effects can overwhelm the effects of expectancies (e.g., Douglas & Sutton, 2003). The current studies aimed to disentangle encoding processes from communicative processes, to reveal their unique contributions to stereotype maintenance via biased language use and to evaluate some conditions under which each of these might operate. More specifically, the role of externally imposed time pressure (Study 3.1) and self-imposed time constraints (Study 3.2) was highlighted.

The research presented in the first two experimental chapters primarily focused on the role encoding processes can play on the basis of expectations and goals with regard to the person that is being described. However, in daily life people regularly hear information about the behavior of a person they do not know (e.g., a friend tells you for example something about someone she does or does not like). When no expectancies or goals influence the encoding of information, it is possible that relevant associations, based on the relationship between the source and the actor or between the source and the receiver for example, result in biased language use. In Chapter 4, three studies are

discussed, in which the influence on biased language use of basic associative priming effects as a result of the relationship of the source with the actor and with the receiver was explored.

Finally, in Chapter 5, I will summarize the results of the studies in the three experimental chapters, and discuss the results and implications of the research presented in a broader theoretical perspective.

Chapter 2: Biased language use based on biased encoding[3]

Research on the *linguistic intergroup bias* (LIB; e.g., Maass, 1999; Maass, Salvi, Arcuri, & Semin, 1989) and the *linguistic expectancy bias* (LEB; e.g., Maass, Milesi, Zabbini, & Stahlberg, 1995; Wigboldus, Semin, & Spears, 2000) has shown that language used to describe an event may be biased as a result of the typicality or group membership of the actor performing a behavior. In this research the *linguistic category model* (LCM; Semin & Fiedler, 1988, 1991, 1992) is used to distinguish between different levels of linguistic abstraction, from the concrete to the increasingly abstract (1. Descriptive action verb, DAV; 2. Interpretative action verb, IAV; 3. State verb, SV; 4. Adjective, ADJ).

In a typical LIB-experiment (e.g., Maass et al., 1989; Maass et al., 1995; Maass, Ceccarelli, & Rudin, 1996) participants are asked to choose the description that they think best describes the positive or negative behavior depicted in a cartoon from four options increasing in linguistic abstraction according to the LCM. In general, positive behavior performed by an in-group member and negative behavior performed by an out-group member is described more abstractly than negative behavior performed by an in-group member and positive behavior performed by an out-group member. The LIB also has been found in studies using free language production (e.g., Douglas & Sutton, 2003, Study 4; Maass et al., 1989, Study 2; Wigboldus, Spears, & Semin, 2000, 2006).

Two mechanisms have been advanced to underlie the LIB (Maass et al., 1995, 1996). The first mechanism is based on social identity theory (Tajfel & Turner, 1979, 1986) and proposes that in an intergroup context people will try to defend and enhance their in-group identity. This goal is served by describing positive in-group behavior and negative out-group behavior more abstractly than negative in-group behavior and positive out-group behavior. The in-group protection mechanism seems especially important in an in-group threatening setting (Maass et al., 1996).

The second proposed mechanism underlying the LIB is more cognitive and is based on the idea that expectancies guide language production. Thus, expectancy-confirming behaviors are described more abstractly than expectancy-disconfirming behaviors. This explains the LIB-effect, because, in

[3] This chapter is based on Wenneker, Wigboldus, & Spears, 2003, 2005.

general, people expect more positive and less negative behavior from an in-group member than from an out-group member (Howard & Rothbart, 1980). The cognitive mechanism seems to be a more general one, and seems to operate at an intergroup as well as at an interpersonal level (e.g., Maass et al., 1995, 1996). The phenomenon that expected behavior is described more abstractly than unexpected behavior is referred to as the linguistic expectancy bias (LEB; Wigboldus et al., 2000).

The LIB and the LEB are well-studied effects, but still questions regarding the underlying mechanisms remain unanswered. In Chapter 1 two possible ways in which biased processing may lead to biased language use were introduced. Both biased encoding of information as well as biased retrieval and communication of information can play an important role in the emergence of biased language use. In the case of biased communication of information, recent research (e.g., Douglas & Sutton, 2003; Semin, Gil de Montes, & Valencia, 2003) has clearly shown that communication goals may result in biased language use and research on language abstraction has primarily focused on this more motivational route (e.g., Semin, 2000). In this chapter the biased encoding route is put central stage.

Although it has been assumed that biased language use is primarily a result of biased encoding of information (e.g., Maass et al., 1989; von Hippel, Sekaquaptewa, & Vargas, 1995), this was never demonstrated in the past. In fact, it were the research paradigms used to study the LIB and LEB that precluded an investigation of the separate effects of encoding and retrieval of information on biased language use. Many studies have addressed the issue of encoding only indirectly through the manipulation of expectancies. However a sounder test, and a common way to disentangle encoding from retrieval effects, is to vary the *stage* at which expectancies are cued by category labels, namely *before* or *after* the information (e.g., Rothbart, Evans, & Fulero, 1979; cf. Snyder & Uranowitz, 1978). Whether people receive expectancy information before or after the behavioral information, they have the same information available at recall. Therefore, one can establish the encoding effect by comparing the level of abstraction of the descriptions when the expectancies were only active at retrieval versus when the expectancies were active both at encoding and at retrieval.

Research on the effects of stereotypes on spontaneous trait inferences that has manipulated the stage at which the category labels were presented (before vs. after behavioral information), reinforces the idea that group- and category-labels can exert an influence during encoding of information (Wigboldus, Dijksterhuis, & van Knippenberg, 2003; Wigboldus, Sherman, Franzese, & van Knippenberg, 2004). Trait inferences can be compared to the activation of the most abstract level of the LCM (Semin & Fiedler, 1988, 1991,

1992). Participants were shown stereotype-consistent as well as stereotype-inconsistent sentences. Before or after these sentences a category label was presented. When an inconsistent category label preceded a sentence, weaker spontaneous trait inferences were made than when the sentence was preceded by a consistent category label. When a category label followed a sentence however, no difference between the consistent and inconsistent category labels was found. In short, these results showed that activation of stereotypes during encoding of behavioral information influences spontaneous trait inferences, in contrast to the activation of stereotypes during retrieval. In line with these findings, I propose that biased encoding of behavioral information can be sufficient cause for LIB- or LEB-effects, and that a communication intention or purpose is not a necessary requirement for their emergence.

Overview of the present research

In the two studies presented in this chapter a free language production paradigm was used, in which participants pass on a story they received earlier on (see Wigboldus et al., 2000, Studies 2 & 3). Participants received a group or category label before or after the story containing the behavioral information. The expectation was that biased language use would emerge, especially when participants received the category or group label before hearing and processing the story.

Study 2.1

In this study, it was investigated whether biased encoding of information can be a sufficient condition for the emergence of a LEB-effect. Participants had to relate a story in which the actor behaved stereotype-consistently and stereotype-inconsistently. Half of the participants received information about the category membership of the actor *before* they heard the story, the other half of the participants *after* they heard the story. The expectation was that participants would relate the stereotype-consistent behaviors more abstractly than the stereotype-inconsistent behaviors. Moreover, I expected this effect to be more pronounced when the category label was presented before participants heard the story than when the category label was presented after participants heard the story. This would demonstrate for the first time the important role biased encoding plays in the occurrence of a LEB-effect. To preclude idiosyncratic effects, and provide an internal replication, two different stereotypes were used between participants. All participants heard the same story, but the stereotype-consistent behavior for

one category label, was stereotype-inconsistent behavior for the other, and vice versa.

Method

Participants

A total of 48 students (25 males and 23 females; Mean age = 21.54) from the University of Amsterdam participated in this study, and received course credit or € 3.50.

Design

The experiment consisted of a 2 (category label: chess master vs. hair-dresser) x 2 (label presentation: before the story vs. after the story) x 2 (behavior: intelligent vs. sociable) design, with the last variable varying within participants.

Procedure

The experiment was run on Macintosh iMac G3 computers, and was described to participants as "a study on information processing." All participants heard a story via headphones about a man named Robert behaving in an intelligent and sociable way. Robert engaged in a total of four intelligent and four sociable behaviors. All these concrete descriptions consisted of a DAV with Robert as the subject of the sentence. For example: "Robert tells funny stories" (sociable) and "Robert answers every questions he gets correctly [playing Trivial Pursuit]" (intelligent). Moreover, to prevent priming of a concrete abstraction level, Robert is described at an abstract level as well (as "sociable" and "talkative" on the one hand, and "intelligent" and "smart" on the other). The total number of descriptions of Robert that were relevant to the two trait dimensions was twelve, six for each dimension. The instructions accompanying the story were: "Please listen carefully to the story. Immediately afterwards you will be asked some questions about the story." Subsequently participants received eight general questions, none of which related to one of the sociable or intelligent behaviors. These questions were presented as the end of "the study on information processing", as a way of reducing the possibility of literal recall of the information. At this point participants (led to believe the first study had finished) joined an unrelated study on the same computer for approximately half an hour. After this filler task, participants were told they were going to continue with the first study. They were prompted to relate the story they had heard in their own words to an unspecified participant in a future study, by typing it into the computer. It was stated with emphasis that

the task was not about recalling the story as literally as possible. Then, participants were debriefed and dismissed.

In addition to this general sequence (the same for all participants), participants received extra information about Robert in the form of a short story. The story made clear that Robert was either a chess master or a hairdresser (category label manipulation). In a pilot study it was confirmed that a hairdresser is seen as sociable but not intelligent and a chess master as intelligent but not sociable. Finally, the timing of label presentation was manipulated. Half of the participants read the extra information containing the category label just before they heard the story, the other half of the participants after they heard the story and after the half hour filler, but just before they had to communicate the story they had heard in their own words.[4]

Dependent variable

The dependent variable was the level of linguistic abstraction of the intelligent and sociable behaviors. An independent rater familiar with the LCM (Semin & Fiedler, 1988, 1991, 1992) and its scoring criteria coded the stories. The rater was blind to experimental conditions. First, every verb and adjective referring to intelligent or sociable behavior of the target of the story was coded according to the LCM. These were then scored from 1 to 4 in order of abstractness: DAV = 1; IAV = 2; SV = 3; ADJ = 4. The mean level of abstraction for both intelligent and sociable behaviors was computed by adding the scores and dividing them by their number. The mean level of abstraction for both the intelligent and sociable behaviors could therefore vary between 1 (only DAVs) and 4 (only ADJs). A second rater that was blind to experimental conditions also coded one third of the stories. The inter-rater reliability was satisfactory for the intelligent behaviors (r = .80) as well as the sociable behaviors (r = .86).

Results

The mean abstraction-level of the descriptions of intelligent and sociable behaviors were compared in a 2 (category label: chess master vs. hairdresser) x 2 (label presentation: before the story vs. after the story) x 2

[4] To avoid reinterpretation and re-encoding I did not present a category label directly after the behavioral information, with this information still in working memory (see Hirt, Erickson & McDonald, 1993). Based on previous research it can be expected that the length of the filler task does not influence the effects. Hirt et al. found no differences between a filler task of 10 or 20 minutes, and Snyder & Uranowitz (1978) found the same retrieval effects of expectancy information presented the same session or 1 week later.

(behavior: intelligent vs. sociable) ANOVA, with the last variable varying within participants.

The only significant effect was the expected three-way interaction between category label, label presentation, and behavior, $F(1, 44) = 8.38$, $p < .01$, $\eta^2 = .14$ (see Table 2.1). The two-way interaction between category label and behavior was significant only when the category label was presented before the story (a LEB-effect), $F(2, 44) = 5.05$, $p = .01$, $\eta^2 = .18$, but not when the category label was presented after the story, $F(2, 44) = 1.63$, $p = .21$. When the category label was presented before the story, sociable behavior was described more abstractly than intelligent behavior for a hairdresser, $t(9) = 2.80$, $p = .02$, $d = 0.91$, and intelligent behavior was described somewhat more abstractly than sociable behavior for a chess master, $t(10) = 1.85$, $p = .09$, $d = 0.54$.

Table 2.1

Mean Level of Abstraction as a Function of Behavior, Category Label, and Label Presentation in Study 2.1

	Behavior	
Category label	Sociable	Intelligent
	Before the story	
Chess master (n = 11)		
M	1.79 $_b$	2.22 $_b$
SD	0.69	0.90
Hairdresser (n = 10)		
M	2.33 $_b$	1.54 $_a$
SD	1.09	0.57
	After the story	
Chess master (n = 15)		
M	2.30 $_a$	1.89 $_a$
SD	0.95	0.92
Hairdresser (n = 12)		
M	2.11 $_a$	2.01 $_a$
SD	0.91	0.91

Note. *N*=48. The mean abstraction level varies between 1 and 4. Higher values stand for a higher level of linguistic abstraction. In each condition of label presentation (before the story vs. after the story), cell means in rows and columns not sharing the same subscript differ significantly from each other ($p < .05$).

Discussion

The results of this study supported the idea that biased encoding of information can be sufficient cause for the emergence of a LEB-effect. At the moment participants were asked to relate the story in their own words, all participants were in possession of the same information about the actor (category label and behavior). Yet, only when participants had received the category label before hearing and processing the story, were stereotype-consistent behaviors described more abstractly than stereotype-inconsistent behaviors. When participants received the category label afterwards, no LEB-effect emerged. Having shown that the LEB-effect can be due to biased encoding, in the second study I aimed to replicate this finding in the context of a LIB-effect.

Study 2.2

In this study, it was investigated whether biased encoding of information can be a sufficient condition for the emergence of a LIB-effect. Participants were required to relate a story in which the actor behaved positively and negatively. Half of the participants received information about the group membership of the actor *before* they heard the story, the other half of the participants *after* they heard the story. This extra information was embedded in an in-group threatening story. Maass et al. (1996) have shown that LIB-effects can be enhanced by identity threat, so I hoped to improve the chance of finding a LIB-effect by presenting all participants with in-group threatening information. Participants were expected to communicate the positive behaviors more abstractly and the negative behaviors more concretely when the actor was an in-group member than when the actor was an out-group member. Moreover, I expected this effect to be stronger when the group label was presented before participants heard the story than when the group label was presented after participants heard the story.

Method

Participants

A total of 177 students (53 males and 124 females) from the University of Amsterdam participated in this study, and received course credit or € 3.50.

Design

The experiment consisted of a 2 (group label: in-group vs. out-group) x 2 (label presentation: before the story vs. after the story) x 2 (behavior: positive vs. negative) design, with the last variable varying within participants.

Procedure

This study largely used the same procedure as Study 2.1. Participants heard a story via headphones about a woman demonstrating positive (sociable) as well as negative (non-sociable) behaviors. She engaged in a total of eight positive behaviors, and six negative behaviors. All these concrete descriptions were formulated with a DAV. For example: "[She] shows the tourists the way" (positive) and "[She] calls him names" (negative). The actor was described abstractly as well, namely as "nice" and "friendly" on the one hand, and "not sympathetic" and "antisocial" on the other. The total number of descriptions of the actor with a valence was eighteen, ten positive and eight negative. The instructions read: "Try to form an impression of [the actor]. Immediately afterwards you will be asked some questions about your impression of [the actor]." Subsequently, participants received ten general questions, none of which related to the positive or negative behaviors. The study was presented as completed, and participants engaged in an unrelated study for approximately half an hour. After this filler task, participants were prompted to relate the story in their own words to a participant in a future study, by typing it into the computer, as in Study 2.1. Then, participants were debriefed and dismissed.

In addition to this general sequence, participants received extra information containing a group label, embedded in in-group threatening information. Specifically, the actor was either an undergraduate (bachelor) student of the University of Amsterdam, and thus similar to all participants (in-group manipulation), or a student of a nearby university of professional education (out-group manipulation). The in-group threatening information covered the new so called bachelor/master structure that the Dutch government had introduced recently. In the Netherlands, traditionally, universities have a higher status than universities of professional education, which used to be reflected in the names of the degrees. In order to align itself to the European standard, the government introduced the bachelor/master structure in 2002. In effect, both students of universities and universities of professional education may earn the bachelor degree after three years. This was expected to be a loss of status for the university students, and therefore in-group threatening.

Finally, the timing of label presentation was manipulated. Half of the participants received the extra information containing the group label and in-group threatening information just before they heard the story; the other half of the participants received this information after they heard the story.

Dependent variable

The dependent variable was the level of linguistic abstraction of the positive and negative behaviors. Two independent raters familiar with the LCM (Semin & Fiedler, 1988, 1991, 1992) and its scoring criteria coded each story blind to experimental conditions. Coding, scoring, and calculation of the mean level of abstraction of both the positive and the negative behaviors were done as in Study 2.1. The inter-rater reliability was satisfactory (inter-rater reliability $r = .83$ for the positive behaviors and $r = .87$ for the negative behaviors), and the means of the scores of both raters were used for analyses.

Results

The mean abstraction-levels of the descriptions of positive and negative behaviors were compared in a 2 (group label: in-group vs. out-group) x 2 (label presentation: before the story vs. after the story) x 2 (behavior: positive vs. negative) ANOVA, with the last variable varying within participants.

In general, negative behaviors ($M = 1.96$, $SD = 0.61$) were described more abstractly than positive behaviors ($M = 1.61$, $SD = 0.64$), $F(1, 173) = 82.29$, $p < .01$, $\eta^2 = .31$. However, the expected three-way interaction between group label, label presentation, and behavior also was significant, $F(1, 173) = 5.22$, $p = .02$, $\eta^2 = .02$ (see Table 2.2). To explain this three-way interaction, I looked at the two-way interactions between group label and behavior for each condition of label presentation (before the story vs. after the story). The difference in linguistic abstraction between the negative and positive behaviors was greater for an out-group actor than an in-group actor when the category label was presented before the story (a LIB-effect), $F(1, 175) = 5.96$, $p = .02$, $\eta^2 = .02$, but not when the category label was presented after the story, $F(1, 175) = 0.66$, $p = .42$. Also, when the category label was presented before the story, positive behaviors were described more abstractly for an in-group actor than an out-group-actor, $t(63.12) = 2.21$, $p = .03$, $d = 0.47$. For negative behaviors no significant difference was found, $t(88) = 0.21$, $p = .83$. No other effects were significant.

Discussion

The results of this study suggest that biased encoding of information can be sufficient cause for the emergence of a LIB-effect, and replicate the findings of Study 2.1. The moment participants had to relate the story in their own words, all participants were in possession of the same information about the actor. Yet, only when participants knew what the group membership of the actor was before they received the behavioral information, a (relative) LIB-effect

Table 2.2

Mean Level of Abstraction as a Function of Behavior, Group Label, and Label Presentation in Study 2.2

Group label	Behavior	
	Positive	Negative
	Before the story	
In-group (n = 43)		
M	1.65 $_{b}$	1.90 $_{c}$
SD	0.64	0.53
Out-group (n = 47)		
M	1.41 $_{a}$	1.92 $_{c}$
SD	0.34	0.48
	After the story	
In-group (n = 44)		
M	1.58 $_{a}$	1.95 $_{b}$
SD	0.60	0.60
Out-group (n = 43)		
M	1.81 $_{a}$	2.09 $_{b}$
SD	0.86	0.78

Note. N = 177. The mean abstraction level varies between 1 and 4. Higher values stand for a higher level of linguistic abstraction. In each condition of label presentation (before the story vs. after the story), cell means in rows and columns not sharing the same subscript differ significantly from each other ($p < .05$).

emerged. Although, in general, positive behaviors were described less abstractly than negative behaviors, this effect was more pronounced for an out-group actor than for an in-group actor only when participants learned beforehand about the group membership of the actor, and not when participants learned about the group membership of the actor after they received the behavioral information.

It has to be noted that only a LIB-effect based on the positive behaviors was obtained, a finding quite common in this kind of research (e.g., Douglas & Sutton, 2003, Study 1; Maass et al., 1989, Study 2). Further, negative behaviors were described more abstractly than positive behaviors in all conditions. This effect is probably due to the specific stimulus material used. It could also be that, due to a general negativity effect (e.g., Fiske, 1980), the negative behaviors are encoded relatively abstractly in themselves, as a result of which the group

label does not have any influence on the linguistic abstraction level of the negative descriptions. Whatever the cause may be, it does not alter the fact that a (relative) LIB-effect was found only when the group label was presented before the story, and not when presented after the story.

General discussion

The studies presented make one important point: How information is encoded in memory can *in itself* produce biased language use. In contrast to research paradigms used so far, the research paradigm used in the current studies permits a distinction between the effects of encoding and retrieval of information on the use of biased language. A LEB-effect (Study 2.1) and a LIB-effect (Study 2.2) were found when participants received a category or group label before the behavioral information was presented, but not when they received a category or group label after the behavioral information was presented.

The results of Studies 2.1 and 2.2 are important, because they show that it is possible to obtain a LIB- or LEB-effect by biased encoding alone, and that processes occurring during the actual communication are not a prerequisite for such effects. Of course, some communication is still involved in all conditions. After all, one needs to communicate in order to show these effects. The point is that given that the communicative act was the same in all conditions, in the current studies biased encoding must have been responsible for the LIB- and LEB-effect. It seems that the focus of attention on more motivational, interpersonal effects in language abstraction in recent years has resulted in a relative neglect of the more intrapersonal, associative processes underlying language abstraction.

Although I make a strong plea for the idea that biased language use *can* be the result of biased encoding in this chapter, hopefully it is clear that I do not want to imply that all biased language use is simply and solely the result of biased encoding. On the contrary, there is overwhelming evidence that processes during retrieval and communication, such as receiver-effects (Fiedler, Bluemke, Friese, & Hofmann, 2003; Wigboldus, Spears, & Semin, 2005) or activated communication goals (Douglas & Sutton, 2003; Semin et al., 2003) may have strong effects on biased language use. In Chapter 1 a basic schema of the processes underlying language abstraction was introduced (see Figure 1.1), emphasizing biasing processes at both encoding and retrieval and communication. Of course, the question then becomes to what extent processes at retrieval and communication might add to or operate differently than at encoding. Two studies that address this issue are presented in Chapter 3.

Chapter 3: Biased language use based on biased encoding and communication goals[5]

The studies in this dissertation focus on processes underlying biased language use (i.e., differences in level of linguistic abstraction of descriptions). Two possible ways in which biased processing may lead to biased language are scrutinized. On the one hand, biased language use can be based on biased encoding of information. On the other hand, biased language use can be based on biased retrieval and communication of information. The results of the studies presented in Chapter 2 showed that it is possible to obtain an LIB- or LEB-effect by biased encoding alone, and that processes occurring during retrieval and communication are not a prerequisite for such effects.

Although the studies in Chapter 2 found strong support for the proposition that biased language use can be the result of biased encoding of information, these findings certainly do not imply that all biased language use is solely a result of biased encoding of information. On the contrary, as others have shown, processes during retrieval and communication, such as activated communication goals (e.g., Douglas & Sutton, 2003) can have strong effects on biased language use as well. Douglas and Sutton showed participants cartoons of actors behaving positively and negatively. The participants were asked to choose from four descriptions, increasing in linguistic abstraction according to the LCM (Semin & Fiedler, 1988, 1991, 1992), the one that they found the most appropriate. In addition, participants received a positive or negative communication goal. Specifically, they were explicitly asked to portray the actor in a favorable way (positive communication goal) or in an unfavorable way (negative communication goal). Participants with a positive communication goal chose more abstract positive descriptions and more concrete negative descriptions than participants with a negative communication goal. So, people clearly can use linguistic abstraction as a tool to attain a desired communication goal.

Although Douglas and Sutton (2003) mainly focused on communication goals, interestingly they also manipulated expectancies. For example, in their first study participants chose the best description for a depicted behavior. Both communication goals (i.e., to give a positive or negative impression) and expectancies (imagining that the actor in the picture

[5] This chapter is based on Wenneker, Wigboldus, & Spears, 2004, 2005.

was a friend or enemy) *independently* influenced the level of linguistic abstraction of the descriptions. The conceptualization of encoding and communication goal effects as two different processes that operate independently of each other, can be conceptually linked to general theorizing about the more "automatic or associative" and the more "controlled or systematic" processes that underlie thought and behavior (e.g., Chaiken & Trope, 1999; Smith & DeCoster, 2000). As Douglas and Sutton (pp. 684-685) propose, the (implicit) effects on language abstraction based on expectancies (biased encoding) are best seen as *unintentional belief transmissions*, and the (explicit) effects based on communication goals as *purposive creations of beliefs*.

Douglas and Sutton (2003) found that communication goals affected language abstraction more strongly than expectancies, and in that sense can overwhelm the effect of expectancies. For example, in their Study 4, participants who were asked to describe (un)characteristic behavior of an acquaintance described the characteristic behavior more abstractly than the uncharacteristic behavior (a LEB-effect). However, participants asked to describe the characteristic behavior as if it was uncharacteristic, and the uncharacteristic behavior as if it was characteristic (communication goal manipulation), described the uncharacteristic behavior more abstractly, reversing the LEB-effect. Douglas and Sutton came to the conclusion that "communication goals … typically *overturn* the effects of expectancies" (p.692, italics added).

The finding that expectancy-based biased language use can be overwhelmed by the effects of communication goals does not mean however, that the original encoding of information ceases to play a role the moment communication goals are activated. Because communication goals as well as biased encoding influence the language people use, and people can only say one thing at a time, it is possible that the larger effect (of communication goals) overwhelms the smaller one (of biased encoding), but the different processes by which these effects influence linguistic abstraction operate independently. According to this view, the original encoding of information may be (temporarily) *overwhelmed* but not necessarily *nullified*. In line with research into stereotyping demonstrating that stereotypes are used more under conditions of mental busyness and distraction (e.g., Gilbert & Hixon, 1991; Macrae, Hewstone, & Griffiths, 1993), it is the expectation that under such circumstances a sender will make more use of the information as originally encoded.

Overview of the present research

In the two studies presented in this chapter, the conditions under which biased encoding can result in biased language use, in addition to the effects of communication goals were investigated. The expectation was that

communication goals would influence the language used both with and without cognitive load, but that encoding would be of especial influence under cognitive load.

Study 3.1

In this study I wanted to explore the question how exactly encoding and communication goals may independently produce biased language use. An important question then is *when* will the original encoding of information continue to influence language abstraction, in addition to the effect of communication goals. The hypothesis is that especially under circumstances of low cognitive resources a sender will make use of the information as originally encoded. When constructing a message with a communication goal activated, a sender has to engage in two activities. First, the communication goal needs to be implemented in the message. Second, the original encoding of the information has to be controlled for and possibly corrected to prevent the original encoding from interfering with the current communication goal. The expectation is that when cognitive capacity is impaired, senders will make more use of the originally encoded information because they have less capacity to control and correct for the initial encoding of the information.

It is important to note, that I do not expect communication goal effects to be eliminated with low cognitive resources. People seem very well able to control the language they use when explicitly paying attention to the construction of a message (e.g., Douglas & Sutton, 2003). Constructing a message and controlling for a communication goal is arguably something people do all the time from the moment they learn to speak, and is thus likely to be automated to such an extent that it uses few cognitive resources. Therefore it seems unlikely that communication goal effects will be influenced by the availability of cognitive resources. However, the correction for the way the information was originally encoded will suffer under low cognitive capacity conditions.

In the current study, participants were asked to relate a story in which an actor behaved positively and negatively. Before they heard the story, participants were asked to form a positive or negative impression of the actor (impression formation manipulation). Before they wrote the story down in their own words, participants received a communication goal (positive vs. negative). They were explicitly asked to describe the story about the actor in a positive or negative way. Moreover, half of the participants were put under time pressure, and the other participants were not. The communication goal was expected to influence the language used, independent of whether participants were under time pressure or not. A positive communication goal should lead to more

abstract descriptions of positive behavior and less abstract descriptions of negative behaviors than a negative communication goal. In addition to this two-way interaction between communication goal and the valence of the behavior, a three-way interaction was expected between the impression formation manipulation, the valence of the behavior, and the time pressure manipulation. The expectation was that under time pressure the encoding effect of the impression formation manipulation would have a greater influence on the abstraction level of the descriptions of positive and negative behaviors than under no time pressure. Under time pressure, a positive impression formation should lead to more abstract descriptions of positive behavior and less abstract descriptions of negative behaviors than a negative impression formation.

Method

Participants

A total of 93 students (29 men and 64 women; Mean age = 21.06) from the University of Amsterdam participated in this study, and received course credit or € 3.50.

Design

The experiment consisted of a 2 (impression: positive vs. negative) x 2 (communication goal: positive vs. negative) x 2 (time pressure: yes vs. no) x 2 (behavior: positive vs. negative) design, with the last variable varying within participants.

Procedure

This study largely used the same procedure as the two studies in Chapter 2, except that label presentation (before the story vs. after the story) was not manipulated. Participants heard a story via a headphone about a man named Robert behaving in a sociable and unintelligent way. Before the story, half of the participants were asked to form a positive impression of Robert, and half a negative impression (impression instruction). In the story, Robert engaged in a total of six positive (sociable) and six negative (unintelligent) behaviors. For each of these six behaviors, four were formulated concretely by means of a DAV and two abstractly by means of an adjective. Subsequently participants received eight general questions that were presented as the end of the study, and were intended to prevent participants from thinking that the information would be needed later on. Then, participants joined an unrelated study on the same computer for approximately half an hour. After this filler task, participants were prompted to relate the story they had heard half an hour before in their own words to a participant in a future study, by typing it into the

computer. It was stated with emphasis that the task was not about recalling the story as literally as possible. Half of the participants were asked to relate the story in a positive way, and half in a negative way (communication goal manipulation). Specifically, they were asked to "write the story about [the actor] down as positively (negatively) as you can, without making information up or omitting information." In addition, in the time-pressure condition participants were asked to write the story down within 7 minutes, although it was stated that they could take as much time as they needed (time pressure manipulation).[6] A colored bar on the side of the screen indicated how long they were writing. When they were busy for 7 minutes, instead of green blocks red ones appeared in the bar. When they took more than eleven minutes, the bar began to flash. In this way, there was no time limit, but only time pressure. This was done to prevent that participants described fewer behaviors under time pressure than under no time pressure. In the no time pressure condition, participants were not asked to finish in a certain amount of time, nor did a bar appear to indicate the time that had passed. After participants wrote the story, they were asked to indicate on a five points-scale from 1 (*not at all*) to 5 (*very much*) how much they had hurried themselves. Finally, participants were debriefed and dismissed.

Dependent variable

The dependent variable was the level of linguistic abstraction of the positive (sociable) and negative (unintelligent) behaviors. An independent rater familiar with the LCM (Semin & Fiedler, 1988, 1991, 1992) and its scoring criteria coded each story in the same way as in the studies from chapter 2. One third of the stories was coded by a second rater. Both raters were blind to experimental conditions. The inter-rater reliability was satisfactory (inter-rater reliability, r = .91 for the positive behaviors and r = .89 for the negative behaviors).

Results

Manipulation check

A trend emerged such that participants under time pressure wrote somewhat faster (M = 449 s, SD = 126) than participants under no time pressure (M = 524 s, SD = 238), $t(65.91) = 1.88$, $p = .07$, $d = 0.39$. However, participants under time pressure described more behaviors than participants under no time pressure (respectively M = 6.00, SD = 1.89 and M = 5.07, SD = 1.70), $t(91) = 2.50$, p

[6] A pilot study indicated that participants took, on average, 7 minutes to write the story.

= .01, d = 0.52. Finally, participants indicated that they hurried themselves more under time pressure (M = 3.48, SD = 0.87) than under no time pressure (M = 2.44, SD = 1.18), $t(80.98) = 4.78$, $p < .01$, $d = 1.00$.

Linguistic abstraction

The mean abstraction-levels of the descriptions of positive behaviors on the one hand and negative behaviors on the other were compared in a 2 (impression: positive vs. negative) x 2 (communication goal: positive vs. negative) x 2 (time pressure: yes vs. no) x 2 (behavior: positive vs. negative) ANOVA, with the last variable varying within subjects.

In general, negative behaviors (M = 2.62, SD = 0.71) were described more abstractly than positive behaviors (M = 1.91, SD = 0.73), $F(1, 85) = 70.28$, $p < .01$, $\eta 2 = .40$. More importantly, the expected two-way interaction between communication goal and behavior was significant, $F(1, 85) = 13.19$, $p < .01$, $\eta 2 = .07$ (see Table 3.1). In concurrence with the hypothesis the positive behaviors were described more abstractly with a positive communication goal than with a negative communication goal $t(91) = 4.55$, $p < .01$, $d = 0.96$. The negative behaviors, though, were not described more abstractly with a negative communication goal than with a positive communication goal, $t(83.85) = 0.03$, $p = .97$.

Table 3.1
Mean Level of Abstraction as a Function of Behavior and Communication Goal in Study 3.1

	Behavior	
Communication goal	Positive	Negative
Positive (n = 47)		
M	2.22 $_b$	2.62 $_c$
SD	0.76	0.81
Negative (n = 46)		
M	1.59 $_a$	2.61 $_c$
SD	0.54	0.59

Note. N = 93. The mean abstraction level varies between 1 and 4. Higher values stand for a higher level of linguistic abstraction. Cell means not sharing the same subscript differ significantly from each other ($p < .05$).

Most importantly, the expected three-way interaction between impression, time pressure, and behavior was significant, $F(1, 85) = 6.52$, $p = .01$, $\eta^2 = .04$ (see Table 3.2). Although the simple main effects were not significant, the pattern of means that causes this significant three-way interaction is in line with the hypotheses. Therefore, the underlying two-way interactions per condition of impression are reported. With a negative impression, negative behaviors were described relatively abstractly and positive behaviors relatively concretely under time pressure, in comparison with no time pressure, $F(1, 90) = 4.36$, $p = .04$, $\eta^2 = .03$. With a positive impression, positive behaviors were described relatively abstractly and negative behaviors relatively concretely under time pressure, in comparison with no time pressure, albeit not significantly so, $F(1, 90) = 1.94$, $p = .17$. Another way to look at these data is to look per condition of time pressure. With no time pressure, there was a trend to describe negative behaviors relatively abstractly and positive behavior

Table 3.2

Mean Level of Abstraction as a Function of Behavior, Impression, and Time Pressure in Study 3.1

Impression	Behavior	
	Positive	Negative
	Time pressure	
Positive (n = 26)		
M	2.07 $_{a}$	2.64 $_{b}$
SD	0.58	0.47
Negative (n = 22)		
M	1.81 $_{a}$	2.78 $_{b}$
SD	0.72	0.78
	No time pressure	
Positive (n = 22)		
M	1.74 $_{a}$	2.66 $_{b}$
SD	0.75	0.80
Negative (n = 23)		
M	1.99 $_{ab}$	2.41 $_{b}$
SD	0.85	0.75

Note. N = 93. The mean abstraction level varies between 1 and 4. Higher values stand for a higher level of linguistic abstraction. Cell means in columns and rows not sharing the same subscript differ significantly from each other ($p < .05$).

relatively concretely with a positive impression, in comparison with a negative impression (a reversed LEB-effect), $F(1, 90) = 3.69$, $p = .06$, $\eta^2 = .02$. Under time pressure, negative behaviors were described relatively abstractly and positive behaviors relatively concretely with a negative impression, in comparison with a positive impression, but not significantly so, $F(1, 90) = 2.42$, $p = .12$.

The only other significant effect, was a main effect of communication goal, $F(1, 85) = 7.35$, $p = .01$, $\eta^2 = .08$. However, this effect was moderated by the expected two-way interaction between communication goal and behavior.

Discussion

The results of this study showed that communication goals can be of influence on biased language use, independent of the encoding of the information and independent of time pressure. In general, participants described the sociable (positive) behaviors more abstractly with a positive communication goal than with a negative communication goal. Second, participants under time pressure seem to have relied more on the information as it was initially encoded than participants under no time pressure. This effect is mainly found with a negative impression formation. In this case, participants under time pressure described the unintelligent (negative) behaviors more abstractly and the sociable (positive) behaviors less abstractly than participants under no time pressure. The means in the positive impression formation condition were also in the expected direction. An interesting, unexpected effect is that in the no time pressure condition almost an opposite effect of the impression formation manipulation was found. Under no time pressure, it seems to be the case that with a positive impression formation the unintelligent (negative) behaviors are described more abstractly and the sociable (positive) behaviors less abstractly than with a negative impression formation. This contrast effect fits the idea that participants tried to control for the initial encoding that resulted from the impression formation instruction before hearing the story. Presumably, they even overcorrected a bit under normal circumstances (no time pressure condition). Interestingly, when cognitive capacity was low, no evidence for this correction process was found. Instead of controlling for the original encoding of the information, under these conditions participants had to make use of the way the information was initially encoded.

Although I should be careful in interpreting these results, they are an important addition to the results found in Chapter 2, and the studies by Douglas and Sutton (2003). In the two studies in Chapter 2 it was shown that biased encoding can be sufficient cause for biased language use. The current study shows that processes during retrieval and communication of information, in this case communication goals, are also important. Douglas and Sutton

explored the idea that the effects of communication goals can overwhelm the effects of expectancies. In the current study that finding was replicated and it was shown that under high cognitive resources (no time pressure) the effect of the encoding manipulation is overshadowed by the effect of the communication goal. Importantly, however, under low cognitive resources (time pressure) the original encoding as well as the communication goal influenced the language used. This finding is of importance, because it demonstrates that the effects of biased encoding of information do not disappear when information is communicated as a function of communication goals, but are only corrected for. When the cognitive resources needed for such a correction process are not available, the original encoding pops up again.

In this study the amount of available cognitive resources was manipulated by putting participants under time pressure or not. In hindsight, this time pressure manipulation made the writing of the story a somewhat artificial task. In Study 3.2 I wanted to replicate the findings of the current study by using a more naturalistic manipulation of the cognitive resources participants spontaneously devote to the communication task.

Study 3.2

In Study 3.2 the question of how exactly encoding and communication goals may independently lead to biased language use was further explored, by indirectly manipulating the time participants spent while writing each story. Specifically, communication goal was manipulated *within* participants, and thus they were asked to relate the story twice (controlling for order). The task of writing the story was rather time consuming (see Study 3.1) and the first time they wrote the story down they were unaware they had to write the story down for a second time. Therefore, participants were expected to be less motivated and as a result spent less time when writing exactly the same story for a second time (albeit with a different communication goal). In this way, Study 3.2 would nicely map on to the results of Study 3.1, by manipulating the cognitive resources participants spent via self imposed time constraints instead of externally imposed time pressure.

In this study, participants were asked to relate the same story as in Study 3.1, in which an actor behaved positively and negatively. Before they heard the story, participants received one of two category labels, or not (control condition). One of the category labels was consistent with all the behaviors of the actor in the story (positive as well as negative), while the other category label was inconsistent with all the behaviors of the actor in the story. Participants related the story two times, once with a positive communication goal and once with a negative communication goal. Order was controlled for.

It was the expectation that the communication goal would influence the language used independent of whether participants wrote the story down for the first time or for the second time. In general, a positive communication goal should lead to more abstract descriptions of positive behaviors and less abstract descriptions of negative behaviors than a negative communication goal.

In addition to the interaction between communication goal and the valence of the behavior, an interaction between category label and the first or second time participants wrote the story down was expected. The expectation was that the second time, the category label exerts a greater influence on the abstraction level of the descriptions of the behaviors than the first time (i.e. an encoding effect), because of a more sparing use of time and the more limited cognitive resources associated with this. A consistent category label should lead to more abstract descriptions of the behaviors than an inconsistent category label, while the control condition should lie somewhere in between.

Method

Participants

A total of 45 students (11 men and 34 women; Mean age = 21.22) from the University of Amsterdam participated in this study, and received course credit or € 3.50.

Design

The experiment consisted of a 3 (category label: chess master vs. hairdresser vs. control) x 2 (communication goal: positive vs. negative) x 2 (communication goal order: first positive vs. first negative) x 2 (behavior: sociable vs. unintelligent) design, with the last two variables varying within participants.

Procedure

This study largely used the same procedure and stimulus material as the previous studies in this dissertation. Participants heard the same story as in Study 3.1 about a man named Robert behaving in a sociable and unintelligent way. Before they heard the story, two thirds of the participants received extra information containing a category label (chess master or hairdresser), and one third of the participants received no extra information (control condition). The category label information was the same as in Study 2.2. This time, *all* of the behaviors in the story (sociable as well as unintelligent) were consistent (inconsistent) with the hairdresser (chess master). After they heard the story, participants received eight general questions (as in Study 3.1) and joined an

unrelated study on the same computer for approximately half an hour. After this filler task, participants were prompted *twice* to relate the story they had heard half an hour before in their own words to a participant in a future study, by typing it into the computer. One time they were asked to relate the story in a positive way, and one time in a negative way (communication goal manipulation). Order was balanced between participants (communication goal order manipulation). The first time participants had to write down the story, they did not know they would be asked to do it a second time. Both times it was stated with emphasis that the task was not about recalling the story as literally as possible. Finally participants were asked whether they had received information about the occupation of Robert, and if so what his occupation was. Then, participants were debriefed and dismissed.

Dependent variable

The dependent variable was the level of linguistic abstraction of the positive (sociable) and negative (unintelligent) behaviors for both stories. An independent rater familiar with the LCM (Semin & Fiedler, 1988, 1991, 1992) and its scoring criteria coded each story in the same way as the previous studies in this dissertation. One third of the stories was coded by a second rater. Both raters were blind to experimental conditions. The inter-rater reliability was satisfactory (inter-rater reliability, r = .83 for the positive behaviors and r = .82 for the negative behaviors).

Results

Manipulation check

Five participants remembered the occupation of the protagonist incorrectly. Therefore 40 participants remained for the analyses. As expected, participants wrote down the second story faster than the first story (respectively M = 528 s, SD = 232, and M = 732 s, SD = 283), $t(39) = 7.30$, $p < .01$, d = 0.79. Participants described somewhat more behaviors in the second story than in the first story, but not significantly (respectively M = 6.83, SD = 1.52, and M = 6.53, SD = 2.30), $t(39) = 1.06$, $p = .30$.

Linguistic abstraction

The mean abstraction-levels of the descriptions were compared in a 3 (category label: chess master vs. hairdresser vs. control) x 2 (communication goal: positive vs. negative) x 2 (communication goal order: first positive vs. first negative) x 2 (behavior: sociable vs. unintelligent) ANOVA, with the last two variables varying within participants.

In general, the unintelligent (negative) behaviors (M = 2.66, SD = 0.34) were described more abstractly than the sociable (positive) behaviors (M = 1.94, SD = 0.51), $F(1, 34) = 53.79$, $p < .01$, $\eta^2 = .60$. More importantly, the expected two-way interaction between communication goal and behavior was significant, $F(1, 34) = 33.82$, $p < .01$, $\eta^2 = .43$ (see Table 3.3). As expected, the sociable (positive) behaviors were described more abstractly with a positive communication goal than with a negative communication goal, $t(39) = 3.89$, $p < .01$, $d = 0.69$, and the unintelligent (negative) behaviors were described more abstractly with a negative communication goal than with a positive communication goal, $t(39) = 3.30$, $p < .01$, $d = 0.64$.

The only other significant effect was a three-way interaction between category label, communication goal, and communication goal order, $F(2, 34) = 3.89$, $p = .03$, $\eta^2 = .17$. In the current design, an interaction between communication goal and communication goal order refers to a difference between the first and the second story participants wrote down. After all, the communication goal variable refers to the positive and negative communication goal and the order variable refers to whether participants started with a positive or negative communication goal. In fact, one could also put the variables story number (referring to the first or second story) and goal order

Table 3.3

Mean Level of Abstraction as a Function of Behavior and Communication Goal in Study 3.2

	Behavior	
Communication goal	Sociable (positive)	Unintelligent (negative)
Positive		
M	2.15 $_b$	2.52 $_c$
SD	0.59	0.43
Negative		
M	1.73 $_a$	2.80 $_d$
SD	0.62	0.44

Note. N = 40. The mean abstraction level varies between 1 and 4. Higher values stand for a higher level of linguistic abstraction. Cell means in columns and rows not sharing the same subscript differ significantly from each other ($p < .01$).

(referring to starting with a positive communication goal versus starting with a negative communication goal) into an ANOVA. To clarify the three-way interaction effect mentioned above, the same ANOVA was performed, but this time the *story number* variable (story 1 vs. story 2) was used instead of the communication goal variable. Thus, the mean abstraction-levels of the descriptions were compared in a 3 (category label: chess master vs. hairdresser vs. control) x 2 (communication goal order: first positive vs. first negative) x 2 (story number: story 1 vs. story 2) x 2 (behavior: sociable vs. unintelligent) ANOVA, with the last two variables varying within participants. In this analysis the three-way interaction between category label, communication goal, and communication goal order from the first ANOVA is now reflected in the expected two-way interaction between category label and story number, $F(2, 34) = 3.89$, $p = .03$, $\eta^2 = .17$ (see Table 3.4). Moreover, as predicted, separate ANOVAs per story revealed that category label was of influence in the second story, $F(2, 34) = 4.21$, $p = .02$, $\eta^2 = .19$, but not in the first story, $F(2, 34) = 0.09$, $p =$

Table 3.4

Mean Level of Abstraction as a Function of Category Label and Story Number in Study 3.2

	Story number	
Category label	Story 1	Story 2
Hairdresser (n = 16)		
M	2.32 $_{a}$	2.57 $_{b}$
SD	0.41	0.22
Control (n = 14)		
M	2.44 $_{a}$	2.47 $_{ab}$
SD	0.35	0.40
Chessmaster (n = 10)		
M	2.51 $_{a}$	2.24 $_{a}$
SD	0.53	0.37

Note. N = 40. The mean abstraction level varies between 1 and 4. Higher values stand for a higher level of linguistic abstraction. Cell means in columns and rows not sharing the same subscript differ significantly from each other ($p < .05$).

.91. As the means in Table 3.4 show, the behaviors in the second story were described more abstractly when the protagonist is a hairdresser, then when he is a chess master (a LEB-effect), $t(12.97) = 2.59$, $p = .02$, $d = 1.08$. The control condition did not differ significantly from either the hairdresser condition, $t(28) = 0.86$, $p = .40$, or the chess master condition, $t(22) = 1.46$, $p = .16$, but lay in the middle. As expected, no effects were found for the first story.

Discussion

Study 3.2 replicates Study 3.1 in showing that communication goals are of influence on biased language use, independent of the encoding of the information and independent of whether they wrote the story down for the first or second time. Participants described the sociable (positive) behaviors more abstractly with a positive communication goal than with a negative communication goal, and the unintelligent (negative) behaviors more abstractly with a negative communication goal than with a positive communication goal. However, participants seem to have relied more on the information as initially encoded when they wrote the story for the second time. In this case participants presumably were less motivated and as a result wrote much faster than the first time, and described the story that was consistent (inconsistent) with the hairdresser (chess master), more abstractly for a hairdresser than for a chess master. This was not the case when they wrote the story for the first time.

In the current study, as in Study 3.1, it was found that processes during encoding as well as processes during retrieval and communication of information are important. Again, the finding by Douglas and Sutton (2003) that the effects of communication goals can overwhelm encoding-effects was replicated. More importantly, adding to this effect, it was shown that the way information is encoded can still be of influence on the language used. This time, though, instead of manipulating the cognitive resources available by putting participants under time pressure (as in Study 3.1), these resources were manipulated in a more naturalistic way. Indeed, when participants wrote faster for self-imposed reasons, they also made more use of the information as initially encoded. It has to be noted that the communication goal effect, a rather large effect, was not influenced by the order manipulation. It seems that participants comply with the communication goal request with relative ease. Again, though not reliably so, senders seem to have overcorrected somewhat for the initial biased encoding the first time they wrote the story. For the first story the means pointed in the direction opposite to the encoding effect.

General discussion

The studies presented in this chapter demonstrated that under specific circumstances also the initial encoding may be of influence, albeit in addition to and independent of communication goal effects. Specifically, processes at encoding influenced biased language use in addition to communication goals, but only under conditions of externally imposed time pressure (Study 3.1) or self imposed time constraints (Study 3.2).

The studies presented here add to the debate on the role of intrapersonal and interpersonal processes in stereotype maintenance. On the one hand, the intrapersonal, the expectancies that lead to biased language use through biased encoding, can be sufficient cause for the emergence of biased language use, as has been shown in Chapter 2. On the other hand, the interpersonal (communication goals) can have an independent influence that can overwhelm the encoding effects. Importantly, though, the studies in this chapter have shown that the influence of encoding effects will resurface again when cognitive resources are sparse or not expended. This finding is consistent with research into stereotyping showing that stereotypes are used (at least once activated) more under conditions of decreased cognitive resources (e.g., Gilbert & Hixon, 1991; Macrae et al., 1993).

Moreover, the current findings are in line with the assumption that senders with a communication goal have a dual task to perform. On the one hand they have to implement the communication goal into their message. On the other hand, they have to make sure that the way the information was initially encoded in memory does not interfere with the communication goal they aim to fulfill. In order to achieve their communication goals, senders will try to correct for effects due to the original encoding of information. Indeed, in Studies 3.1 and 3.2, no encoding effects were found under "normal" processing conditions (i.e., no constraints on resources or motivation). On the contrary, if anything, senders in these conditions seemed to demonstrate the opposite effect (i.e., overcorrecting for the effects due to encoding biases). However, correcting the encoding effects does take up cognitive resources, and when cognitive resources were limited, the effects due to the initial encoding of the information did reappear.

While underscoring the idea that biased encoding can result in biased language use, I also want to stress the fact that people are able to control the language they use (e.g., Study 3.1 & Study 3.2 of this chapter; Douglas & Sutton, 2003; Semin, Gil de Montes, & Valencia, 2003). This finding gives hope for controlling stereotype maintenance through language abstraction, but, as the presented studies show, when people do not have or do not spend the

necessary cognitive resources, encoding effects may resurface. In a way, these findings concur with the general finding that schemas exert more congruent influence under cognitive load (e.g., Kunda, 1999; but see Sherman, Conrey, & Groom, 2004). Unfortunately, in everyday life, cognitive resources are a scarce commodity, and probably in many instances the way information is encoded in memory exerts influence on the language people use. Maybe only if people are clearly motivated to transmit a certain message, and are able to spend the cognitive resources necessary, will biased encoding *not* be of influence on the language used. Future research could look into the effects of biased encoding when senders have the explicit communication goal *not* to stereotype.

Importantly, the conclusion can be that encoding effects can influence and bias language use in itself, but also in addition to and independently of the (strong) effects of communication goals, namely under conditions of low cognitive resources or decreased motivation. Both of these intra- and interpersonal linguistic processes in the present studies may therefore constitute a basis for the vicious circle of stereotype maintenance. Building on the fact that biased encoding in itself can be the cause of biased language use, other influences on language use in addition to expectancies and goals can be proposed. For instance, maybe any relevant concept that is activated during encoding may bias this encoding and result in biased language use. The idea is that an associative process leads, via encoding, in an implicit manner to biased language use. The three studies presented in Chapter 4 explore this idea by considering the effects of the salience of the relationships (friends or enemies) between the source and the actor, and between the source and the receiver.

Chapter 4: Communicating about friends and enemies: Differences in implicit and explicit attributions[7]

In daily life people regularly hear about the behavior of another via a third person. For example, the source tells the receiver about a friend or an enemy (the actor). How will the receiver judge this actor? I focus on two possibilities. First, receivers may behave like the "godfather" in a mafia movie, who with a reassuring pat on the back, whispers in a person's ear: "your friends are my friends and your enemies are my enemies." This statement seems applicable to daily interaction, and is reminiscent of Heider's (1958) theory of cognitive balance. If, for example, a friend tells you about another person, you will like this person more if he is a friend of your friend than if he is an enemy of your friend (e.g., Aronson & Cope, 1968). Second, research has shown that receivers may judge the actor based on the basis of simple associative processing (e.g., Higgins, Rholes & Jones, 1977). So, counter-intuitively, a friend of an enemy may be judged positively because of the association of the concept "friend" with this person, even though it is a friend of an enemy. In this chapter, the focus is on the implicit and explicit attributions people make on the basis of the information they receive from a source about behavior of a person they do not know. With respect to the implicit attributions, I focus on biased language use.

Biased language use

Research on the *linguistic expectancy bias* (LEB; Maass, 1999; Wigboldus, Semin, & Spears, 2000) showed that expected behavior is described more abstractly than unexpected behavior. This biased language in turn results in biased attributions made by receivers of these messages (e.g., Maass, Salvi, Arcuri, & Semin, 1989, Study 3; Wigboldus, Semin, & Spears, 2000, 2006). The central question for the present research is how these linguistic biases may be affected by the relationship between the source of the message, the object or target person of the communication (here the "actor"), and the receiver (in the current studies this was the participant). In most LIB- and LEB-research performed so far, participants were asked to describe the behavior of an actor of

[7] This chapter is based on Wenneker, Wigboldus, Spears, & Coppens, 2006a, 2006b.

whom they had important knowledge. For instance, the actor was their friend or their enemy. However, people regularly describe the behavior of an unknown actor and this forms the focus here. Oddly perhaps, this has never been the focus of research in the language abstraction domain. I think that when people describe the behavior of an unknown actor, their descriptions can be affected by a range of situational influences.

Take for example the situation where a source gives the receiver a description about an unknown actor and the receiver subsequently describes the behavior of this unknown actor to another person. In this case, sites of possible situational influences are the relationship between the source and the actor and the relationship between the source and the receiver. For instance, the actor may be a friend of the source, or the source may be a friend of the receiver. In both of these situations the concept "friend" is activated. I propose that one basic way in which this relation may influence the level of linguistic abstraction of the descriptions of the behavior of the actor by the receiver is through simple evaluation association. That is, positive behaviors may be described more abstractly than negative behaviors (so that the actor is depicted positively), when the friendship relation (i.e. an evaluatively positive relation) is salient. Of course, we might also expect exactly the opposite when the actor is an enemy of the source, or the source is an enemy of the receiver. In these cases, negative behaviors may be described more abstractly than positive behaviors (so that the actor is depicted negatively) if the evaluatively negative relation (enemy) is salient.

What happens when the source has a relationship both with the actor and with the receiver? There are two possibilities. The first possibility is that both relationships are congruent (e.g., both relationships are (un)friendly). The concept "friend" is activated in the case of friendly relationships, such that, following the "association" principle, positive behaviors may be described more abstractly than negative behaviors. The concept "enemy" is activated in the case of unfriendly relationships, such that negative behaviors may be described more abstractly than positive behaviors. However, the second possibility, where the relationships are incongruent, and one of the two relationships is friendly, and the other is unfriendly (e.g., the source is an enemy of the actor, but a friend of the receiver) raises the question of which association, if any, may dominate. In this case the most salient relationship may influence the level of abstraction of the descriptions of the positive and negative behaviors.

As I discuss shortly in more detail, level of linguistic abstraction can be seen as a measure of implicit attributions. Of course, the receivers can also make explicit attributions on the basis of the behavior of an unknown actor. I think that when the receivers make explicit attributions on the basis of the

behavior of the unknown actor (e.g., "her behavior is due to the situation" or "her behavior is due to how she is as a person"), they will not attribute the positive or negative behavior more to the person or the situation solely on the basis of either the relationship between the source and the actor, or the relationship between the source and the receiver. After all, the actor is not a friend or an enemy of the receiver, and there is no apparent reason to depict the actor positively or negatively. But, if the source has a relationship with the actor as well as with the receiver, the receiver may take into account both relationships in making explicit attributions. For example, when the actor is an enemy of the source, and the source is a friend of the participant, the participants may be motivated to depict the actor negatively (e.g., "The actor is an enemy of my friend, so he is my enemy"). Then, positive behaviors will be attributed to the situation and negative behaviors will be attributed more to the person.

In short, I propose a divergence between implicit attributions and explicit attributions when people communicate about an unknown actor, when the actor is a friend or an enemy of the source, and/or when the source is a friend or an enemy of the receiver.

Language abstraction

Semin and Fiedler (1988, 1991, 1992) showed that the more abstract a description, the more information is given about the actor and the less information is given about the situation. So, language abstraction can be seen as a measure of attributions. Other research deals with the implicit nature of language abstraction. Franco and Maass (1996, 1999) have shown that, in general, people are not aware of the fact that they use language abstraction as a tool to communicate information in a certain way. Probably, only in extreme cases will people be aware of their biased language use, for example when making abundant use of adjectives (e.g., "He really is a sympathetic, friendly, easygoing guy"). Schnake and Ruscher (1998) showed that modern racism did not correlate with an explicit measure (overall negativity of the descriptions), but did correlate with language abstraction. Similarly, von Hippel, Sekaquaptewa, and Vargas (1997) demonstrated in a series of studies that an implicit measure based on language abstraction could predict prejudiced behavior, in contrast to explicit measures. In short, language abstraction can be seen as an implicit measure of attributions.

Implicit and explicit attributions

When you hear about the behavior of an actor you do not know, it seems likely that you will judge this behavior in a more objective way than

when the actor is a friend or an enemy. If this person is a friend, you will most likely judge the behavior more positively than if the person is an enemy. As stated earlier, people regularly hear about the behavior of an actor via a third person. If, for example, a friend tells you about another person, you will like this person more if she is a friend of your friend than if she is an enemy of your friend (e.g., Aronson & Cope, 1968). Research on this idea has mainly focused on the *explicit* judgments and attributions people make. In this chapter, the focus lies more on the *implicit* attributions people make on the basis of the information they receive from a source about behavior of a person they do not know. As a measure of implicit attributions the level of linguistic abstraction of participants' subsequent descriptions of that person's behavior was taken.

I want to focus on two types of relationships here. First, the source, the one giving a description of a person, can be talking about a friend or an enemy (the actor). Second, the source can be a friend or an enemy of the person that is receiving the description (the receiver), who subsequently may communicate the information to another person. I propose that although, for example, the behavior of an enemy of a friend at an explicit level is negatively attributed by a receiver (i.e., positive behavior is attributed more to the situation and negative behavior is attributed more to the person), at an implicit level the actor can be more strongly associated with the concept friend when the friendly relationship between the source and the receiver is more salient than the unfriendly relationship between the source and the actor. This association might then lead to congruent implicit attributions in language abstraction.

Associative versus rule-based processing

This line of reasoning is consistent with current dual processing models in social psychology (e.g., Chaiken & Trope, 1999) and the general idea of an *associative processing mode* and a *rule-based processing mode* (Smith & DeCoster, 2000). Associative processing builds on associations and occurs automatically. Rule based processing uses intentionally accessed rules and occurs with sufficient motivation and capacity. My general argument is that implicit attributions are guided by more associative processing, and explicit attributions are guided by more rule-based processing.

As indicated, language abstraction is used as a measure of implicit attributions. I certainly do not want to imply that language abstraction *per se* is guided more by associative processing. A prominent example of how language abstraction is influenced by rule-based processing is the research on the influence of explicit communication goals on biased language use (Douglas & Sutton, 2003). Douglas and Sutton showed that when one has the goal to depict a person in a positive (negative) way, positive (negative) behavior is described

more abstractly than negative (positive) behavior. But, in the case under discussion, when an unknown actor's behavior is described, I venture that only associative processes influence the level of linguistic abstraction. This is because, as mentioned before, when the actor is unknown, there is no apparent reason to depict the actor positively or negatively.

An issue that will not be scrutinized in the current studies is *when* the concepts "friend" and "enemy" influence the level of linguistic abstraction of descriptions via associative processes. Of course, some theoretical arguments can be made. As mentioned in Chapter 1, both associative and rule-based processes may be of influence either during the encoding stage, when information is stored in memory, or during the retrieval and communication stage. I propose that salient concepts (e.g., "friend" or "enemy") may influence language use most likely in an implicit manner, for example via biased encoding. As the studies in the first two empirical chapters have shown, biased encoding may lead to biased language use. Therefore, one can conclude that associative processes may influence the production of biased language during the encoding stage.

Results in other research areas also hint at the role that associative processes play during encoding. Specifically, two findings speak of the importance of associative processing during the encoding stage. First, implicit processes can easily be influenced by primed associations (e.g., Higgins et al., 1977; for an overview see, Higgins, 1996). For example, in a classical study Higgins et al. unobtrusively presented some of the participants with applicable trait terms (e.g., "self-confident" or "conceited") before they read an ambiguous description of a person. Participants who were primed with the trait construct subsequently used these to characterize the person (i.e., a more positive characterization when "self-confident" was primed, than when "conceited" was primed). The idea is that salient constructs like "friend" and "enemy" may influence the level of linguistic abstraction of descriptions of actors in a similar way. The general finding is that primed associations can influence judgments. Based on the relationship between the source and the actor or the relationship between the source and the participant "friend" or "enemy" is primed. The judgments these primes influence are in this case the implicit attributions inherent in language abstraction.

Second, people seem to be unable to make negations on an implicit level (e.g., Deutsch, Gawronski, & Strack, 2003; as cited in Strack & Deutsch, 2004) and, more generally, implicitly believe a statement before they explicitly can discard is (e.g., Gilbert, 1991; Gilbert, Krull, & Malone, 1990; Gilbert, Tafarodi, & Malone, 1993). For example, Gilbert et al. (1990, Study 1) presented participants with statements regarding supposedly Hopi Indian words (e.g., "A twyrin is a doctor"). In actuality all supposedly Hopi Indian words (e.g., "A

twyrin") were nonsense words. After reading a statement, participants were presented with the signal word "true" of "false", that indicated whether the statement was correct or not. On some of the trials, the presentation of the signal word was interrupted by a tone, on which participants had to respond by pressing a button. The interruption reduced the amount of correct identification of false statements, but had no effect on the correct identification of the true statements. This is in an indication that all statements, true or false, are initially represented as true. So, if an unknown person is associated with the concept "friend" or "enemy", it is likely that on an implicit level it is believed that this person is a friend or an enemy, because people are unable to make negations on an implicit level (e.g., "He is a friend of the person telling me about him, but that does not make him my friend"; or "The person telling me about him is my friend, but that does not make the actor my friend"). Based on these two lines of research, one can assume that not only expectations influence the encoding of the behavior of a person (as in traditional LIB/LEB research), but also more simple associations. The idea is that temporarily accessible concepts that are applicable to the person (e.g., "friend" or "enemy") can alter the level of abstraction with which that person's behavior is encoded, and consequently retrieved and communicated.

The current studies

To start, in Study 4.1 I focused on what happens when the source and the receiver (the participant) have no relationship, and the source describes an actor who is their friend or enemy. In this case it is unlikely that receivers will take into account the relationship between source and actor in explicit attribution judgments about the actor; after all, this person is not a friend or enemy of themselves. It was however expected that when the actor is depicted as a "friend" or an "enemy" the activation of these concepts in itself will lead to an effect on implicit attributions made (i.e., language abstraction). To briefly recapitulate the line of reasoning: because primed associations can influence judgments (e.g., Higgins et al., 1977), and people are unable to make negations on an implicit level (Deutsch et al., 2003), participants will describe the person in a way that is congruent with the activated association. The expectation is that when the actor is a friend of the source, the positive behavior will be described more abstractly than the negative behavior, and when the actor is an enemy of the source, the negative behavior will be described more abstractly than the positive behavior. Although these expectations seem logical in terms of activation and association, the effects would be remarkable in the setting of language abstraction research, because the actor described by the source has no (direct) relationship with the participant.

Study 4.1

Method

Participants

A total of 97 students (19 men and 78 women; Mean age = 21.43) from the University of Amsterdam participated in this study, and received course credit or € 3.50.

Design

The experiment consisted of a 2 (relationship of source with actor: friend vs. enemy) x 2 (order of story presentation: first positive vs. first negative) x 2 (behavior: positive vs. negative) design, with the last variable varying within participants.

Procedure

The experiment was run on Pentium 4 computers with Windows XP, and was described to participants as "a study on information processing." All participants read a positive and a negative story about a man named Erik. Order was controlled for (order of story presentation manipulation). Beforehand, participants were told that a participant in a previous study had written the stories, and that immediately after reading the stories they would be asked some questions. The previous participant was supposedly asked to write a positive and a negative story about a friend or an enemy (relationship of source with actor manipulation). In each story, Erik engaged in a total of ten behaviors. Three of these descriptions were constructed with a DAV, six with an IAV, and one with a SV (see the LCM; Semin & Fiedler, 1988, 1991, 1992). Examples of some positive and negative descriptions are: "Erik kicked him" (- DAV), "He made people laugh" (+ IAV), and "He loves to take the initiative" (+ SV). Moreover, in each story Erik is described with two adjectives as well, for example, Erik is "aggressive" (- ADJ). The total number of descriptions of Erik in each story (positive and negative) was therefore 12 (ten verbs and two adjectives).

Subsequently participants received eight questions, four about the positive and four about the negative story. These questions were adapted from Wigboldus et al. (2000) and Maass et al. (1989, Study 3) and were developed to measure to what extent behaviors are dispositionally attributed. Each question was asked for the positive as well as the negative story, in the same order as the stories were presented in. Participants were asked the extent to which the behavior of the actor was the result of (1) "the qualities of the person"; (2) "the

situation the person is in"; or (3) "the situation or the personality of the person." The first two questions could be answered by rating a 501-pixels visual analogue scale (VAS) ranging from *not at all* (0) to *very much* (500) and the third question by rating a 501-pixels VAS ranging from *completely situation* (0) to *completely personality* (500). Subsequently, participants were asked to estimate the chance that the actor would behave, in general, as in the positive and the negative story. This question could be answered by typing in a percentage.

At this point the study seemed finished, and participants joined an unrelated study on the same computer for approximately half an hour. After this filler task, participants unexpectedly were told they were going to continue with the first study that was not finished after all. They were prompted to relate the stories they had read in their own words to an unspecified participant in a future study, by typing it into the computer. It was stated with emphasis that the task was not about recalling the story as literally as possible. Then, participants were debriefed and dismissed.

Dependent variables

The first dependent variable consisted of the level of linguistic abstraction of the positive and negative behaviors. An independent rater familiar with the LCM and its scoring criteria coded each story. The rater was blind to experimental conditions. First, every verb and adjective referring to behavior of the target of the stories was coded according to the LCM. These were then scored from 1 to 4 in order of abstractness: DAV = 1; IAV = 2; SV = 3; ADJ = 4 (Semin & Fiedler, 1988, 1991, 1992). The mean level of abstraction for both positive and negative behaviors was computed by adding the scores and dividing them by their number. The mean level of abstraction for both the positive and negative behaviors could therefore vary between 1 (only DAVs) and 4 (only ADJs). A second rater that was blind to experimental conditions also coded the stories. The inter-rater reliability was satisfactory (r = .76).

The second dependent variable also consisted of two scores, based on the dispositional inferences questions, one for the positive and one for the negative story. For this purpose, the question that examined whether participants attributed behavior to the situation was reverse coded. Subsequently, for each of the four questions the mean was taken of the z-scores (see also Wigboldus et al., 2000). The higher the score, the more the behaviors were attributed to the person (Cronbach's alpha = .71).

Results

Language abstraction

The mean abstraction-levels of the descriptions of positive behaviors on the one hand and negative behaviors on the other were compared in a 2 (relationship of source with actor: friend vs. enemy) x 2 (order of story presentation: first positive vs. first negative) x 2 (behavior: positive vs. negative) ANOVA, with the last variable varying within participants.

The only significant effect was the expected two-way interaction between relationship of source with actor and behavior, $F(1, 93) = 4.28$, $p = .04$, $\eta^2 = .04$ (see Table 4.1). When the actor was an enemy of the source, negative behaviors were described more abstractly than positive behaviors, $F(1, 96) = 6.06$, $p = .02$, $d = 0.04$. When the actor was a friend of the source, no significant difference between positive and negative behaviors was found, $F(1, 96) = 0.18$, $p = .67$.

Explicit dispositional inferences

The explicit dispositional inferences were compared in the same 2 x 2 x 2 ANOVA as the level of linguistic abstraction. None of the effects were significant.

Table 4.1

Mean Level of Abstraction of Descriptions of Positive and Negative Behaviors as a Function of Relationship of Source with Actor in Study 4.1

Relationship of source with actor	Behavior	
	Positive	Negative
Friend ($n = 45$)		
M	2.35 $_{ab}$	2.32 $_{ab}$
SD	0.32	0.48
Enemy ($n = 52$)		
M	2.25 $_{a}$	2.41 $_{b}$
SD	0.31	0.36

Note. $N = 97$. The mean abstraction level varies between 1 and 4. Higher values stand for a higher level of linguistic abstraction. Cell means in rows and columns not sharing the same subscript differ significantly from each other ($p < .05$).

Discussion

The results showed that the relationship between the source and the actor had no influence on the explicit attribution measure, but did influence the implicit attribution measure, namely language abstraction. When the actor was an enemy of the source, negative behavior was described more abstractly than positive behavior. The explanation is that participants were primed with the relationship between the source and the actor, which unintentionally resulted in biased language use.

Study 4.2

In Study 4.1 the source and the participant had no relationship, and as expected no effect was found on the explicit attributions. In Study 4.2, I aimed to demonstrate an effect on the explicit measures in addition to an effect on the implicit measure. Therefore the relationship between the source and the participant was manipulated, in addition to the relationship between the source and the actor (as in Study 4.1). Specifically, participants were asked to imagine that the source was a friend or an enemy, and to give a short description of this person. I expected that participants would take into account both relationships in their explicit attributions. The expectation was that when the source is a friend of the participants, they attribute positive behavior more dispositionally than negative behavior when the actor is a friend of the source. Also, when the source is a friend of the participants, they will attribute negative behavior more dispositionally than positive behavior when the actor is an enemy of the source. On the other hand, when the source is an enemy of the participants, they should attribute positive behavior more dispositionally than negative behavior when the actor is an enemy of the disliked source, and negative behavior more dispositionally than positive behavior when the actor is a friend of this source.

Also, in Study 4.2, I aimed to show an effect of the relationship between the source and the participant on language abstraction, instead of the effect of the relationship between the source and the actor that was found in Study 4.1. As stated earlier, participants were asked to imagine that the source was a friend or an enemy, and to give a short description of this person. This task makes the relationship between the source and the participant more salient than the relationship between the source and the actor that was paramount in Study 4.1. The expectation was that especially the more salient relationship between the source and the participant would influence the level of linguistic abstraction of the descriptions. Positive behaviors described by a friend and negative behaviors described by an enemy would be described more abstractly than the negative behaviors described by a friend and the positive behaviors

described by an enemy, independent of whether this source wrote about his friend or his enemy. On a more implicit level the concept friend or enemy will be more accessible as a result of the high salience of the relationship between the source and the participant. Therefore, in Study 4.2 the level of abstraction of the descriptions will be determined primarily by this relationship.

Method

Participants

A total of 68 students (16 men and 52 women; Mean age = 19.97) from the University of Amsterdam participated in this study, and received course credit or € 3.50.

Design

The experiment consisted of a 2 (relationship of source with participant: friend vs. enemy) x 2 (relationship of source with actor: friend vs. enemy) x 2 (order of story presentation: first positive vs. first negative) x 2 (behavior: positive vs. negative) design, with the last variable varying within participants.

Procedure

The procedure was the same as in Study 4.1, except that participants were asked to imagine that the source was either a friend or an enemy (relationship of source with participant manipulation).

As in Study 4.1, participants were told that a participant in a previous study had written two stories (positive and negative) about a friend or an enemy (relationship of source with actor manipulation), and that immediately after reading the stories they would be asked some questions. Subsequently, participants were asked to imagine that the source was a friend or an enemy, and to give a short description of this person (relationship of source with participant manipulation). This was the only difference between Study 4.2 and Study 4.1.

Finally, as in Study 4.1, participants received the eight questions that were developed to measure to what extent behaviors are dispositionally attributed, and, after a filler task, were prompted to relate the stories they had read in their own words to an unspecified participant in a future study.

Dependent variables

A rater familiar with the LCM (Semin & Fiedler, 1989, 1991, 1992) and its scoring criteria coded each story in the same way as in the previous study. An independent rater coded one third of the stories. Both raters were blind to

experimental conditions. The inter-rater reliability was satisfactory (r = .77). Also as in the previous study, two scores were calculated based on the dispositional inferences questions, one for the positive and one for the negative story (Cronbach's alpha = .64).

Results

Language abstraction

The mean abstraction-levels of the descriptions of positive behaviors on the one hand and negative behaviors on the other were compared in a 2 (relationship of source with participant: friend vs. enemy) x 2 (relationship of source with actor: friend vs. enemy) x 2 (order of story presentation: first positive vs. first negative) x 2 (behavior: positive vs. negative) ANOVA, with the last variable varying within participants.

The expected two-way interaction between relationship of source with participant and behavior was significant, $F(1, 60) = 6.08$, $p = .02$, $\eta^2 = .08$ (see Table 4.2). When the source was a friend of the participant, the positive behavior was described significantly more abstractly than the negative behavior, $F(1, 67) = 4.33$, $p = .04$, $\eta^2 = .06$. Note that this effect was found

Table 4.2

Mean Level of Abstraction of Descriptions of Positive and Negative Behaviors as a Function of Relationship of Source with Participant in Study 4.2

Relationship of source with participant	Behavior	
	Positive	Negative
Friend (n = 35)		
M	2.32 $_b$	2.16 $_a$
SD	0.34	0.39
Enemy (n = 33)		
M	2.08 $_a$	2.16 $_a$
SD	0.23	0.31

Note. N = 68. The mean abstraction level varies between 1 and 4. Higher values stand for a higher level of linguistic abstraction. Cell means in rows and columns not sharing the same subscript differ significantly from each other ($p < .05$).

independent of the relationship between the source and the actor. When the source was an enemy of the participant, no significant difference between positive and negative behaviors was found, $F(1, 67) = 0.82$, $p = .37$.

The only other significant effect was a main effect of relationship of source with participant, $F(1, 60) = 5.43$, $p = .02$, $\eta^2 = .08$, that could be explained with the above-mentioned two-way interaction between relationship of source with participant and behavior. Behaviors were described more abstractly when the source was a friend of the participant, than when the source was an enemy of the participant (respectively $M = 2.24$, $SD = 0.26$, and $M = 2.12$, $SD = 0.17$).

Explicit dispositional inferences

The explicit dispositional inferences were compared in the same 2 x 2 x 2 x 2 ANOVA as the level of linguistic abstraction. The expected three-way interaction between relationship of source with participant, relationship of source with actor and behavior was significant, $F(1, 60) = 4.32$, $p = .04$, $\eta^2 = .06$ (see Table 4.3). This three-way interaction could be explained by looking at the two-way interaction between relationship of source with actor and behavior discussed before, per condition of relationship of source with participant. When the source was a friend of the participant, the two-way interaction between relationship of source with actor and behavior was significant, $F(2, 66) = 6.91$, $p < .01$, $\eta^2 = .17$. When the source was a friend of the participant, positive behavior was more dispositionally attributed than negative behavior when the source was a friend of the actor, $F(1, 67) = 6.70$, $p = .01$, $\eta^2 = .09$, whereas negative behavior was more dispositionally attributed than positive behavior when the source was an enemy of the actor, $F(1, 67) = 6.01$, $p = .02$, $\eta^2 = .08$. When the source was an enemy of the participant, the two-way interaction between relationship of source with actor and behavior was not significant, $F(2, 66) = 0.44$, $p = .65$.

In addition, a significant two-way interaction between relationship of source with actor and behavior was found, that was qualified by the above mentioned expected three-way interaction, $F(1, 60) = 8.80$, $p < .01$, $\eta^2 = .04$. When the actor was a friend of the source, positive behaviors were marginally more dispositionally attributed than negative behaviors (respectively $M = 0.19$, $SD = 0.61$, and $M = -0.03$, $SD = 0.75$), $F(1, 67) = 3.32$, $p = .07$, $\eta^2 = .05$. When the actor was an enemy of the source, negative behaviors were more dispositionally attributed than positive behaviors (respectively $M = -0.29$, $SD = 0.69$, and $M = 0.05$, $SD = 0.66$), $F(1, 67) = 5.17$, $p = .03$, $\eta^2 = .07$.

The only other significant effect was an unexpected main effect of order, $F(1, 60) = 4.98$, $p = .03$, $\eta^2 = .07$. Behaviors were more dispositionally attributed when the negative behaviors were judged first, than when the

Table 4.3

Dispositional Attributions of Positive and Negative Behavior as a Function of Relationship of Source with Participant and Relationship of Source with Actor in Study 4.2

Relationship of source with actor	Behavior	
	Positive	Negative
	Source is a friend of the participant	
Friend (n = 23)		
M	0.25 $_{c}$	-0.16 $_{b}$
SD	0.53	0.67
Enemy (n = 12)		
M	-0.48 $_{a}$	0.05 $_{b}$
SD	0.76	0.68
	Source is an enemy of the participant	
Friend (n = 18)		
M	0.11 $_{bc}$	0.13 $_{b}$
SD	0.70	0.82
Enemy (n = 15)		
M	-0.12 $_{abc}$	0.04 $_{b}$
SD	0.61	0.66

Note. N = 68. Values are z-scores. The higher the value, the more behavior was dispositional attributed. Cell means in rows and columns not sharing the same subscript differ significantly from each other ($p < .05$).

positive behaviors were judged first (respectively M = 0.14, SD = 0.61 and M = -0.15, SD = 0.50).

Discussion

As expected, when the source was a friend of the participant, the actors' positive behavior was described more abstractly than the actors' negative behavior, independent of whether the actor was a friend or an enemy of the source. Whereas in Study 4.1 the relationship between the source and the actor influenced the level of linguistic abstraction of the descriptions, this time the relationship between source and participant influenced the level of linguistic abstraction of the descriptions. This effect is remarkable in the sense that the implicit attributions of the actor are influenced by a relationship this actor had

no part in (the relationship between the source and the participant). This is a strong indication that at an implicit level the relationship that is the most salient may influence how behaviors are communicated.

Furthermore, an interaction effect was found between both relationships on the explicit judgments. When the source was a friend of theirs, participants attributed positive behavior of a friend of that friend relatively more to personality than negative behavior. It seems as if participants made a distinction between a friend of a friend and an enemy of a friend on an explicit level, but not at an implicit level. This finding is congruent with the more general finding that people are unable to make negations on an implicit level, but, of course, are able to make these computations on an explicit level (Deutsch et al., 2003).

Unexpectedly, no effect was found on the explicit judgment when the source was an enemy of the participants. It is possible that participants do not take the information they receive from an enemy seriously, and discard it as unreliable, as a result of which no effects were found on the explicit measure. In a similar vein, research on persuasion has shown that people tend to be influenced by in-group sources, but not by out-group sources (e.g., Mackie, Worth, & Asuncion, 1990). If friends can be compared to in-group members and enemies to out-group members, this could explain why no effect is found on the explicit judgment when the source is an enemy. Nevertheless, this null effect was unexpected.

Study 4.3

A possible comment on the first two studies is that only in Study 4.2 has the source a relationship with the actor as well as the participant. When the source has a relationship with the participant, maybe this relationship will always be more salient than the relationship between the source and the actor, because the participant is now part of it. That would mean that in Study 4.1 no effect of the relationship between the source and the actor on the implicit attributions was found, only because the source had no relationship with the participant. In Study 4.3 I aimed to demonstrate that the relationship between the source and the actor may influence implicit attributions even when the source has a relationship with the participant. It simply depends on what relationship is most salient.

Because the task to imagine that the source was a friend or an enemy seemingly made this relationship the most salient one in Study 4.2, I tried to ensure that the relationship between the source and the actor was the more salient one in Study 4.3. Therefore, in Study 4.3 participants received the same

stories as in the previous studies, but this time it was emphasized at the beginning of the stories that the source wrote about a friend or an enemy. As in Study 4.2, the stories were presented after participants received information about the relationship between the source and the actor, and wrote a story about the source. In this way, participants were primed with the relationship between the source and the actor at the moment they were starting the encoding of the behavioral information in the stories. This should make the relationship between the source and the actor the most salient one.

Study 4.3 focused on the situation that the source is an enemy of the participants, to further scrutinize the condition of Study 4.2 in which unexpectedly no effect was found, possibly because the participants give no credence to a hostile source. All participants were asked to imagine that the source was an enemy and to describe this person

The idea was again that the most salient relationship would influence the encoding of the behaviors, which in turn would result in biased language use (the measure of implicit attributions). Therefore, the expectation was that positive behavior of a friend and negative behavior of an enemy of the source would be described more abstractly than negative behavior of a friend and positive behavior of an enemy of the source, despite the fact that these were friends and enemies of a hostile source.

For the explicit attributions it is of no importance which relationship is the most salient during the encoding of the behavioral information. Therefore, with respect to the explicit attributions, Study 4.3 is a replication of the condition in Study 4.2 where the participants were asked to imagine that the source was an enemy. I therefore expected no effect on the explicit judgments, and thus was planning to replicate the unexpected null effect finding of Study 4.2.

Method

Participants

A total of 76 students (18 men and 58 women; Mean age = 21.24) from the University of Amsterdam participated in this study, and received course credit or € 3.50.

Design

The experiment consisted of a 2 (relationship of source with actor: friend vs. enemy) x 2 (order of story presentation: first positive vs. first negative) x 2 (behavior: positive vs. negative) design, with the last variable varying within participants.

Procedure

The procedure was the same as in Study 4.2, except that in the stories, the relationship between the source and Erik (the actor) was emphasized. As in the previous two studies in this chapter, participants were told that a participant in a previous study had written two stories (positive and negative) about a friend or an enemy (relationship of source with actor manipulation), and that immediately after reading the stories they would be asked some questions. Subsequently, as in Study 4.2, participants were asked to imagine that the source was an enemy, and to give a short description of this person (relationship of source with participant manipulation). But, in Study 4.3 the relationship between the source and Erik (the actor) was emphasized. Specifically, at the beginning of each story it was stated: "Erik is a good friend of mine" (friend condition), or "Erik is someone I do not like" (enemy condition). In this way, the relationship between the source and actor was primed at the moment participant were starting to encode the behavioral information.

Finally, as in the previous two studies, participants received the eight questions that were developed to measure to what extent behaviors are dispositionally attributed, and, after a filler task, were prompted to relate the stories they had read in their own words to an unspecified participant in a future study.

Dependent variables

An independent rater familiar with the LCM (Semin & Fiedler, 1988, 1991, 1992) and its scoring criteria coded each story in the same way as the previous studies. A second independent rater coded one third of the stories. Both raters were blind to experimental conditions. The inter-rater reliability was satisfactory (r = .75). Also as in the previous studies the dispositional inferences questions were used to calculate dispositional inference scores (Cronbach's alpha = .68).

Results

Language abstraction

The mean abstraction-levels of the descriptions of positive behaviors on the one hand and negative behaviors on the other were compared in a 2 (relationship of source with actor: friend vs. enemy) x 2 (order of story presentation: first positive vs. first negative) x 2 (behavior: positive vs. negative) ANOVA, with the last variable varying within participants.

The only significant effect was the expected two-way interaction between relationship of source with actor and behavior, $F(1, 72) = 4.32$, $p = .04$, $\eta^2 = .06$ (see Table 4.4). When the actor was a friend of the source, positive behavior was described more abstractly than negative behavior, $F(1, 74) = 4.11$, $p = .05$, $\eta^2 = .05$. When the actor was an enemy of the source, no significant difference between positive and negative behaviors was found, $F(1, 74) = 0.94$, $p = .34$.

Explicit dispositional inferences

The explicit dispositional inferences were compared in the same 2 x 2 x 2 ANOVA as the level of linguistic abstraction. None of the effects were significant.

Discussion

Studies 4.1 and 4.2 were replicated, in that the level of linguistic abstraction of the behaviors was influenced by the most salient relationship. This time, as in Study 4.1, the relationship between the source and the actor influenced language abstraction. Even though the source was an enemy of participant, positive behavior of a friend of this source and negative behavior of an enemy of this source was described more abstractly than negative behavior of a friend and positive behavior of an enemy.

No effects were found on the explicit measure, replicating the condition in Study 4.2 in which the source was an enemy of the participant. Apparently,

Table 4.4

Mean Level of Abstraction of Descriptions of Positive and Negative Behaviors as a Function of Relationship of Source with Actor in Study 4.3

Relationship of source with actor	Behavior	
	Positive	Negative
Friend (n = 36)		
M	2.37 $_b$	2.22 $_a$
SD	0.35	0.35
Enemy (n = 40)		
M	2.17 $_a$	2.24 $_a$
SD	0.27	0.32

Note. N = 76. The mean abstraction level varies between 1 and 4. Higher values stand for a higher level of linguistic abstraction. Cell means in rows and columns not sharing the same subscript differ significantly from each other ($p < .05$).

the fact that the source was an enemy of the participants did not result in sufficient motivation to judge the friend or enemy of the source differently than a neutral person. As was shown in Study 4.2, it seems that when the source is a friend of theirs, people are more motivated to judge the actor differently on explicit measures.

General discussion

In the studies presented, participants received information via another person (the source) about a person unknown to them (the actor). The actor was a friend or an enemy of the source, and in the different studies, the source was unknown to the participant (Study 4.1), a friend (Study 4.2), or an enemy (Studies 4.2 & 4.3). The implicit and explicit attributions participants made on the basis of the behavior of the actor were measured.

The most important conclusion that can be based on these studies is that the implicit attributions people make on the basis of behavior of a friend or an enemy, of a friend or an enemy may depend on only one of the two relationships, that between the source and the actor, or between the source and the participant. Behavior was described more abstractly when congruent with the relationship between the source and the actor (Studies 4.1 & 4.3), or congruent with the relationship between the source and the participant (Study 4.2). This suggests that in these cases it is an associative process that leads to biased language use. Activated constructs such as "friend" and "enemy" result in biased descriptions of an unknown person. These salience effects found on language abstraction can be seen as a specific example of a more general priming-effect. Although these kinds of effects have been studied extensively in other domains (for an overview see Higgins, 1996), they have never been shown in the language abstraction domain. The implications of these findings are far reaching, because in this way we not only form impressions of unknown actors based on situational associations, but also communicate this impression in an implicit manner to another person. As previous research has shown biased language results in biased attributions of the receivers (e.g., Maass et al., 1989, Study 3; Wigboldus et al., 2000, 2006). The implication is that the initial impressions of a person that were initially based on coincidental associations may have a life of their own when communicated to other persons.

Furthermore, the results of Studies 4.2 and 4.3 showed that with respect to explicit attributions people take both relationships into account, but only if the source is their friend. A possible explanation for this effect is that people do not take seriously information of an enemy source and that they discount it as unreliable. Whatever the case may be, I find that people take into account both type of relationships in their explicit attributions. The results of the studies

presented are congruent with the idea of an associative processing mode and a rule-based processing mode (Smith & DeCoster, 2000). It seems associative processing influences the implicit attributions more, and rule-based processing influences the explicit attributions more.

Of course, I do not want to state that implicit attributions in language abstraction can never take into account both types of relationships (between source and actor, and between source and participant). Other research already has shown that, if people are clearly motivated and have a certain communication goal, they can alter their language abstraction accordingly (e.g., Douglas & Sutton, 2003). For example, Gil de Montes, Semin, and Valencia (2003) let participants describe the behavior of an actor in a picture, who was a friend or an enemy of the *receiver* of the message. This receiver supposedly was a second participant, with whom participants had to compete or cooperate in an experimental task. If participants had to cooperate, they evaluated the receiver more positively than if participants had to compete (e.g., comparable to a friend vs. enemy manipulation). Gil de Montes et al. found that, in general, participants took into account the relationship between themselves and the receiver, as well as the relationship between the receiver and the actor. For example, when the actor was a friend of the receiver, positive behavior of the actor was described more abstractly than negative behavior of the actor when participants cooperated with the receiver (i.e., were "friends"). But, when the actor was a friend of the receiver, negative behavior of the actor was described more abstractly than positive behavior of the actor when participants competed with the receiver (i.e., were "enemies").

In the studies performed by Gil de Montes et al. (2003) participants' descriptions had a communicative function and participants were motivated to take into account the relationship between them and the receiver and between the receiver and the actor. Describing the behavior of an unknown person to another unknown person, as in the current studies, is less likely to serve a communicative function and to motivate the need to take into account two relationships. Nevertheless, when people take a moment and spend cognitive resources to come to the conclusion that, for example, a friend of an enemy is someone not to be liked, and have the intention to form a negative impression of that person, implicit attributions in language abstraction will most likely be negative (e.g., Study 3.1). Importantly, the starting points for the current studies are situations in which information is more casually processed, as in many instances in daily life. In that case, it is possible that people do not spend the cognitive resources to take into account two relationships, as a result of which the implicit attributions in language abstraction are based on only one of the two relationships.

At first sight, the results of the current studies seem to be in contradiction with research conducted by Gawronski, Walther, and Blank (2005), who showed that the relationship between the source and the target, as well as the relationship between the source and the participant was taken into account not only in explicit, but also in implicit attitudes. For example, in one of their studies participants had to imagine that they had just started a new job, and were interested in getting acquainted with their new colleagues. First, they presented participants pictures of, and three statements about some new colleagues (the sources). Half of these sources was positive and the other half was negative. When a source was positive (negative), the picture was pre-tested to be of an agreeable (not-agreeable) person, and the statements about the person were all positive (negative). Next, participants saw neutral pictures of other new colleagues (the targets) paired with already familiar sources, and it was stated that the source "liked" or "disliked" the target. Subsequently participants completed an explicit attitude measure (Likert-scale likeability ratings) and an implicit attitude measurement (affective priming task). Both explicitly and implicitly, participants liked the targets that were liked by a positive source or were disliked by a negative source more than targets that were liked by a negative source or were disliked by a positive source.

Gawronski et al. (2005) conclude that "cognitive balance affects the encoding of social information" (p.8). The most important difference with the current studies lies in the fact that in the studies of Gawronski et al. participants have an interest in the relationship between them and the target (they imagine him to be a new colleague), while in the studies in this chapter they do not (they do not know the person and have no real or imagined future interest in him). Of course, we can speculate about the effects on language abstraction when people do have an interest in the relationship with the actor of the stories, for example when they expect to meet and have to work with the person in question later on. Probably, in that case people are motivated to take all information into account when reading the behavioral descriptions of the actor, and similar effects as Gawronski et al. have found will show up on a language abstraction measure. This would link, for example, with research by Semin, Gil de Montes, and Valencia (2003), that showed that motivational effects on language abstraction are constrained by having a communicative purpose, and other research that already has shown that if people are motivated, they can alter the level of linguistic abstraction accordingly (e.g., Douglas & Sutton, 2003). In the current studies participants had no interest in the relationship between them and the actor. In this case participants do not take into account both relationship, and consequently only one of the two relationships influences the level of linguistic abstraction of the behavioral descriptions.

Future research could shed more light on the current findings. For example, in addition to the friend and enemy conditions of both relationships, a control condition could be added to explore the exact pattern of results. Also, to be certain that it is indeed the most salient relationship that is affecting language abstraction, measures of construct salience could be used. Moreover, alternative manipulations could be used, focusing on other unrelated constructs influencing language abstraction than the current relationship manipulations.

Conclusion

Importantly, to my knowledge, these studies are the first to show differential effects for implicit and explicit attribution measures when people judge a person they do not know and have no direct interest in. It seems that when people receive information about an unknown person, the language they use in describing this person is influenced by the type of relationship (friend or enemy) that is the most salient. Ironically, people will regularly depict an enemy of a friend (Study 4.2) or a friend of an enemy (Study 4.3) positively (or just as positively as friends of friends) by means of language abstraction. However, on explicit judgments people behave more like the "godfather" in the mafia movie, who with a reassuring pat on the back, whispers in a person's ear: "your friends are my friends and your enemies are my enemies."

Chapter 5: General discussion[8]

This dissertation focused on processes underlying biased language use. An important argument that I have made is that the way information is encoded into memory influences the level of language abstraction of descriptions of behavior. In the introduction the example of two men fighting in public was introduced. The question was: If you had seen the scene of the two fighting men, how would you subsequently describe it to another person?

Summary of the main results

In thinking about factors that influence how you would describe the fighting men, it is likely that your description will be different if one of the men is a skinhead or a priest, your enemy or your friend, and that this can be the result of biased processing at the encoding stage or at the retrieval and communication stage. It has been suggested, but never shown that biased encoding in itself can result in biased language use. The research presented in Chapter 2 established exactly this: Biased encoding in itself can be the cause of biased language use, both in the form of a LEB-effect and a LIB-effect. So, it is possible that you describe the aggressive behavior of the fighting man more abstractly (concretely) only because you encoded the scene differently based on the fact that he is a priest (skinhead) or your friend (enemy).

Of course, biased processing at retrieval and communication, for example based on certain communication goals, can influence the language used in addition to encoding processes. If you have the goal to depict the man in a positive (negative) way, for instance because he is a priest (skinhead) or your friend (enemy), you can adjust the level of abstraction of the descriptions of his behavior accordingly. The research presented in Chapter 3 explored the interplay of processes at either encoding or retrieval and communication in influencing language abstraction. First, the results showed that, as shown before (Douglas & Sutton, 2003), communication goal effects may overwhelm the effects based on biased encoding. To stick with the example, if you have the goal of giving a positive impression of the man, who also happens to be a skinhead, you can adjust your language to accommodate your goal: his positive behavior is described more abstractly than his negative behavior, and no effects

[8] This chapter is partly based on Wenneker & Wigboldus, 2007; Wenneker, Wigboldus, & Spears, 2005.

of the fact that he is a skinhead can be found in the level of abstraction of your descriptions. Of interest, the studies in Chapter 3 showed that under time pressure or self-imposed time constraints, effects of biased encoding reappeared independent of, and in addition to, the effects of communication goals. The amount of cognitive resources available or spent thus seems to be a key factor in determining whether only the communication goals influence the language used, or both the communication goals and the processes at encoding.

If biased encoding in itself can be the cause of biased language use, one may come up with other influences on language use in addition to expectancies and goals. For instance, maybe any relevant concept that is activated during encoding (one of the fighting men is a friend or enemy, not of you, but of someone else) may bias this encoding and result in biased language use. In other words, the idea is that an associative process leads, via encoding, in an implicit manner to biased language use. The research presented in Chapter 4 explored this idea by considering the effects of the salience of the relationships (friends or enemies) between the source and the actor, and between the source and the receiver. The language participants used in describing the actor was influenced by the type of relationship (friend or enemy) that was the most salient. All of the effects on language abstraction were found in the absence of expectancies and communication goals. It seems that on an implicit level (i.e., language abstraction) participants only took into account one of the relationships. On the other hand, when participants were asked to judge the behavior of the actor on an explicit attribution measure, they took into account both types of relationships when the source was their friend. The research in this last experimental chapter gives an example of the ironic effects to which biased encoding can lead: participants gave a positive description of an enemy of a friend, although they indicated on an explicit measure that they attributed the behavior of this person negatively.

The intra- and interpersonal in expectancy and stereotype maintenance

In placing the results in a broader theoretical perspective, one first has to stress that the biased language participants in the current studies produced is of course only the starting point of expectancy and stereotype maintenance. As has been shown, linguistic abstraction is important in this respect, because receivers of freely produced as well as experimentally controlled messages make relatively more situational than dispositional inferences for concrete descriptions, but relatively more dispositional inferences than situational inferences for abstract descriptions (e.g., Maass et al., 1989, Study 3; Wigboldus,

Semin, & Spears, 2000, 2006). Consequently, when the receivers of these messages become senders, the inferences made will show up in language abstraction again, resulting in a vicious circle of stereotype maintenance.

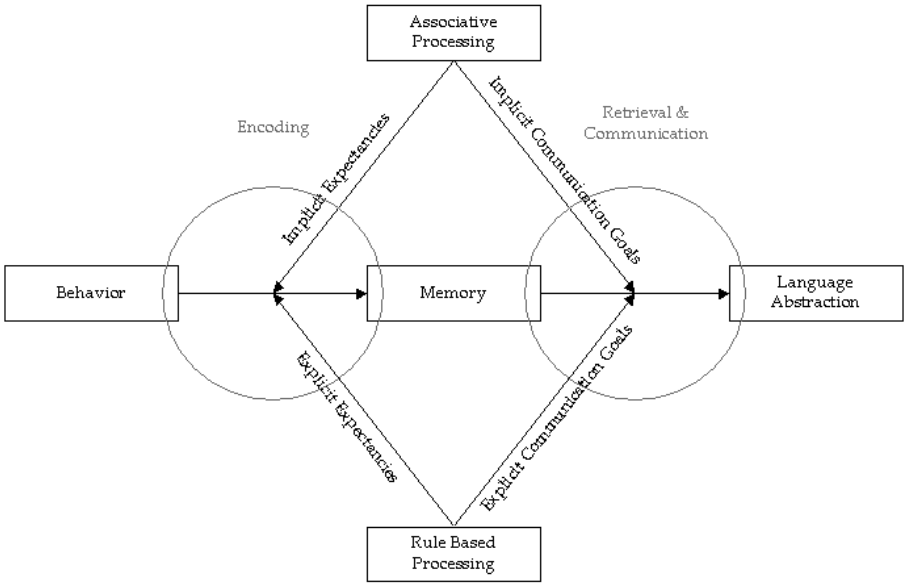
As noted in the general introduction, an important distinction underlying the current studies is that there are two important moments when biased processing may lead to biased language use, namely during encoding or during retrieval and communication (see Figure 1.1). These two processes lead to two independent influences on language abstraction. The conceptualization of two different processes that operate independently of each other can be linked to general theorizing about the more "automatic or associative" and the more "controlled or systematic" processes that underlie thought and behavior (e.g., *dual-process* models; Devine & Monteith, 1999; Fazio, 1986; Fiske & Neuberg, 1990; Smith & DeCoster, 1999; Wegener, Clark, & Petty, 2006; see for overviews, Chaiken & Trope, 1999; Smith & DeCoster, 2000). For instance, Devine (1989) showed in her work on the dissociation between stereotypes and personal beliefs that people can renounce stereotypes and with effort prevent their expression, but under circumstances that prevent the operation of controlled processes stereotypes can affect thought and behavior.

Smith and DeCoster (2000) summarize the general ideas underlying dual-process models and link the two process modes to two memory systems: a slow learning memory system that accumulates long term knowledge, and a fast learning memory system that can record new experiences in a specific context. The *associative processing mode* is based on the properties of the slow-learning memory system in which general representations of the typical properties of the world are stored in an associative fashion. This mode operates automatically and preconsciously. The *rule-based processing mode* uses symbolically represented rules that are structured by language and logic, and is based on both the slow-learning memory system and the fast-learning memory system. This mode operates optionally when one has the motivation and cognitive capacity.

Building on this earlier work, a "dual-process model" underlying biased language use with respect to language abstraction has been proposed: the *biased language model* (BLM, see Figure 5.1; Wenneker & Wigboldus, 2007). It has to be noted that this model outlines the major influences on the level of linguistic abstraction of descriptions of behaviors, in other words *how* information is remembered, and not *which* information is remembered. An important assumption underlying this model is that there are two independent routes to language abstraction. That is, processes that influence language abstraction do so during (1) encoding and (2) retrieval and communication of information. In addition, processes that exert influence during these stages can be divided into (a) associative ones, such as implicit expectancies and

Figure 5.1

The Biased Language Model



associations and implicit communication goals; and (b) rule based ones, such as more explicit expectancies and motives to form an impression and explicit communication goals. Importantly, the idea is not that there is a simple one-on-one relationship between associative processes and encoding effects on the one hand, and rule-based processes and retrieval and communication effects on the other hand. So, in fact this is a dual, dual process model in which the two routes to language abstraction (i.e., encoding vs. retrieval) and the two ways in which these processes may operate (i.e., associative vs. rule based) are orthogonal.

The results of the current studies can be categorized according to the BLM. On the one hand, during encoding expectancies (Chapters 2 & 3), or more general, relevant associations (Chapter 4), influence language abstraction. However, also rule based processes may play a role during encoding, for instance when one has a certain impression formation goal or explicit expectancy (Chapter 3). On the other hand, during the retrieval and communication of information, primarily rule based processes in the form of communication goals will be of influence (Chapter 3). Expectancies and associations may be to a lesser extent of influence during this stage. For instance, in Study 2.1 no effect of a category label was found when presented after the behavioral information. However, expectancies and associations may exert an effect during retrieval and communication to the extent that they

control what information (not) gets activated from memory. For instance, Wigboldus et al. (2005), found no LEB-effect when communicators described information about an in-group member to an in-group receiver. It may be that this intra-group context precluded the accessibility of stereotypical associations. Furthermore, expectancies and associations may guide processing of more ambiguous information during retrieval and communication of information (e.g., Snyder & Uranowitz, 1978). Future research could shed light on if, and if so when, effects of associative based processing are of influence on language abstraction during the retrieval and communication stage.

When exploring the BLM, the question arises to what extent the two routes to language abstraction represent more "automatic" or more "controlled" processes. In respect to this, we should take into account the four horseman of automaticity, namely awareness, intention, efficiency, and control (e.g., Bargh, 1994). First, effects due to biased encoding mostly seem to be unintentional, unconscious, and effortless, but controllable. Therefore, these encoding effects are always in position to "automatically" influence language use, when we do not have the cognitive capacity to control them (Chapter 3). These encoding effects can be based on seemingly arbitrary salient concepts, like the relationship between the source and the actor or the source and the receiver (Chapter 4). The results of the studies in Chapter 3 further indicate that *resisting* these automatic effects consumes cognitive capacity. Because the language people use is influenced by much more than subtle biased encoding, its effects can be easily overwhelmed, but that does not mean that the biased encoding has disappeared. As was shown in Studies 3.1 and 3.2, under the "right" circumstances, biased encoding will re-emerge to exert its own influence.

Second, effects due to biased retrieval and communication, such as the *explicit* communication goals investigated by Douglas and Sutton (2003) and in the studies in Chapter 3, are controllable and seem to operate intentionally, and consciously. In other words, they influence language use "strategically." Communication goals may exert a strong influence on language use and seem to operate under all conditions. In principle, the available cognitive capacity should influence effects due to explicit communication goals to the extent that they are driven by rule based processing (for which motivation and sufficient cognitive capacity is required). However, in Studies 3.1 and 3.2 the available cognitive capacity does not seem to influence effects due to communication goals. One could argue that one reason why these interpersonal effects are not affected by load may be that (unlike encoding) none of the manipulations required participants to resist them. In pursuing the communication goals participants were simply following the instructions. Nevertheless, I would like to argue that communication goal processes operated *effortlessly* in the current

studies. As noted in Chapter 3, constructing a message while taking into account a communication goal is something people do all the time, from the moment they start learning to speak. Therefore, communication goals may become automated and as a result become highly efficient.

With respect to the intentionality and awareness of communication goal effects, it is important to note that it is generally assumed that people are unaware of their biased language use (e.g., Maass, 1999) and research done so far gives strong indications that support this notion (e.g., Franco & Maass, 1996, 1999).[9] However, as Douglas and Sutton (2003) pointed out, the fact that people have a certain communication goal does not necessarily imply that they are aware that attaining that goal is facilitated by adjusting the level of linguistic abstraction of their language. Although it seems somewhat counter-intuitive, strategic language use can be "unintentional" (see Maass, 1999), because *linguistic abstraction* can be used as a tool of which people are unaware. Explicit communication goal effects thus can be seen as "intentional" in the sense that they are strategic, but "unintentional" in the sense that people are (mostly) unaware of the tool they use to reach their goal (i.e., "goal-dependent automaticity"; see Bargh, 1994). Encoding effects on the other hand, can be seen as "unintentional" in both respects.

Recent research has demonstrated that also goals may be activated implicitly (e.g., Aarts, Gollwitzer, & Hassin, 2004; Bargh, Gollwitzer, Lee-Chai, Barndollar, & Trötschel, 2001; Chartrand & Bargh, 1996; Custers & Aarts, 2005; Kawada, Oettingen, Gollwitzer, & Bargh, 2004). In the BLM, implicit communication goals are examples of associative based processes operating during the retrieval and communication stage. It seems likely that the effects of implicit communication goals will be less "blunt" and will have a harder time overwhelming encoding effects such as the ones found in the current studies. For example, implicitly activating the goal to portray oneself as likeable probably will result in relatively abstract positive descriptions of others. In addition, future studies could measure encoding effects with other (more direct) implicit measures than language abstraction (i.e., accessibility measures). Most likely, the encoding effects I have found in language abstraction can be shown as well (and with even stronger results) with these kinds of measures.

Finally, it is interesting to note that the current results can also be linked to recent work in the attitude domain, in which similar results are found

[9] Of course, language production *in itself* is an intentional process of which people are very well aware, and in some cases their awareness of biased language use seems probable, for instance, when making abundant use of adjectives ("what a very sweet, beautiful, and adorable girl").

with respect to implicit and explicit attitudes. For instance, in their *dual attitudes model*, Wilson, Lindsey, and Schooler (2000) propose that an implicit attitude and an explicit attitude can both influence behavior depending on the circumstances. The implicit attitude is more of influence under time pressure or decreased motivation, while the explicit attitude influences responses under "normal" conditions. Furthermore, Petty, Tormala, Briñol, and Jarvis (2006) have shown that if the explicit attitude changes, the implicit attitude, comprising associations, can still influence behavior. So, also in this research domain, more "associative" and more "rule-based" processes influence behavior independently in a similar way as described here.

Memory for stereotype (in)consistent information is not the only thing

Since I make a plea for the idea that biased encoding can result in biased language use, it is interesting to contrast the presented results to the general literature on memory for stereotype (in)consistent information (see for meta analyses, Rojahn & Pettigrew, 1992; Stangor & McMillan, 1992). In general, the conclusion is that if an expectancy is induced *before* the information is presented, inconsistent information is remembered better than consistent information. However, if an expectancy is induced *after* the information, the inconsistent information is remembered worse than the consistent information (e.g., Dijksterhuis & van Knippenberg, 1995; van Knippenberg & Dijksterhuis, 1996).

On the basis of this research, the (erroneous) expectation could be that language use would be *less* biased when an expectancy is introduced before the behavioral information is presented than after this information is presented. The reason for the seemingly contradictory results of the two research traditions is that their foci differ. Research on memory focuses on *what* is remembered, whereas the LIB/LEB research focuses on *how* information is remembered. To give an example, it is possible that a participant in one of my studies has encoded the behavioral information in a biased way and remembers more inconsistent than consistent information. However, what matters is at what level of linguistic abstraction this information is remembered. Knowing *how* people remember and describe information is at least as important as *what* they remember and describe.

Conclusion

The focus of this dissertation was on processes underlying biased language use. A theme underlying the results of all the studies presented is that

the way information is encoded into memory can influence the level of language abstraction of communication, in addition to processes influencing language abstraction during retrieval and communication, such as communication goals. Although in recent years research on language abstraction has focused mainly on interpersonal influences, still more can be learned about the intrapersonal processes underlying biased language use. On the basis of this dissertation, I suggest that a sizeable part of our biased language use is based on (implicit) expectancies, and more general relevant associations, activated during encoding, on top of which rule-based processes such as explicit communication goals have their influence during retrieval and communication. When communication goal effects overwhelm the encoding effects, the amount of cognitive resources is identified as one factor influencing whether these encoding effects resurface in language abstraction. Although people probably are often fully aware of the content of their communication and its impact, they will be regularly and routinely unaware of the level of abstraction of their communication and the results this may have. The implications are far reaching, because in this way impressions and stereotypes are communicated in an implicit manner. As has been shown, biased language results in biased attributions by the receivers (e.g., Maass et al., 1989, Study 3; Wigboldus et al., 2000, 2006). In this way, the biased portrayal of a person that was based, for example, on biased processing during encoding results in a vicious circle of expectancy and stereotype maintenance.

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Samenvatting (Summary in Dutch)

Dit proefschrift richt zich op processen die ten grondslag liggen aan vertekend taalgebruik. Vertekend taalgebruik wordt in dit proefschrift gedefinieerd aan de hand van het niveau van taalabstractie van beschrijvingen van gedrag. Stel je bijvoorbeeld voor dat je twee mannen ziet vechten op straat. Als je later een vriendin vertelt wat je hebt gezien kun je dit op verschillende manieren doen. Als je zegt: "hij was agressief," dan geef je een meer abstracte beschrijving van het gedrag dan als je zegt: "hij gaf de ander een schop." Hoe abstracter de beschrijving van een gedraging, hoe meer dat gedrag wordt toegeschreven aan de persoon en hoe minder dat gedrag wordt toegeschreven aan de situatie. Het is waarschijnlijk dat je het gedrag van de vechtende mannen anders zult beschrijven als één van hen je vriend of vijand, dan wel een priester of een skinhead is. Op deze manier kan er vertekend taalgebruik ontstaan, als positief en/of negatief gedrag impliciet meer of minder aan een persoon wordt toegeschreven, op basis van bijvoorbeeld stereotype verwachtingen of communicatiedoelen.

In Hoofdstuk 1 wordt een overzicht gegeven van de literatuur en wordt er onderscheid gemaakt tussen twee momenten waarop processen van invloed kunnen zijn op het vertekende taalgebruik. Enerzijds kunnen er tijdens het opslaan in het geheugen (encoderen) processen van invloed zijn, anderzijds kan dit nadat de informatie is opgehaald uit het geheugen, tijdens de communicatie ervan. Een belangrijk punt dat ik heb gemaakt is dat de manier waarop informatie wordt opgeslagen in het geheugen van invloed kan zijn op het niveau van taalabstractie van beschrijvingen van gedrag. De studies in Hoofdstuk 2 tonen dit aan. Om bij het voorbeeld te blijven: het is mogelijk dat je het agressieve gedrag van de vechtende mannen meer abstract dan wel concreet beschrijft, enkel omdat je het gebeuren anders hebt opgeslagen in je geheugen op basis van het feit dat één van beiden een vriend of een vijand, dan wel een priester of een skinhead is.

Aan de andere kant kunnen er ook processen van invloed zijn tijdens de communicatie van de informatie, bijvoorbeeld als je op dat moment het doel hebt om iemand positief of negatief af te schilderen. De studies in Hoofdstuk 3 verkennen de wisselwerking tussen processen die spelen tijdens het encoderen van informatie en processen die spelen tijdens de communicatie. Uit de resultaten blijkt dat doelen die actief zijn tijdens de communicatie effecten van processen die invloed hebben tijdens het encoderen van informatie kunnen overschaduwen. Dus, als je het doel hebt een vechtende skinhead positief neer te zetten, dan kun je jouw taalgebruik aan dit doel aanpassen. In dat geval

wordt positief gedrag abstracter beschreven dan negatief gedrag, en is er in het niveau van taalabstractie van de beschrijvingen geen effect te vinden van het feit dat de actor een skinhead is. Van belang is dat in de studies in Hoofdstuk 3 daarnaast wordt aangetoond dat onder reële dan wel zelfopgelegde tijdsdruk de effecten op basis van het vertekend encoderen van informatie weer merkbaar zijn, onafhankelijk van de effecten van een communicatiedoel. De hoeveelheid beschikbare cognitieve capaciteit die men beschikbaar heeft of wil spenderen blijkt dus een sleutelrol te spelen bij de beantwoording van de vraag of enkel doelen tijdens de communicatie of zowel deze doelen als processen tijdens het encoderen van informatie van invloed zijn op het taalgebruik.

Als, zoals aangetoond, het vertekend encoderen van informatie op zichzelf de oorzaak kan zijn van vertekend taalgebruik, dan is een interessante vraag welke factoren tijdens het encoderen nog meer van invloed zijn op taalgebruik, naast verwachtingen en doelen. In Hoofdstuk 4 wordt verondersteld dat elk relevant concept dat wordt geactiveerd tijdens het encoderen van informatie (één van de vechtende mannen is een vriend of vijand, maar niet van jou maar van iemand anders) de opslag van deze informatie kan vertekenen en vervolgens dus kan leiden tot vertekend taalgebruik. In andere woorden, het idee is dat een associatief proces via encodering op impliciete wijze leidt tot vertekend taalgebruik.

De studies in Hoofdstuk 4 verkennen dit idee door het effect van de saillantie van de relatie (vrienden of vijanden) tussen een bron (degene die een beschrijving geeft) en een hoofdpersoon (degene die beschreven wordt), en tussen de bron en de ontvanger van de informatie (de deelnemers). Het niveau van taalabstractie van de beschrijvingen die de deelnemers gaven van het gedrag van de hoofdpersoon werd beïnvloed door het type relatie (vriend of vijand) dat het meest saillant was. Al deze effecten op taalabstractie werden gevonden in de afwezigheid van verwachtingen en doelen. Het lijkt er op dat de deelnemers op een impliciet niveau (niveau van taalabstractie) slechts de meest toegankelijke van beide relaties (tussen bron en deelnemers, of tussen bron en hoofdpersoon) meenamen. Echter, als de deelnemers gevraagd wordt het gedrag van de hoofdpersoon expliciet te beoordelen, blijken ze beide relaties mee te wegen in hun deliberatieve oordeel. Het onderzoek in Hoofdstuk 4 kan als voorbeeld dienen voor de ironische effecten waartoe het vertekend encoderen van informatie kan leiden: de deelnemers gaven een positieve beschrijving van een vijand van een vriend, alhoewel ze op een expliciete maat aangaven dat ze het gedrag van de betreffende persoon negatief beoordeelden.

In Hoofdstuk 5 worden de resultaten van de zeven gepresenteerde studies samengevat, en wordt een model voorgesteld dat alle processen die ten grondslag (kunnen) liggen aan vertekend taalgebruik omvat. Een eerste

onderscheid dat dit model van vertekend taalgebruik maakt is dat tussen de twee besproken momenten waarop processen van invloed kunnen zijn: tijdens het encoderen van informatie, of tijdens het communiceren van informatie. Daarnaast maakt het onderscheid tussen twee typen van processen die op deze beide momenten van invloed kunnen zijn, namelijk associatieve processen en regelgebaseerde processen. Voorbeelden van associatieve processen zijn impliciete verwachtingen en associaties, en voorbeelden van regelgebaseerde processen zijn expliciete verwachtingen en expliciete communicatie doelen.

Samenvattend beschrijf ik in dit proefschrift de mogelijke processen die ten grondslag liggen aan vertekend taalgebruik op basis van de resultaten van een serie van experimentele studies. Dit resulteert in een voorstel van een model van vertekend taalgebruik dat zich richt op de verschillende typen van processen die van invloed zijn (associatief en regelgebaseerd), en op het moment waarop deze processen van invloed kunnen zijn (tijdens het encoderen van informatie en tijdens de communicatie van informatie).

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"We kunnen elkaar begrijpen; maar verklaren kan ieder alleen zichzelf" (Hermann Hesse)

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Clemens Wenneker
April 2007

Biography

On August 20th 1976, during one of the hottest summers of the 20th century in the Netherlands, Clemens was born together with his twin sister Astrid in the Wilhelmina Gasthuis Hospital in Amsterdam. He went to elementary school at the "Nicolaas Maes School," named after a pupil of Rembrandt, from 1982 to 1988. Clemens insisted on going to a high school that was also named after a historical figure, so he went to the "Barlaeus Gymnasium," where he graduated in 1994. After studying Social Psychology at the University of Amsterdam, where he graduated in 1999 *cum laude*, he started his PhD-project at the same university in 2001. Clemens currently lives in Amsterdam with his girlfriend Heidi and twin daughters Femke and Inge, and is working for the Department for Research and Statistics of Amsterdam (O+S).

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