

## Defining deception

Jaume Masip\*, Eugenio Garrido, and Carmen Herrero

University of Salamanca (Spain)

**Abstract:** In view of the relative disagreement among those studying deception as to how deception, the lie, or deceptive communication should be defined, an attempt is made to integrate the views of the most influential scholars in the field in order to formulate a comprehensive and clear-cut definition of deception. The starting point is Coleman and Kay's (1981) elements of the prototypical lie, as well as Gerald Miller's (1983; Miller & Stiff, 1993) notion of "deceptive communication." Deception is defined as the deliberate attempt, whether successful or not, to conceal, fabricate, and/or manipulate in any other way, factual and/or emotional information, by verbal and/or nonverbal means, in order to create or maintain in another or others a belief that the communicator himself or herself considers false. Each term of this definition is discussed in detail and, in doing so, it becomes apparent that several deception theories and a variety of social psychology and communication contributions have been integrated to build it. In addition, some specific implications of the definition, such as the importance that the intentional element (the *deliberate* attempt) has for the legal system, are discussed. The aim of this paper is to contribute to reaching an agreement among social scientists on what should be understood as deception.

**Key words:** Deception; lie; deceit; deceptive communication; detection of deception; lie detection; concealment; falsification.

**Título:** Definición de engaño.

**Resumen:** A la vista del relativo desacuerdo entre quienes estudian el engaño sobre cómo el engaño, la mentira o la comunicación engañosa deben ser definidos, en el presente trabajo se intenta integrar la visión de los autores más influyentes en este campo con el fin de formular una definición del engaño comprensiva y bien delimitada. El punto de partida lo conforman los elementos de la mentira prototípica señalados por Coleman y Kay (1981), así como la noción de "comunicación engañosa" de Gerald Miller (1983; Miller y Stiff, 1993). El engaño se define como el intento deliberado, exitoso o no, de ocultar, generar, y/o manipular de algún otro modo información factual y/o emocional, por medios verbales y/o no verbales, con el fin de crear o mantener en otra(s) persona(s) una creencia que el propio comunicador considera falsa. Cada término de esta definición se discute en detalle y, al hacerlo, resulta evidente que integra varias teorías sobre el engaño y una serie de contribuciones de la psicología social y la comunicación. Además, se discuten algunas implicaciones específicas de la definición, como la importancia que el elemento intencional (el intento *deliberado*) tiene para el sistema legal. El objetivo del artículo es contribuir a alcanzar un acuerdo entre los científicos sociales sobre qué debe entenderse por engaño.

**Palabras clave:** Engaño; mentira; comunicación engañosa; detección de la mentira; ocultamiento; invención.

### Introduction

Most of those researchers who study deception and its detection have made attempts to define the terms "deception" (e.g., Buller & Burgoon, 1994), "lie" (e.g., Ekman, 1985) or "deceptive communication" (e.g., Miller & Stiff, 1993), which we will use interchangeably. It is surprising to see how similar these definitions are to the average person's conception of deception. Coleman and Kay (1981) maintained that word meanings could be based on prototypes (Rosch & Mervis, 1975) rather than on a set of features

that are necessary and sufficient for a case to be placed in a given category, and they demonstrated it with the word "lie." They constructed eight stories and asked 71 respondents to judge whether a particular statement in each story was a lie or not. These statements differed in terms of whether the following three elements were present or absent: *the objective falsity* of the proposition, *the sender's belief in this falsity*, and *his or her intention to deceive* the receiver. Coleman and Kay found that the more of these elements present in a statement, the more likely it was to be labeled a lie. Thus, prototypical lies contain all three elements. The most important of these was the sender's belief, followed by the intention to deceive and, finally, by the objective falsity of the statement.

Similarly, most of the definitions of deception formulated by researchers contain both the

\* Correspondence address [Dirección para correspondencia]: Jaume Masip. Department of Social Psychology and Anthropology, University of Salamanca, Facultad de Psicología, Avda. de la Merced, 109-131, 37005 Salamanca (Spain). E-mail: jmasip@usal.es

intention component and the sender's belief that the information being conveyed is false (e.g., "In social psychology, deception has been defined as a communicator's *deliberate* attempt to foster in others a belief or understanding which the communicator *considers to be untrue*," DePaulo & DePaulo, 1989, p. 1553), and a few mention the objective falsity of such information (e.g., "Deception refers to introducing a *false* belief in another," Hall & Pritchard, 1996, p. xvii). In the words of Leekam (1992):

What does it mean to lie? The answer to this question depends on the definition you adopt given that different writers emphasize different features of lying and take a different approach as to whether these features form necessary conditions or whether the concept of a lie should be viewed as a prototype. All the same, certain aspects seem to be consistently important across several different definitions. In particular, (a) the speaker's belief (i.e., the speaker's belief that their statement is false) and (b) the speaker's intention to deceive the listener (i.e., the speaker's intention to influence the listener's mental state) (p. 50).

Similarly, dictionaries use these very features to define lying and deception. For example, according to Webster's Dictionary, to lie is "to assert something *known* or *believed* by the speaker to be untrue with *intent* to deceive"; the Oxford Concise Dictionary defines lie as "an *intentionally false* statement", deception as "the act or an instance of deceiving", and deceiving as to "make (a person) believe *what is false*, mislead *purposefully*".

Here we try to underline a comprehensive definition of lying that pretends to be useful for social scientists.<sup>1</sup> Like other psychology and communication scholars, we include in our definition both the intention component and the communicator's belief component. Our definition is based on Gerald Miller's (1983; Miller & Stiff, 1993) notion of "deceptive communication", although it is enhanced with several elements from other authors. To sum up: *deception* can be understood as *the deliberate attempt, whether successful or not, to conceal, fabricate, and/or manipulate in any other way factual and/or emotional information, by verbal and/or nonverbal means, in order to create or maintain in another or in others a belief that the communicator himself or herself*

*considers false*. Let us now have a closer look at this definition.

### **Deliberate attempt, whether successful or not...**

First of all there is the element of intentionality. As is pointed out by some authors (Bussey, Lee, & Grimbeek, 1993; Köhnken, 1987, 1989; Lamb, Sternberg, & Esplin 1994; Manzanero & Diges, 1993; Miller, 1983; Miller, Bauchner, Hocking, Fontes, Kaminski, & Brandt, 1981; Stone, 1991; Undeutsch, 1982), a distinction must be made between lies and misinformation. A communicator who cannot remember an event, or whose memory, for whatever reason, has been contaminated (e.g., Davies, 1999; Loftus, 1997) in such a way that he or she gives an inaccurate account of the facts witnessed, would not be lying, but rather committing what Miller (1983) calls an "honest error." The witness would be doing his or her best to provide an accurate account, but could not remember some aspects, or would regard some mistaken information as true. This type of alteration would be, in the words of Köhnken (1987, 1989) "unconscious and unintended."

This marks a difference between merely providing false information and lying. False information may be provided involuntarily, in the erroneous belief that it is truthful, or it may be given deliberately to mislead the other person. In both cases the accuracy of the statement would be deficient, i.e., the account would differ from what really happened. But the reasons for this inaccuracy would be different in each case. If the communicator *cannot* offer an accurate statement, the distortions would be owing to *cognitive* limitations—such as the communicator's memory, intelligence, suggestibility, interferences, linguistic skills, resistance to distraction, etc. In this case, we could not conclude that the sender is lying, since the alterations introduced in the statement would not be deliberate. Another possibility is that the communicator is capable of giving an accurate account but *does not want* to do so. In this case, the inac-

curacy would be due to reasons of a *motivational* type, which would lead to a communication deliberately different from the fact remembered or believed to be remembered correctly. In this case, we could say that the sender is lying.

These cognitive and motivational distortions have been given different names by different authors, as can be seen in Table 1. Hereinafter they will be referred to by the terms “competence” (cognitive sphere) and “credibility” or “veracity” (motivational sphere).

**Table 1:** Distinction Between Giving False Information Non-Intentionally and Intentionally.

	<b>Cognitive Sphere:</b> Is the communicator <i>able</i> to give an accurate account of the facts? <i>Non-Intentional Distortions</i>	<b>Motivational Sphere:</b> Is the communicator <i>willing</i> to give an accurate account of the facts? <i>Intentional Distortions</i>
Undeutsch (1982)	Ability	Witness's willingness to tell the truth
Miller (1983)	Competence	Trustworthiness
Köhnken (1987, 1989)	Accuracy	Credibility
Stone (1991)	Reliability	Credibility
Lamb <i>et al.</i> (1994)	Competence	Credibility
Manzanero (2000)	Precision ( <i>Exactitud</i> )	Credibility ( <i>Credibilidad</i> )
Masip & Garrido (2000)	Competence ( <i>Competencia</i> )	Credibility ( <i>Credibilidad</i> )

As authors interested in what communication and social psychology can offer the legal system, we cannot refrain from inserting the study of competence and credibility within psychological research on eyewitness testimony. We can refer to Well's (1978) classification, which differentiated between system variables and estimator variables. The former are those “that are (or potentially can be) under the direct control of the criminal justice system” (p. 1548), such as interrogation techniques, the way in which criminal line-ups are carried out, etc. Estimator variables are those that “affect the eyewitness's accuracy but are not under the control of the criminal justice system” (p. 1548) and may be divided into characteristics of the crime (e.g., its seriousness, context in which it occurred, etc.) and variables of those involved, that is to say, the defendant and the witness.

One can easily see that both competence and credibility can be included in the latter group. However, as some authors point out (e.g., Bussey *et al.*, 1993; Köhnken, 1989; Undeutsch, 1982, 1984, 1989), whereas research in legal psychology has paid much attention to the topic of the witness's competence, until very recently little attention has been devoted to the credibility of the testimony. Indeed, most of

the experimental studies on the detection of deception from the approach of behavioral correlates –an orientation that the present authors have adopted in their empirical studies– were made in contexts other than legal situations. This is an important omission. It must be taken into account that testimony is used to establish the facts, and on the basis of these facts legal decisions will be made. This is something on which both psychology and law agree. From psychology, for example, Gudjonsson (1992) points out that, given the lack of forensic evidence in many criminal cases, together with the fact that a certain type of information (such as that which refers to intentions, feelings and thoughts) can only be obtained by means of questioning, the interview is often the most important method available for finding out what happened. From law, the Spanish jurist Magaldi (1987) maintains that “testimony is an important substratum, and at times a unique one, from which the Court will acquire the certainty of its belief as to the truth on which it should provide a binding legal solution” (p. 33). In the light of these observations, it seems evident that any distortion of the facts narrated during the statement is worthy of consideration, whether such distortion is due to prob-

lems of competence or to lack of credibility. From this perspective, deception and its detection are of major importance in legal contexts, since they concern the very core of any investigation in these contexts: the establishment of the facts.

This has been recognized by jurisprudence, such that the criminal codes in most countries include the crimes of false accusation and perjury at a trial. Indeed, some legal systems, such as that of the United States (Lykken, 1998; Morris, 1989) or that of Germany (e.g., Steller, 1989; Undeutsch, 1992) allow psychologists, psychiatrists or polygraphers to act as expert witnesses and give evidence as to the veracity of the defendant or witnesses. However, the intentionality in the altering of the information given during testimony is the main element as regards the bringing of charges against the witness whose statement diverges from what really happened. This is because the component of intentionality is of fundamental importance for the legal system, as Ellsworth and Mauro (1998) emphasize when they argue that:

Law seeks to assign responsibility. In order to determine responsibility, the law has to assume free will. Behavior is generally seen as the result of a person's beliefs and desires, not as a result of genetic, historical, or situational forces (p. 686).

Thus, the *involuntary* giving of false information (lack of competence) in testimony, if identified as such (as false) and if it is sufficiently proved that the altering of information by the witness was not deliberate, cannot give rise to any charge of false accusation or false testimony. However, if this false information is a result of a *deliberate attempt* to deceive (motivational sphere) charges may be brought against the witness, regardless of whether this attempt is successful or not (see Frank, 1992). In the words of Magaldi (1987):

It is not so much the effective damage to legal integrity as the danger that any false testimony during a trial has for the purposes of the proceedings, the fundamental point of the general prohibition of any false testimony during the trial; the legislator puts forward the protective barrier penalizing the mere behavior of giving false testimony at a trial even if the false testimony given neither harms nor favors *ex post* the ac-

cused, consequently formulating the concept as a crime of danger (pp. 135-136).

Therefore, it seems that jurisprudence agrees with our stance (and that of other authors in the fields of psychology and communication) that the essential element that makes a particular type of behavior be described as deception is not so much the successful result of the action as its purpose. This is reflected in the expression "whether successful or not" which follows "deliberate attempt" in our definition. If, for example, a suspect purposely denies having committed a crime that he or she has in fact committed, this suspect is lying, regardless of whether the receiver of the communication (police officer, lawyer, judge...) is clever enough or lucky enough to detect the lie. For instance, there may or may not be unquestionable material evidence that proves that the suspect really committed the crime. However, the act of lying has nothing to do with such evidence, only the perception of the potential detector of deception is susceptible to being influenced by it: if there is evidence the deception will be obvious, if there is no evidence the deception may never be discovered. But in any case it will have occurred: The objective quality of a message as truthful or deceptive thus has nothing to do with whether it can be detected (or with the existence of evidence that favors detection), but only with the intention of the communicator, who *deliberately* alters the information. The emphasis must, therefore, be on the communicator and not on the receiver.

In relation to the above, Miller (1983) notes a serious problem with the criterion of intentionality: that "its assessment involves an inference, or attribution about the communicator's motivational states; and as a consequence, it may be impossible to be certain whether or not a message reflects deceptive intent ... attempts to classify some messages as deceptive or non-deceptive are accompanied by an element of ambiguity" (p. 94). That is to say, the only person who really knows whether the criterion of intentionality occurs (and, thus, whether the

communication is deceptive or not) is the actual communicator.

In summary, in order for a communication to be deceptive it is not sufficient that the communicator should give false information, but this must also be done intentionally. Non-intentional alterations of testimony (related to the witness's competence) have been much studied in legal psychology. This is not the case of intentional alterations (those related to the credibility of the statement). Since testimony serves to establish the facts that will be the basis for judicial decisions, any distortion of testimony, and not just non-intentional alterations, deserves consideration. Law recognizes this and punishes the crimes of false accusation and false testimony during a trial. In order to be accused of these crimes, what is important is not the success or failure of the deception, but the witness's purpose (intentionality) in deceiving. The problem is that often the only person who knows whether the deceptive attempt is deliberate or not is the witness himself or herself.

### **... to conceal, fabricate and/or manipulate information in any other way...**

Here we move on to the next element of our definition, which relates to concealment versus fabrication or falsification of information<sup>2</sup> (Ekman, 1985, 1989, 1992, 1997; Frank, 1992). *Concealment* refers to the omission of truthful information; this is deception by omission: "these lies take the form of an absence of behavior, either in response to a direct question or in response to a compulsory disclosure" (Frank, 1992, p. 133). A witness who remains silent when questioned is concealing information.

One step beyond concealment is *falsification* or *fabrication*, where false information is presented as if it were true (Ekman, 1992). This is, therefore, deception by commission. For example, a witness may say that A killed B, when in fact s/he knows that, actually, A did not kill B. Fabrication may "take the form of multi-word statements, one word responses or ges-

tures" (Frank, 1992, p. 133). Shortly, we shall argue that one can lie both verbally and through nonverbal behavior.

Ekman (1989) maintains that "there isn't much difference between saying something false and concealing the truth. Both are lies. The purpose is the same –to deliberately mislead" (p. 14) and that "concealment is just as much a lie as falsification, if there is an expectation that concealment will not occur" (Ekman, 1997, p. 94). Let us suppose, for example, that a robbery has been committed in some offices. At the time of the incident, there were four employees working in the offices next door. The police, who have come to the scene of the crime, call together the four employees and ask them if any of them saw anything suspicious. If so, any witness is expected to say so. If nobody says anything, the police will infer that no one saw anything. It is easy to understand that, under these circumstances, if one of the employees, who has seen something suspicious, deliberately omits this information, then this employee is deceiving. This is concealment. It is not necessary for the employee to directly express, either verbally ("I didn't see anything") or nonverbally (e.g., by shaking his/her head), that s/he did not notice anything suspicious – this would be falsification– for us to consider that s/he is lying.

In order to lie successfully, it may be enough to just conceal or falsify, or it may be necessary to combine the two. This can be seen clearly with emotional deception, that is, when someone tries to express something which does not correspond to the emotion being experienced. Let us imagine that someone very happily tells us s/he has just got a new and excellent job, but we do not care about it. However, so as to spare that person's feelings, we will probably pretend to be happy as well. This would be a case of pure falsification: false information is given (we feign a smile, we express satisfaction verbally, etc.), but nothing is masked, since our real state is more or less neutral in emotional terms: we do not feel anything but we pretend to feel happy.

Let us now imagine another situation: a game of poker –an excellent context for deception and its detection (see Hayano, 1980). Suppose that one of the players has just got his or her third ace, there is a lot of money at stake and s/he realizes that the possibilities of winning this hand are very high and is therefore very happy. However, that player does not want the other players to realize this, and so tries to conceal any facial sign of happiness, showing what is precisely called a “poker face.” This would be a clear case of concealment: the player feels happy, but conceals this information from the other players. There is no falsification, since the player is not trying to simulate something that s/he is not feeling (e.g., fear or sadness), but rather trying to maintain a neutral facial expression. There is only concealment.<sup>3</sup>

A third hypothetical example will serve to show the joint use of concealment and falsification. Mr. A has killed his wife. Their marriage wasn't working. Initial affection had progressively given way to indifference, loathing and hatred. Also, Mr. A's crime was a perfect one: a consistent alibi, a total lack of incriminating evidence, etc. Mr. A knows that he cannot be accused, so there is no reason for him to fear imprisonment. Furthermore, his lax moral standards mean that he does not feel guilty about lying or for having ended the life of another person. Mr. A is taken to the police station for questioning and there he denies all knowledge of the circumstances surrounding his wife's murder. However, in order to succeed in his deception, he must first conceal (*concealment*) any sign of happiness. He is happy to have gotten rid of his wife and this happiness is not shadowed by any feeling of guilt or fear. Second, Mr. A must also pretend (*falsification*) to be sad at the loss of his wife and surprised about her unexpected and sudden death. Thus, the emotional (verbal and nonverbal) expression of happiness must be masked, i.e., covered with a mask of sadness and surprise. This mask must hide the expression of genuine emotions and also simulate that of emotions that are not being felt. Unless Mr. A succeeds in both concealment and falsification, his behavior may

havior may make the police suspicious. The nursing students of the classic deception experiments conducted by Ekman's group (e.g., Ekman & Friesen, 1974; Ekman, Friesen, & O'Sullivan, 1988), who had to pretend to be happy while watching gruesome images of burns and amputated limbs, had to conceal their negative emotions and simulate positive ones, the same as the Japanese who, unlike the Americans, opted for masking their unease with a smile when, while seeing images of the same gruesome nature, a scientist came into the room (Ekman, 1972; Friesen, 1972, cited in Ekman & Friesen, 1982). In all these cases, both concealment and falsification were present.

Besides concealment and falsification, we sometimes find in the relevant scientific literature references to processes of *minimization* and *maximization* (e.g., Ekman & Friesen, 1975). However, perhaps it would be appropriate to characterize maximization (e.g., showing great happiness when one is moderately happy) as a form of falsification in which what is fabricated goes beyond the truth, but in the same direction (an exaggeration), and minimization as a kind of concealment of little intensity in which the real information is only partially concealed.

This does not mean that every manipulation of information in order to deceive another is reduced to concealment, falsification or a combination of the two (sometimes labeled *masking*). Rather, there are other possibilities, as is indicated in our definition. Before describing these, we would first like to outline the theoretical framework in which the perspective of deception as manipulation of information is inserted.

Miller (1983; see also Miller & Stiff, 1993) conceptualizes deceptive communication in the same way that truthful communication can be understood: as a persuasion strategy which is not thus an end in itself, but rather a means to an end:

Deceptive communication strives for persuasive ends; or, stated more precisely, deceptive communication is a general persuasive strategy that aims at influencing the beliefs, attitudes, and behaviors of others by means of deliberate message distortions ... successful

deceit seldom represents the end sought by the communicator, but is rather the means toward another persuasive goal (Miller, 1983, p. 99).

For instance, a delinquent may deny having committed a crime that he or she is accused of (deception: means) so as not to be judged and convicted (end). From this perspective, “truthful and untruthful information serve the same persuasive function; namely, they constitute warrants and evidence for certain explicit or implied claims proffered by the communicator” (Miller, 1983, p. 99).

Thus, there is a communicator or sender who is seeking to achieve certain objectives. In order to achieve these objectives, s/he must use a communicative strategy of a persuasive nature, since it is oriented to convincing another or others. This strategy may consist of using a truthful communication, but if this is expected to be ineffective for achieving the desired goals, the sender may then resort to using a deceptive communication.<sup>4</sup> After all, as Saarni and Lewis (1993) point out, it is natural and adaptive to lie on certain occasions when the consequences of telling the truth would be painful. They use the example of a society in which stealing is punished with the amputation of a hand. Any sensible thief would deny having stolen anything. Going back to Miller (1983) and to Miller and Stiff (1993), denial would be the means to avoid losing one’s hand and would consist of a deceptive strategy oriented to persuading the court that one is innocent, and thus preserving the hand.

O’Hair and Cody (1994) follow this same line, as well as Buller and Burgoon (1994) when they conceptualize deception as a strategic action. Like Miller (1983), Buller and Burgoon consider that the motivations behind deception are not the deceptive act itself, but rather that “like other strategic communication, deception is encoded to achieve a variety of communication goals, some beneficial to the communicator, others to the target, others to the relationship, and still others to a third party” (Buller & Burgoon, 1994, p. 193). According to these authors, these goals are sought by means of the strategic manipulation of the information that

is conveyed (verbal, nonverbal, and situational cues that can be manipulated). Manipulation of the information of a message would thus be a communicative strategy addressed to achieving certain objectives.

Concealment and falsification would be but two possible strategies for manipulating information for obtaining certain goals. The first, as we have seen, consists of withholding the information one has, and the second, of inventing information that does not correspond to the actual state of affairs. But there are more possibilities, some of which are described by McCornack (1992) in his *Information Manipulation Theory (IMT)*, which focuses on strategies for manipulating information in order to deceive the receiver or receivers of the communication. McCornack begins his article from the same starting point as Miller (1983) and Buller and Burgoon (1994):

Individuals frequently are confronted with situations in which they must reconcile the competing goals of conveying information that their conversational partners are entitled to have and minimizing the damage that conveying that information might cause. One strategy for reconciling these goals is to present altered information. Thus, one way to describe deceptive messages is in terms of the ways that sensitive information is manipulated and controlled (McCornack, 1992, p. 1)

Taking this as a basis, McCornack reviews the types of deception identified by several authors (Bavelas, Blanck, Chovil, & Mullen, 1990; Ekman, 1985; Meets, 1989; Turner, Edgley, & Olmstead, 1975) and concludes that there are four basic ways of altering information: (a) manipulating the *amount* of information offered, (b) *distorting* the information offered, (c) presenting the information in an *equivocal* or *ambiguous* fashion, and (d) presenting information that is *irrelevant* to the preceding discourse.

Further on we shall return to these four strategies, but for the moment we shall continue with McCornack, who, having reached this point, refers to the theory of language use that Paul Grice presented in Harvard in 1967, which is known as *Theory of Conversational Implicature*. Grice (1989) considers that a conversation is the result of the cooperative efforts of

its participants. He formulated his *Cooperative Principle*, which any participant in a conversation is expected to follow, and four maxims that would generate results in accordance with the cooperative principle. These are the maxims of quantity, quality, relation, and manner. The *maxim of quantity* refers to expectations as regards the quantity of information a message should contain. It is assumed that in a conversation each contribution should be as informative as is required given the situation (and neither more nor less informative). If the husband arrives home late, and the wife asks him where he has been and he answers "out," he is violating this maxim, since the information he gives is below what is expected in this conversational situation. A prison guard who has let one of the prisoners escape, and, when asked, admits having heard a noise but does not mention anything else, is also violating this maxim.

The *maxim of quality* refers to the truthfulness of the information given. Participants in a conversation are expected to not present information that they know is false, or that they are not sure of.

The *maxim of manner* is based on the expectation that the participants will present the information clearly, directly and without ambiguity. The sentence "I don't like blonds" to indicate to our blond friend that we do not want a date with him or her would violate this maxim.

Finally, the *maxim of relation* maintains that the contributions of the interlocutors should be relevant to the preceding discourse: "By failing to respond in a relevant fashion (given the constraints established by the partner's previous utterance), an individual can divert the course of the conversation away from potential disclosure of "dangerous" information" (McCornack, 1992, pp. 11-12). Someone who answers the question "Did you take the ring?" by saying "Oh God, the ring! Tomorrow is Albert's birthday and I was going to give him *The Lord of the Rings* but I forgot to buy it!" would be violating the maxim of relation. So also would the husband in the previous example if, in reply to his wife's question, he had said "What time are

you getting up tomorrow? Can you call me at seven?"

However, the violations of these four maxims are not always as obvious as in the examples given above. Thus, Grice says, it is possible that one of the participants in a communication may violate one (or several) of the maxims and the others may not notice it. And, according to McCornack (1992), this has to do with deception:

It is the principal claim of Information Manipulation Theory that *messages that are commonly thought of as deceptive derive from covert violations of the conversational maxims*. Because the speaker purposefully violates one (or more) of the maxims, s/he deviates from what can be considered rational and cooperative behavior (i.e., behavior that adheres to the Cooperative Principle). Because the violation is not made apparent to the listener, the listener is misled by her/his assumption that the speaker *is* adhering to the CP and its maxims. The production and presentation of messages that are deceptive can be considered a phenomenon in which speakers exploit the belief on the part of listeners that they (i.e., the speakers) are adhering to the principles governing cooperative exchanges" (pp. 5-6, italics in the original).

McCornack indicates how his IMT can account for the different types of deception, described by different authors, which we have mentioned above. Thus, manipulation of the *quantity* of information offered would be a violation of the maxim of quantity. Concealment, as Ekman describes it, and as has been described above, can fit into this category. The *qualitative* alteration of the information given would be a violation of the maxim of quality. The falsification or fabrication that we have described above can be conceptualized in this way. The *ambiguity or obscurity* of the information presented would be a third strategy for manipulating information that can be used for lying, and which is different from concealment and falsification. It would be a violation of the maxim of manner. Finally, the presentation of *irrelevant* information, which can also pursue deceptive ends, would be a violation of the maxim of relation.<sup>5</sup>

In summary: *With the aim of deceiving another person or other people in a communicative interaction,*

*the sender may manipulate the quantity, quality, clarity and relevance of the information conveyed.*

Empirical research has been done on IMT. The description of its results goes beyond the limited scope of this paper, which only seeks to describe this theory to show how manipulation of information is the road the liar takes to produce untruthful messages, as well as what kinds of manipulation can be done for this. The reader interested in IMT research can refer to Jacobs, Dawson, and Brashers (1996), McCormack, Levine, Morrison, and Lapinski (1996), McCormack, Levine, Solowczuk, Torres, and Campbell (1992), and Yeung, Levine, and Nishiyama (1999).

In conclusion, lying consists of manipulating the information offered to a receiver or receivers for instrumental ends. The two most obvious strategies of information manipulation are concealment (in which true information is hidden, thus altering the quantity of information provided) and falsification (in which false information is fabricated and provided). There are, however, other possibilities, such as presenting the information ambiguously, or giving information that is irrelevant to the preceding question. Since the receiver assumes that the quantity, quality (veracity), manner (non-ambiguous) and relevance of the information will be adequate, the manipulation of these elements will pass unnoticed and the receiver will then be deceived.<sup>6</sup>

### **...factual and/or emotional information...**

In the previous paragraphs it has been argued that the sender of a deceptive communication manipulates the information given. As can be seen in the examples, this information may refer to the emotional states of the communicator (as is the case of the poker player, or that of Mr. A, who murdered his wife) or else to facts witnessed or known by the communicator (as in the case of the prison guard, or that of the person who stole the ring and said s/he wanted to give his friend Tolkien's mythical work).

However, when one reads the literature on deception and its detection, one gets the impression that there is a certain disagreement among the researchers concerning the concept of *emotional lie*. The most extreme or "radicalized" posture is that of Ekman and Friesen (1974), who asked their senders to hide the emotions they were feeling at the time and simulate the opposite feelings. Comadena (1982) operationalized the emotional lie as "a response to an interview question in which the interviewee completely misrepresented the *feelings* he or she experienced while observing an audio-videotape presentation prior to the experimental interview" (p. 454, italics in the original). Therefore, unlike Ekman and Friesen, Comadena does not conceptualize the emotional lie as an alteration in the expression of the feelings one has at the time of sending the communication, but rather as lying in relation to certain emotions experienced previously. For their part, Miller and Stiff (1993) define emotional deception as occasions when "people devise deceptive messages to conceal their true emotions about a person or issue" (p. 82). Finally, Sánchez and Becerra (1991) used innocuous topics as non-emotional, and topics which observers said they would have a hard time speaking about in public as emotional ones.

Other authors are less precise when specifying the type of deception they have used in their studies in the sense that one cannot be sure whether it was emotional or factual. For example, Robert Feldman (Feldman, Jenkins, & Poppola, 1979; Feldman, Tomasian, & Coats, 1999; Feldman & White, 1980; Parham, Feldman, Oster, & Poppola, 1981) used a drink-tasting paradigm. In one condition the drink was sweet and therefore tasted good; in the other condition it was mixed incorrectly, without sugar, so that it tasted bad. In all cases participants had to say the drink tasted good (Feldman *et al.*, 1979; Feldman & White, 1980; Parham *et al.*, 1980), or else had to say that both drinks tasted good in one experimental condition, or that both drinks tasted bad in the other experimental condition (Feldman *et al.*,

1999). Knapp, Hart, and Dennis (1974) used participants expressing pro- or counter-attitudinal statements about a topic of public policy. And DePaulo and Rosenthal (e.g., 1979a,b; DePaulo, Rosenthal, Green, & Rosenkrantz, 1982) asked senders to describe someone they liked as though they disliked him/her, and someone they disliked as though they liked him/her.

The confusion is lessened at the factual end of this emotional-factual continuum. There we find the lies in which, ideally, no emotion intervenes, and in which the sender has to describe certain facts. Thus, the *factual lie* consists of lying about facts, but not about emotions. Let us see some examples taken from the experimental literature. Biland, Py, and Rimboud (1999) showed their truthful participants a short film and gave their liars a description or synopsis of the film. On being interviewed, the truthful senders had to describe what they had seen, and the liars had to try to convince the interviewer that they had seen the film. Köhnken (1985) also used a film, depicting a robbery, but it was shown to both the truthful senders and the liars. The task of the latter consisted of changing the identity of the thief during their statement. Bond *et al.* (1985) asked their participants a series of eight questions about their last job (e.g., “What was your last job? What exactly did you do each day on this job? What was the best part of the job?” [p. 335]). The truthful communicators had to answer sincerely, the liars had to pretend to have had a job that in fact they had not had. Comadena (1982) writes that, in his experiment, “factual deception was operationalized as a response to an interview question in which the interviewee completely misrepresented the *facts* associated with an audio-videotape presentation he or she observed prior to the experimental interview” (p. 454, italics in the original). His factual videos dealt with nutrition, cars, the sensory development of newborns and houseplants. Granhag and Strömwall (1999, 2000, 2001) made their observers watch a five-minute play prepared *ad hoc* for the experiment. It depicted a robbery with stabbing. In the subsequent in-

terviews, the truthful senders had to describe what had happened. The liars had to change the story and blame the victim for what had happened, protecting the perpetrators. Finally, Vrij (1994, 1995, 1997; Vrij, Akehurst, & Morris, 1997; Vrij & Graham, 1997; Vrij, Semin, & Bull, 1996; Vrij & Winkel, 1992, 1993) asked his deceptive participants to deny possession of some headphones which they in fact had with them.

Any lie between the most purely emotional extreme (e.g., feigning happiness while being sad) and the most factual (e.g., saying that this paper is written in Japanese) would fit our definition of deception. In all cases, the information transmitted by the sender would be deliberately altered, whether this information referred to feelings or objectively confirmable facts.

We have argued that there seems to be some confusion as to what can be understood by the term “emotional lie.” We have also said that it is not clear the extent to what the type of deception used in some experiments is factual or emotional, and that these difficulties were not present in relation to the factual lie. However, for practical purposes a difficulty of a different nature arises: It is difficult for a factual lie to appear in its pure and isolated form. Rather, it is usually accompanied by some kind of emotional lie. Indeed, some authors (e.g., Hocking, 1977; Köhnken, 1987, 1989; Miller & Stiff, 1993) have made an effort to differentiate between the factual lie and the emotional lie. Also, there is evidence suggesting that both types of deception can give rise to different types of behavioral cues (Miller *et al.*, 1981, Study 1; see also DePaulo, Zuckerman, & Rosenthal, 1980; Miller & Stiff, 1993), and therefore may not be similarly detectable (e.g., Sánchez & Becerra, 1991). However, the “pure types” –i.e., the purely emotional lie and the purely factual lie– may not even exist. Thus, in the studies of Biland *et al.* (1999), Bond *et al.* (1985), Comadena (1982), Köhnken (1985), Granhag & Strömwall (1999, 2000, in press), Vrij and his colleagues (e.g., Vrij, 1994, 1995; Vrij *et al.*, 1996, 1997), or any other researcher

trying to study factual deception, the senders may have experienced certain emotions related to the very fact of lying.

Ekman (1981, 1985, 1992; Ekman & Frank, 1993; Ekman & O'Sullivan, 1989) points out four ways in which this may happen. First, although the liar may lie about facts, s/he may feel *fear of being caught*. If the liar does not want to be caught, s/he must pretend not to feel fear—an emotion. According to Ekman and his colleagues, the fear of being caught will be greater when the liar: (a) believes that the interviewer is hard to deceive, (b) believes that s/he (the liar) is under suspicion, (c) has little practice and not much previous success in lying, (d) fears the punishment that s/he will receive if caught, or strongly desires what will be obtained if not caught, (e) is not what Ekman calls a *natural liar* (Ekman, 1985) or a *natural performer* (Ekman, 1997): a person otherwise absolutely normal who lies frequently and skillfully, (f) if what is at stake is important for the liar, and (g) if the deceived party does not receive any benefit from the deception.

Second, the lying communicator, given the socialization received in our culture, may experience another feeling when lying about facts: *guilt about lying*. Thus, if the deceiver does not want to be caught, s/he must lie not only about the facts s/he is trying to distort, but also about his or her feeling of guilt. According to Ekman and his team, guilt about lying will be greater when: (a) the victim of the lie is not willing to be misled, (b) the victim does not know that s/he is being deceived, (c) the deception is totally selfish, without benefiting the receiver at all or even hurting him or her, (d) there are social sanctions for lying in this situation, (e) the liar has not lied for a long time, (f) the liar and the deceived party share the same social values (e.g., they come from the same cultural context or belong to the same group of friends, etc.), (g) they know each other or are friends, (h) the receiver trusts the liar, (i) the liar is not a psychopath, and (j) there is no external justification for lying: it is not a deception in vengeance, or a white lie so as not to hurt the feelings of another person, neither is it an attempt

to achieve a desired job which is unobtainable otherwise, nor, of course, of avoiding going to prison. It is doubtful whether in empirical studies in which the experimenter asks the participants to lie and there is a scientific purpose for lying, the senders feel guilty about doing so. The responsibility of the action could be displaced to the experimenter, or moral justification could be found for it by appealing to scientific progress (see, for example, Bandura's [1991] mechanisms of moral disengagement). However, recent data collected by the present authors show that even when lying in situations of this kind participants feel some guilt. Their ratings of guilt when lying were significantly greater than those reached when they were telling the truth.

Third, the liar may feel a thrill and happiness or "*duping delight*," such as when pulling someone's leg in fun. This thrill and happiness may leak out. There will be duping delight when deceiving the receiver is a challenge and when there are other people examining the liar's performance.

Finally, Ekman argues that there may be certain *emotions linked to the facts which are being lied about*. For example, a man accused of sexually abusing a child may feel ashamed of his action; when denying it during the police interview he must hide his shame, which would give him away. The previous example concerning Mr. A, happy at having eliminated his victim, also illustrates this point.

From the above, two facts can be garnered. First, that the distinction between factual deception and emotional deception, although conceptually important and educational, is not very useful when classifying *real* lies as one type or another. In particular, we are concerned about the difficulty of being able to assume that pure factual lies exist. In legal contexts, factual lies may seem to be the most characteristic type of deception: "It is rather uncommon that the major task of witnesses is to report their feelings. Instead, they give statements about social situations, events, physical environments, etc." (Köhnken, 1987, p. 3; see also Köhnken, 1989, and Miller & Burgoon, 1982).

Nevertheless, as we have just seen, even in this type of situation the witness is obliged to conceal certain emotions and probably also to feign others.

The second fact we wish to refer to is that a single lie as such, in itself, does not exist, since almost every deceptive performance comprises several concurrent lies. The witness of a crime who wishes to protect the perpetrator—let us assume, for example, that there are bonds of friendship between them—must lie about the facts witnessed (“I didn’t see anything” or perhaps “s/he didn’t do this, but s/he did that”); the witness must also lie about being afraid of not being believed; s/he must hide his or her possible guilt about lying, or perhaps his or her joy at deceiving the police. That witness may also experience emotions such as sadness that a friend has committed a crime, or happiness if s/he felt that the victim “had it coming”, but must hide these emotions during questioning for the deception not to be discovered.

This idea of several lies in one is very explicitly present in Buller and Burgoon (1994, 1996, 1998), and their contribution is thus extremely interesting. They argue that, as we have just pointed out, there are several different messages conveyed concurrently when lying. On the one hand, there is *the central deceptive message* (e.g., “I didn’t commit the murder”). This message is generally verbal. A second type of message that is being sent consists of *ancillary communications*. Their objective is, on the one hand, to make the false message be considered true (“It’s true that I didn’t commit the murder”), and on the other hand, to give the impression of being a truthful person (“I am sincere when I say that I didn’t commit the murder”). It can be either verbal or nonverbal. Finally, a third type of message that is sent when lying consists of *the indicators that reveal that one is lying* (deception clues), or *the information that one is trying to hide* (leakages). According to Buller and Burgoon, here the information is basically, but not exclusively, nonverbal.

The first two types of messages are strategic and intentional: We deceive, as stated earlier, by consciously manipulating information to

achieve certain ends. The alteration of the main message (e.g., to say that our friend did not commit the crime) is a lie. The ancillary messages to give the impression of credibility (e.g., not smiling when we are denying that our friend committed the crime, or hiding our uncertainty about being believed), are another kind of lie, sometimes emotional, which we send concurrently. Finally, the third type of message consists of behaviors that are not strategic or intentional, and which are *not* deceptive. Rather, they are formed by what we have not managed to keep concealed and can give us away.

In conclusion: One can lie about emotional information or one can lie about factual information, although the barriers between one and the other are blurred. We should speak of an emotional-factual continuum rather than of two exclusive categories. Moreover, factual lies are often accompanied by emotional lies in order to conceal feelings of fear of being caught, guilt about lying, or delight and thrill in deceiving the recipient. Thus, besides the main deceptive message, when lying one usually sends other subsidiary messages oriented to increasing, in the eyes of the receiver, the credibility of the message and the sender’s honesty.

### ...by verbal and/or nonverbal means...

By now it will have become clear that deceptive information can be sent by either verbal or nonverbal means. Communication can be verbal or nonverbal (e.g., we can say “yes” or we can nod our heads). The lie is a form of communication (in which certain information has been altered in order to achieve certain purposes). As a corollary, we can affirm that the lie can therefore be verbal or nonverbal. Indeed, it is just as deceiving to tell someone falsely that in order to reach the address s/he is looking for s/he must turn left, as to point in that direction in reply to the question.

Snyder and Higgins (1988) illustrate the question as follows. They ask us to imagine a

pitcher in a baseball game who is playing very badly. Snyder and Higgins mention three versions of the unfortunate pitcher's later deceptive behavior. They call one the "verbal version," in which the player tells anyone who wants to listen that the cause of his bad performance is that he has a sore arm. The next one is the "nonverbal version," which takes this form:

As he leaves the pitcher's mound, he [the pitcher] rubs his arm and shows obvious pain as he tries to rotate it in an arc. The manager, teammates, spectators in the stands, and the pitcher himself are the witnesses of this nonverbal impediment. The unsaid message is that he should not be held as accountable for the lousy performance because of his sore arm (p. 244).

The third version of the story consists of a combination of verbal and nonverbal actions.

Ekman and Friesen (1969b) presented what is perhaps the most well-known classification of nonverbal behavior. In it, they differentiate between emblems, illustrators, affect displays, regulators and adaptors.<sup>7</sup> All these categories of behavior can in principle be manipulated by the sender in order to lie.

*Emblems* are "those nonverbal acts which have a direct verbal translation, or dictionary definition, usually consisting of a word or two, or perhaps a phrase" (Ekman & Friesen, 1969b, p. 71).<sup>8</sup> Giving someone the finger or putting out one's thumb to hitch a ride are emblems. A hitch-hiker making this sign not because he or she wants to hitch a ride but just to annoy a car driver would be lying with an emblem, just like the person who falsely answers yes by nodding his or her head.

*Illustrators* are movements which illustrate what is being said. They can also be used to deceive. For instance, one type of illustrators, *batons*, stress a particular word or phrase. Since the meaning of some statements may change depending on the word stressed, batons may be used to mislead the receiver. "I wasn't there" may be quite different from "I wasn't *there*." In the first case, where the word "I" is stressed, the sentence may mean that it was not me who was there, suggesting that perhaps it was someone else who was there. The second case,

where the word stressed is "there", may mean that, although I was not there, I was somewhere else (e.g., in the vicinity). The only difference between one sentence and the other is the word stressed, and this stress depends on the batons (or, also, on certain modulations of the voice, which is also a nonverbal sign). If someone wanted to involve a person who was actually innocent in a crime by suggesting that this other person and not himself or herself was at the scene of the crime when this was committed, s/he could use the formula "I wasn't there," thus suggesting that s/he was not there, but that s/he knows who was there. Thus, one can lie using illustrators.

*Affect displays*, shown primarily, although not exclusively, in the face, can also be used to lie. We have already pointed out that the sender may seek to hide the expression of the emotions s/he is feeling, or may simulate that s/he is feeling something s/he is not feeling.

*Regulators* "tell the speaker to continue, repeat, elaborate, hurry up, become more interesting, less salacious, give the other a chance to talk, etc." (Ekman & Friesen, 1969b, p. 90). According to Ekman and Friesen, people are normally incapable of manipulating the regulators to control the development of an interaction. The reason for this is that "regulators are acts that we are scarcely aware of when, either as senders or receivers, we are under their influence" (Fernández-Dols, 1994, p. 376). However, perhaps it could be possible to reach a cognitive-affective state that allows people to use the regulators in such a way as to deceive. For instance, imagine that someone who has committed a crime is to be interviewed. This person decides to go to the police as someone who knows nothing at all about the case, although this is not so. This person has not planned beforehand the specific body movements to make; s/he only pretends to seem ignorant about what happened. His or her technique could be similar to that of actors using the Stanislavski method, who really manage to put themselves into their character, feeling and thinking like that character, convincing themselves that, to a certain extent, they "are" that

character, to thus achieve a genuine and convincing performance, instead of carefully planning the words they should say and the gestures they should make. Under these circumstances, it could be the case that our offender, perfectly installed in his or her role, could actually and unknowingly perform those “eye contacts, slight movements forward, small postural shifts, eyebrow raises and a whole host of non-verbal acts” mentioned by Ekman and Friesen (1969b, p. 90) as examples of regulators. By pretending to know nothing at all about the crime, after a direct question the suspect may perhaps look questioningly at the police officer who then thinks that the suspect really does not know what s/he is talking about and explains or repeats the question, etc. Here the offender would successfully (and unconsciously) be using regulators for lying.

Finally, according to Ekman and Friesen (1969b) the *adaptors* are movements that “were first learned as part of adaptive efforts to satisfy self or bodily needs, or to perform bodily actions, or to manage emotions, or to develop or maintain prototypic interpersonal contacts, or to learn instrumental activities” (p. 92). Actually, “the adaptors are a mixed bag which holds a host of different kinds of behavior, which may or may not have different functions and origins” (Fernández-Dols, 1994, p. 390).

Ekman and Friesen argue that, whereas adaptors are learned in childhood in order to satisfy certain basic needs, to manage certain emotions, etc., when they are displayed by adults they appear fragmented. The adaptor is triggered because there is something in the situation that is related to the drive or to the emotion, etc. connected to the original adaptive pattern that activates the adaptor, since it is maintained as a habit. But, normally, the person is not aware either of what activates the adaptor or of the manifestation of the adaptor itself, and certainly does not display the adaptor with a communicative intention. Actually, it is considered bad manners to show adaptors in public, as is paying attention to those shown inadvertently by others.

Ekman and Friesen (1969b) differentiate between three types of adaptors: Self-adaptors, alter-directed adaptors and object-adaptors. Self-adaptors are first learned to satisfy certain bodily needs (e.g., to open or close sensorial inputs, sexual self-stimulation, self-adaptors for grooming...). Examples of self-adaptors are putting one’s fingers in one’s eyes, nose or ears, biting one’s lips or nails, rubbing or scratching some part of the body, etc. Rosenfeldt (1966, cited in Ekman & Friesen, 1969b) defined what he called self-manipulations, similar to some of the self-adaptors described by Ekman and Friesen. According to Rosenfeldt, self-manipulations (e.g., scratching, rubbing, etc.) would be indicators of discomfort. The informal observation of the tapes we used in some of our experiments on the detection of deception revealed some self-adaptors. For instance, it is striking how, at a given moment, a sender absent-mindedly passes her hand over her skirt as if she wanted to brush off some lint.

Alter-directed adaptors have their origin in movements learned during early interpersonal contacts, related to activities such as giving and taking, attacking and protecting oneself from the attack of others, establishing affection and intimacy, etc.<sup>9</sup> (Ekman & Friesen, 1969b). Fernández-Dols (1994) considers the quasi-courting behavior described by Albert Scheflen (1965) in psychotherapy as an example of alter-directed adaptors.

Finally, the object-adaptors are related to the first learning of instrumental tasks, such as handling a tool, smoking, driving, etc. Ekman and Friesen (1969b) indicate that they may be based on activities learned later in life than those on which self-adaptors and alter-directed adaptors are based. Another characteristic of object-adaptors is that, unlike the others, they may often be within awareness and can be used for communicative purposes.

There is a popular belief that adaptors (especially Rosenfeldt’s self-manipulations) increase when lying<sup>10</sup> (e.g., Akehurst, Köhnken, Vrij, & Bull, 1996; Al-Simadi, 2000; Pryor & Leone, 1981; Taylor & Vrij, 2000; Vrij & Semin, 1996; Zuckerman, Koestner, & Driver,

1981). The liar may thus decide to consciously control his or her self-manipulations, by inhibiting them (e.g., Hocking & Leathers, 1980; Vrij, Semin, & Bull, 1996). This would be in accordance with the aspect of control in Zuckerman, DePaulo and Rosenthal's (1981) four-factor model on deception cues.<sup>11</sup> This strategy, however, may be counter-productive, since if the sender tries to inhibit these small instances of spontaneous behavior which s/he is normally not aware of, the final performance may be seen as artificial, planned, rehearsed, lacking in spontaneity and stiff (e.g., DePaulo, 1992; DePaulo, Lanier, & Davis, 1981, cited in Zuckerman, DePaulo *et al.*, 1981; DePaulo, Stone, & Lassiter, 1985). Something similar may be expected to happen in the case of using the regulators not "in the Stanislavski style" indicated above, but consciously and deliberately, carefully planning the behavior (i.e., the specific movements and gestures) that should be displayed during the deceptive performance.

In conclusion: One can lie both by using words and by nonverbal behavior. In fact, the five categories of nonverbal behavior defined by Ekman and Friesen in 1969—that is, emblems, illustrators, affect displays, regulators and adaptors—can be used for lying, although with varying degrees of success given the little awareness that individuals have of some of these kinds of behavior and their moderate controllability.

### **...in order to create or maintain a belief in another or others...**

We shall now return to Miller's (1983) notion of deception as an instrumental strategy, as a means to an end. If we assume this, we shall assume that the person who lies does so to make the receiver do something that will benefit the sender. For instance, the suspect (sender) who denies being involved in a crime (lie) before the police (receiver) does this so that the police will leave him or her alone (action of the receiver) and s/he will thus escape a possible sentence (benefit for the sender). This was the sense in

which it was previously argued that deception is a kind of persuasive communication by which an individual seeks to manipulate another.

This is very clear in one of the definitions of deception that Russow (1986) includes in her exemplary article:

An organism S could be said to deceive something D if and only if S's effect on D is such as to increase the likelihood of D's behaving as if it were in situation A (which it is not), and to decrease the likelihood of D's behaving as if it were in situation B (the situation it is actually in), where D's behaving as if it were in situation A is more advantageous to S than D's behaving as if it were in situation B (p. 42).

However, as Russow (1986) herself points out, this definition presents certain problems. First, we would have to admit that certain plants, lacking any intentionality, are capable of lying. Think, for example, of the cases of mimicry in nature. This would make Russow's definition appropriate for the study of deception in a number of species that are placed at the lower levels of the biological hierarchy. However, we are focusing on deception among cognitively complex human beings, with feelings, thoughts and opportunities for action. This limitation is acknowledged by Russow herself, but we shall not dwell on her arguments more than is strictly necessary for the present discussion.

And what is strictly necessary for the present discussion focuses not on the sender of the deceptive communication (to which we have referred adequately when discussing intentionality as a condition for a given behavior to qualify as deception), but rather on the receiver. According to Russow's definition given above—and as the author herself points out—one could deceive beings as simple in cognitive terms as a plant: "The nursery worker who grows her poinsettia plants in artificial light so as to control the amount of light and darkness to ensure that the plants will be blooming for Christmas would, by this account, be engaged in deception" (p. 43). We could even go further and assert that one can deceive things other than a living being. So does that chilly office

worker who places dry ice near the sensor of the thermostat so that the central heating will not stop working when a certain room temperature is reached (Russow, 1986).

Another problem with this definition, and which Russow also recognizes, is that it does not explain why the sender and the receiver behave as they do. If we are looking at extremely simple systems, such as plants or a thermostat, behavior is almost automatic: the poinsettia plants receive the right amount of light to flower at the wrong time, and therefore bloom; the thermostat does not detect the temperature at which it should turn off the heating, so it does not turn it off.

This type of deception, evidently simple, reminds us of classical conditioning (the dog will salivate [conditioned response] with the mere sound of the bell [conditioned stimulus] even if it is not given the unconditioned stimulus [the steak]) or even of operant conditioning (we shall carry on deceiving the animal until the extinction of the conditioned response, since its behavior will not be followed by the contingent reinforcement).

In all the abovementioned cases we have been speaking, as we said, of very simple organisms, and of very simple deceptions too. However, despite the radicalized stance of the now extinct orthodox behaviorism, we cannot conceive the human being in merely associationist and mechanistic terms (e.g., Bandura, 1986). If we leave aside certain reflex actions and some conditioned responses, it becomes obvious that most human behavior does not merely consist of automatic actions in the presence of a stimulus, like the growth of the nursery worker's plants or the chilly office worker's thermostat. Rather, the human being processes the information received. And it is the result of this processing, rather than the mere presence of the stimulus or the situation in which the individual finds him or herself, what determines the person's behavior (e.g., Bandura, 1986; Ross & Nisbett, 1991). As proof of this there is the fact that the same stimulus can "be constructed" in very different ways by different individuals (see Ross & Nisbett, 1991), thus giv-

ing rise to different attitudinal stances in the face of a stimulus which, although perhaps "objectively" the same, is not so for those who have constructed it differently. An example of this is Asch's (1940) classic experiment in which it was found that those respondents who had evaluated the profession of "politician" in highly favorable terms and those who had evaluated it in very unfavorable terms did not actually differ in the way in which they evaluated this profession (in judging the object) but rather differed in what they understood by "politician" (object of judgment) (see also Asch, 1948, 1952; Hastorf & Cantril, 1954; Lord, Lepper, & Ross, 1979; Vallone, Ross, & Lepper, 1985; Ross & Nisbett, 1991). This construal of the object (or of a given situation), and not its "objective" qualities, will be what in the end influences the person's behavior:

The impact of any "objective" stimulus situation depends upon the personal and subjective meaning that the actor attaches to that situation. To predict the behavior of a given person successfully, we must be able to appreciate the actor's construal of the situation – that is, the manner in which the person understands the situation as a whole (Ross & Nisbett, 1991, p. 11).

At this point of our argument, the following step is obvious. As we have just pointed out, the actions of human beings are not carried out automatically on being within a given situation or on perceiving a certain stimulus, but rather depend on an internal process of interpretation of that reality. Therefore, if, as we have stated before, the liar wants the victim to behave in a way that will benefit him/her (the liar), s/he must first influence the way in which the victim interprets the circumstances in which s/he (the victim) finds himself or herself.

Returning to the previous definition by Russow, now, it is not merely a matter of D behaving as if s/he were in situation A, but, for D to behave thus, D must first *believe* that s/he is in situation A. Russow herself, following another line of reasoning and with purposes different from ours, nevertheless hits on a definition which is useful to us for illustrating this point:

An organism S can be said to deceive D if and only if S's effect on D is a causal factor in D's having a false

belief that it is in situation A, where D's acting on that belief is more advantageous to S than D's acting on the belief that it is in situation B (the actual situation) (Russow, 1986, p. 46).

We do not understand "belief" in the limited sense of philosophical (and not psychological) functionalism as it is defined by Russow when formulating this latter definition (we have already stated that our means to reach that definition differ from those of Russow, and our purpose in presenting it differs from hers). We do not need it: We are referring to deception among human beings and we can, therefore, refer to beliefs in all their complexity when they have been defined in the field of psychology with reference to human beings: "The opinions, knowledge and thoughts someone has about an attitude object" (Hewstone, Stroebe, & Stephenson, 1996, p. 607). Also, a belief has been defined as:

A simple proposition, conscious or unconscious, inferred from what a person says or does. The content of a belief can describe an object or situation as true or false, evaluate it as good or bad, or recommend a certain course of action (Diccionario de las Ciencias de la Educación, 1983).

Ajzen (1995) maintains that:

As used by social psychologists, beliefs represent people's information about themselves and about their social and nonsocial environment, be that information accurate or inaccurate. A belief associates an object with a certain attribute (pp. 88-89).

This link between an object (e.g., the person interviewed) and an attribute (e.g., innocent) as the basic element of a belief (e.g., the belief that the person interviewed is innocent) is the essential element in Eagly and Chaiken's (1993) definition of belief as "the associations or linkages that people establish between the attitude object and various attributes" (p. 103). Also interesting are some observations given in the entry "belief" in the Dictionary of Sociology edited in Mexico in 1963 by Fairchild: It is pointed out that there are false beliefs and true beliefs, and that a belief can be based on true evidence or on a prejudice, on an intuition or on deceptive appearances. It is then added that

people act as decidedly on the basis of false beliefs as on that of true beliefs.

In short: We have beliefs. These represent the information we have on ourselves and our environment. Every belief consists of an association between an object and an attribute. Beliefs can be true or false. They can be based on deceptive appearances, but in any case, they determine our behavior.

So we return to the suspect at the beginning of this subsection. Let us recall what was said then: "the suspect (sender) who denies being involved in a crime (lie) before the police (receiver) does this so that the police will leave him or her alone (action of the receiver) and s/he will thus escape a possible sentence (benefit for the sender)." In the light of what has been said above, we must admit that there is something missing in this formula. The correct version would be as follows: "the suspect (sender) who denies being involved in a crime (lie) before the police (receiver) *does this so that the police will believe that s/he did not commit the crime (false belief) and consequently* will leave him or her alone (action of the receiver) and s/he will thus escape a possible sentence (benefit for the sender)."

So far we have been talking about generating a belief. But, it goes without saying, if the sender considers that the receiver already has a false belief which may make him or her act in benefit of the sender, then s/he may opt not to reveal the truth. This would be a case of concealment, such as those discussed above. Someone has committed a crime. There are, however, no reasons to suspect that s/he is guilty, and s/he knows it. S/he is subjected to routine questioning and does not deny the false belief that the interrogator has that s/he is innocent. This would also be deception.

In conclusion: Deception has an instrumental purpose; it is not a means in itself. The liar thus seeks to make the receiver behave in a way that will benefit him or her (the liar). To do this, since we are dealing with human and therefore cognitively complex actors, the liar must first try to generate in the receiver a false belief that will make the latter behave as the liar

wishes. However, if the receiver already has a false belief that may benefit the liar, the liar may opt to not correct that impression.

### **...a belief that the communicator considers false**

Deceiving, we have just argued, consists of creating a belief in the receiver. But this belief must be false, at least in the eyes of the sender. Trying to create in the receiver, by means of the communication, a belief that the sender himself or herself does not consider false, would not be deception, but merely a persuasive communication.

Of course, the perception that the sender has of reality is more important than reality itself. This is similar to what was argued above about the receiver. If the communicator describes to another person a state of things that s/he considers false, but which is actually true, s/he is still deceiving. For instance, suppose we have a certain CD locked away in our office, because we do not want to lend it to anybody as it is very valuable and we don't want it to be lost. Unknown to us, an assistant who has access to our office has seen the CD and has taken it without telling us. S/he has then left it in the department common room. If, under these circumstances, a colleague from the department whom we promised to lend the CD asks for it, and we say "Look in the common room. It's there," we will be lying. We believe that it is not there. The information is true, but we did not know this, and, in fact, we intended to deceive our colleague.

We should therefore clarify what has been stated above. It is not so much a matter of fabricating a false belief in the receiver as of fabricating in the receiver a belief *that the sender himself or herself considers false*. Indeed, the sender can be mistaken and consider false some information that is not false, or, as we saw at the beginning of this paper, consider true some information that is really false, in which case –the latter–, s/he would not be lying. For instance, some authors have argued that since psychotic patients believe their misrepresentations, they

should not be considered liars (e.g., Ekman, 1985; Ford, 1996; Miller & Stiff, 1993). And we have already argued that alterations due to cognitive deficiencies (lack of competence) cannot be considered lies. For example, a witness whose memory has been contaminated or implanted will believe that the information s/he is giving us is true (e.g., Loftus, 1979, 1997). According to our definition, that witness would not be lying. This takes us back to the beginning of this paper, where we spoke of intent to deceive.

In summary, rather than of fabricating an objectively false belief in the receiver, deception consists of fabricating a belief that the communicator himself or herself considers false. If the information that the sender provides is truthful, but s/he considers it false, we can say that s/he is lying. If the information that the sender provides is false, but s/he believes it is truthful, we cannot say that s/he is lying.

This has implications for the detectability of deception. The nonverbal approach to the evaluation of credibility requires that, for a lie to be detected, the sender be aware that s/he is altering the information. A sender who gives information that s/he considers true, but which is false, in principle will not experience certain psychological processes associated with deception (e.g., arousal, cognitive overload, certain emotions, and the need to control his or her behavior; Zuckerman, DePaulo *et al.*, 1981) which may give rise to nonverbal deception cues. Therefore, that sender will not be detected in this way. On the other hand, the person who gives true information thinking that it is false will believe that s/he is lying, and therefore will experience the internal processes associated with deception, which may give rise to some behavioral indicators that will give him or her away. This contrasts with what occurs with some verbal techniques such as the *Criteria-Based Content Analysis (CBCA)* (e.g., Garrido & Masip, 2001; Ruby & Brigham, 1997; Steller & Köhnken, 1989; Vrij & Akehurst, 1998) or the *Reality Monitoring approach (RM)* (e.g., Alonso-Quecuty, 1992; Hernández-Fernaud & Alonso-

Quecuty, 1997; Masip, Sporer, Garrido, & Herrero, in press; Porter & Yuille, 1996; Sporer, in press; Vrij, Edward, Roberts, & Bull, 2000). In these the emphasis is not on the behavioral correlates of certain processes that occur in the sender who knows s/he is lying, but on the information itself. They try to determine whether what the witness expresses are events that s/he has experienced directly or events that have been generated internally. For instance, it is maintained that an internally generated (i.e., imagined) account will contain less contextual and sensorial details than the account of an actual (i.e., truthful) experience (Reality Monitoring) –and this no matter whether the sender believes s/he is lying or not. Notwithstanding the above, some empirical results question this idea, which is so reasonable on the theoretical domain. Thus, Offe (2000) states that, despite the initial expectation that procedures for analyzing testimony would be capable of distinguishing between statements of experienced events and those of suggested episodes, this is not so (see also Volbert, 1999).

## Conclusion

At first, when considering the writing of this article, we thought of including a list of the definitions that different scholars give of deception or lying. We immediately realized, however, that there was not much sense in doing this, because it would result in a tedious and unending “catalogue” of definitions, since there seem to be almost as many definitions of deception as authors studying it. Nevertheless, and despite its diversity, as indicated at the beginning of this article most of these definitions seem to include at least one of the three elements that Coleman and Kay (1981) identified as components of the prototypical lie: The objective falsity of the proposition, the sender’s belief in this falsity and the intention of the sender to deceive the receiver.

Taking as a basis these elements, and starting from Miller and Stiff’s (1993) definition of deceptive communication, we have elaborated

and presented in this article an integrated definition of deception which we hope will be useful for psychologists, communication scholars and other social scientists. Each term of this definition has been discussed in detail, explained, and its inclusion justified. To do this, reference has been made to the literature on the detection of deception, verbal and nonverbal communication, and social psychology, referring to theoretical formulations such as McCornack’s Information Manipulation Theory, Ekman and Friesen’s leakage hypothesis and their classification of nonverbal behavior, certain conceptual contributions from Buller and Burgoon, and so on.

Our objective in presenting this definition is to contribute to dissipate the relative lack of agreement among authors from the fields of both communication and psychology as regards what can be understood as deception. In this regard, a possible “weakness” of the present paper may be that it neglects some distinctions between different kinds of deception, or between concealment and fabrication, lying and deception, etc. that have been pointed out by some scholars. However, this neglect has been intentional. Current meta-analyses (e.g., DePaulo *et al.*’s, 2003) provide very vague and limited definitions of deception (“a deliberate attempt to mislead others,” DePaulo *et al.*, 2003, p. 74). However, in many studies included in these meta-analyses a concept of deception that does not fit these general descriptions may have been used. An inclusive and, at the same time, rigorous definition of deception was therefore needed. This definition had to integrate the definitions of these individual studies, although this implicated having to neglect certain interesting distinctions. In this paper we have attempted to create such a definition. The different views of many of the more important researchers in this field are included in our proposal, and the notions that are found explicitly or implicitly in the prior definitions and in the popular concept of lying have not at all been disregarded. We thus hope to have contributed to the reaching of a consensus on this matter.

### Acknowledgements

This research was supported by the *Junta de Castilla y León, Programa de Apoyo a Proyectos de Investigación*, Ref. 30/98.

### Notes

- <sup>1</sup> Certain perspectives close to biology or sociobiology suggest other types of conceptualizations. Obviously the non-intentionality of cognitively very simple organisms, which have, however, developed evolutionary strategies of deception to protect themselves from predators or to obtain food, questions the validity of the factors of intentionality and knowledge and/or belief of what is true or not. Given that this paper focuses on the deception of human beings by other human beings and given that the definition proposed is intended to be useful only for this type of deception, we shall not go into matters related to the lie in lower organisms or its connections, differences and similarities with the human lie. Readers interested in these topics should refer to Bond, Kahler, and Paolicelli (1985), Chevalier-Skolnikoff (1986), Kraut (1980), Menzel (1986), and Mitchell and Thomson (1986a,b), among others. We would recommend as of great interest the observations of Bond and Robinson (1988), as well as Mitchell's (1986) "levels of deception," although undoubtedly the most attractive and well-formulated analysis on the subject is that of Russow (1986).
- <sup>2</sup> See also the similar concepts of *omission* and *falsification* as described by Meets (1989) and of *concealment* and *distortion* as described by Turner, Edgley, and Olmstead (1975). Further on we shall describe McCormack's (1992) *Information Manipulation Theory* or *IMT*, in which violations of Grice's (1989) *maxim of quantity* and *maxim of quality*, which we shall introduce later on, are similar to concealment and falsification.
- <sup>3</sup> Of course, this attempt on the part of the player to hide genuine happiness may or may not be successful. Indeed, the expression of happiness could "leak out" despite the player's efforts to repress it, thus giving rise to what Ekman and Friesen (e.g., 1969a, 1974) call *leakage*. Or we may notice "something strange" in the supposedly neutral facial expression of the player, without it being very clear which emotion it would correspond to. In that case we would be facing what Ekman and Friesen call *deception clues*. The detailed discussion of these aspects goes beyond the purposes of the present article. The interested reader can refer to Ekman (1992).
- <sup>4</sup> Notice how this instrumental conceptualization agrees with the view of deception as a deliberate or intentional strategy discussed earlier.
- <sup>5</sup> Other forms of deception mentioned by other authors and not discussed by McCormack (1992) could also fit into his IMT. For example, Ekman (1997) adds to concealment and falsification the strategies of "telling a half-truth as if it were a whole truth" and "the incorrect inference dodge." The former is exemplified by the story of a wife who answers her husband's question as to whether she likes their neighbor by saying "He's nice" when really she's having an affair with him. It is obvious that this would be a violation of the maxim of quantity. The incorrect inference is described by Ekman with the case of someone who goes to an art gallery where a friend has an exhibition and finds that the paintings are awful. When the artist asks whether he likes her paintings, he replies "Incredible. I can't believe it. How did you do that?" (p. 95). He is being sincere, knowing that she will incorrectly infer that he likes her paintings, when this is not really so. This strategy could be considered a violation of Grice's maxim of manner. O'Hair and Cody (1994) devote part of their article (pp. 184-189) to reviewing the different classifications of lies. Their review exceeds the limited scope of the taxonomies in McCormack's (1992) paper, although, unlike McCormack, O'Hair and Cody make no attempt to integrate them into IMT.
- <sup>6</sup> "All deception works within the context of honesty" (Mitchell & Thomson, 1986a, p. 358). In this regard, the phenomenon of *truth bias* is relevant: Receivers tend to consider every information as truthful (see Levine, Park, & McCormack, 1999). Deception can only work in this context.
- <sup>7</sup> Although Ekman and Friesen's classification has received great recognition over the years, some have suggested modifications of it. For example, Fernando Poyatos (1994) observes that it only refers to kinesics. This leads him to propose new categories to include manifestations not only of a kinesic type, but also of a paralinguistic, proxemic, chemical, dermal, thermal, and objectual nature (see Poyatos, 1994; also Poyatos, 1986).
- <sup>8</sup> The page numbers of the article by Ekman and Friesen do not refer to those of the journal *Semiotica* in which it was originally published in 1969, but to its reprinting in the book edited by Kendon in 1981, to which the authors had easier access.
- <sup>9</sup> Ekman and Friesen (1969b) illustrated the category of alter-directed adaptors with a case described in Washburn (1967, cited in Ekman & Friesen, 1969b) which, besides being illustrative, is quite amazing. Washburn noticed that the threat behavior of adult baboons included turning the head to one side. This seemed to lack any functional value. The reason for this behavior was found when examining situations in which young baboons learned to fight. It seems that in order to learn, the little baboons attack other members of their group, but only if their mother is present since she can protect them from any harm. During the baboons' infancy, looking to one side is part of the behavior pattern associated with threat and attack, since its purpose is to check that the mother is actually present. Habit makes that this behavior is kept until adulthood, although by then it has lost its adaptive value.

<sup>10</sup> Probably the belief that self-adaptors or self-manipulations increase when lying is based on the assumption that people get nervous when they lie, and therefore they must display behaviors indicating nervousness, such as a general increase in movements and self-manipulations (e.g., Knapp *et al.*, 1974; Köhnken, 1989). The first meta-analyses on the cues to deception (DePaulo, Stone, & Lassiter, 1985; Zuckerman, DePaulo, & Rosenthal, 1981) indicated that an increase in this type of behavior actually occurred when lying, so that this belief could be accurate. However, recent reviews by Aldert Vrij (1998, 2000) do not show any increase, and his empirical works (Mann, Vrij, & Bull, 2000; Vrij, 1995, 1997; Vrij *et al.*, 1997; Vrij & Mann, 2001; Vrij, *et al.*, 1996; Vrij & Winkel, 1993) indicate that, in fact, nervous movements, in particular those made with the hands, *decrease* when lying. The reason for this may be that since the senders believe that hand movements signal deception, they try to inhibit them during deception. However, they end up overinhibiting those movements, reducing their occurrence to below their usual level during truthful communications.

<sup>11</sup> According to Zuckerman, DePaulo *et al.* (1981) deception cues and leakages may be caused by four processes: the cognitive complexity entailed in lying, the liar's attempt to control his or her behavior when sending the deceptive message, the leaking of his or her emotions, and the arousal that s/he may experience. Each of these processes has directly observable behavioral correlates, although these behaviors may also be originated by factors other than lying (see, for example, De Paulo *et al.*, 1985; Masip & Garrido, 2000; Vrij, 2000; Zuckerman, DePaulo *et al.*, 1981).

## References

- Ajzen, I. (1995). *Beliefs*. In A. S. R. Manstead & M. Hewstone (Eds.), (1995). *The Blackwell encyclopedia of social psychology* (pp. 88-89). Oxford: Blackwell.
- Akehurst, L., Köhnken, G., Vrij, A., & Bull, R. (1996). Lay persons' and police officers' beliefs regarding deceptive behaviour. *Applied Cognitive Psychology*, 10(6), 461-471.
- Alonso-Quecuty, M. L. (1992). Deception detection and reality monitoring: A new answer to an old question? In F. Lösel, D. Bender, & T. Bliesener (Eds.), *Psychology and law: International perspectives* (pp. 328-332). Berlin: Walter de Gruyter.
- Al-Simadi, F. A. (2000). Jordanian students' beliefs about nonverbal behaviors associated with deception in Jordan. *Social Behavior and Personality*, 28(5), 437-442.
- Asch, S. E. (1940). Studies in the principles of judgments and attitudes: II. Determination of judgments by group and by ego standards. *Journal of Social Psychology*, 12, 433-465.
- Asch, S. E. (1948). The doctrine of suggestion, prestige, and imitation in social psychology. *Psychological Review*, 55, 250-277.
- Asch, S. E. (1952). *Social psychology*. New York: Prentice-Hall.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Bandura, A. (1991). Social cognitive theory of moral thought and action. In W. M. Kurtines & J. L. Gewirtz (Eds.), *Handbook of moral behavior and development* (Vol. 1, pp. 45-103). Hillsdale, NJ: Erlbaum.
- Bavelas, J. B., Black, A., Chovil, N., & Mullen, J. (1990). *Equivocal communication*. Newbury Park, CA: Sage.
- Biland, C., Py, J., & Rimboud, S. (1999). Evaluer la sincérité d'un témoin grâce à trois techniques d'analyse, verbales et non verbales. *Revue Européenne de Psychologie Appliquée*, 49(2), 115-121.
- Bond, C. F. Jr., & Robinson, M. (1988). The evolution of deception. *Journal of Nonverbal Behavior*, 12(4), 295-307.
- Bond, C. F. Jr., Kahler, K. N., & Paolicelli, L. M. (1985). The miscommunication of deception: An adaptive perspective. *Journal of Experimental Social Psychology*, 21(4), 331-345.
- Buller, D. B., & Burgoon, J. K. (1994). Deception: Strategic and nonstrategic communication. In J. A. Daly & J. M. Wiemann (Eds.), *Strategic interpersonal communication* (pp. 191-223). Hillsdale, NJ: Erlbaum.
- Buller, D. B., & Burgoon, J. K. (1996). Interpersonal deception theory. *Communication Theory*, 6(3), 203-242.
- Buller, D. B., & Burgoon, J. K. (1998). Emotional expression in the deception process. In P. A. Andersen & L. Guerrero (Eds.), *Handbook of communication and emotion. Research, theory, applications and contexts* (pp. 381-402). San Diego, CA: Academic Press.
- Bussey, K., Lee, K., & Grimbeck, E. J. (1993). Lies and secrets: Implications for children's reporting of sexual abuse. In G. Goodman & B. L. Bottoms (Eds.), *Child victims, child witnesses. Understanding and improving testimony* (pp. 147-168). New York: The Guilford Press.
- Chevalier-Skolnikoff, S. (1986). An exploration of the ontogeny of deception in human beings and nonhuman primates. In R. W. Mitchell & N. Thomson (Eds.), *Deception, perspectives on human and nonhuman deceit* (pp. 205-220). New York: State University of New York Press.
- Coleman, L., & Kay, P. (1981). Prototype semantics: The English word lie. *Language*, 57, 26-44.
- Comadena, M. E. (1982). Accuracy in detecting deception: Intimate and friendship relationships. In M. Burgoon (Ed.), *Communication yearbook* (pp. 446-472). Beverly Hills: Sage.
- Davies, G. (1999). Contamination of witness memory. In A. Heaton-Armstrong, E. Shepherd, & D. Wolchover (Eds.), *Analysing witness testimony: Psychological, Investigative and Evidential Perspectives. A guide for legal practitioners and other professionals* (pp. 19-29). London: Blackstone Press.
- DePaulo, B. M. (1992). Nonverbal behavior and self-presentation. *Psychological Bulletin*, 111(2), 203-243.

- DePaulo, B. M., Lindsay, J. J., Malone, B. E., Muhlenbruck, L., Charlton, K., & Cooper, H. (2003). Cues to deception. *Psychological Bulletin*, *129*(1), 74-118.
- DePaulo, B. M., & Rosenthal, R. (1979a). Ambivalence, discrepancy, and deception in nonverbal communication. In R. Rosenthal (Ed.), *Skill in nonverbal communication. Individual differences* (pp. 204-248). Cambridge, MA: Oelgeschlander, Gunn & Hain.
- DePaulo, B. M., & Rosenthal, R. (1979b). Telling lies. *Journal of Personality and Social Psychology*, *37*(10), 1713-1722.
- DePaulo, B. M., Rosenthal, R., Green, C. R., & Rosenkrantz, J. (1982). Diagnosing deceptive and mixed messages from verbal and nonverbal cues. *Journal of Experimental Social Psychology*, *18*, 433-446.
- DePaulo, B. M., Stone, J. L., & Lassiter, G. D. (1985). Deceiving and detecting deceit. In B. R. Schlenker (Ed.), *The self and social life* (pp. 323-370). New York: McGraw-Hill.
- DePaulo, B. M., Zuckerman, M., & Rosenthal, R. (1980). Detecting deception. Modality effects. In L. Wheeler (Ed.), *Review of personality and social psychology* (Vol. 1, pp. 125-162). London: Sage.
- DePaulo, P. J., & DePaulo, B. M. (1989). Can deception by salespersons and customers be detected through nonverbal behavioral cues? *Journal of Applied Social Psychology*, *19*(18), 1552-1577.
- Diccionario de las Ciencias de la Educación* (1983). Directed by S. Sánchez. Madrid: Editorial Diagonal/Santillana.
- Eagly, A. H., & Chaiken, S. (1993). *The psychology of attitudes*. Fort Worth, TX: Harcourt Brace College Publishers.
- Ekman, P. (1972). Universals and cultural differences in facial expressions of emotion. In J. Cole (Ed.), *Nebraska Symposium on Motivation 1971* (Vol. 19, pp. 207-283). Lincoln, NE: University of Nebraska Press.
- Ekman, P. (1981). Mistakes when deceiving. *Annals of the New York Academy of Sciences*, *364*, 269-278.
- Ekman, P. (1985). *Telling lies. Clues to deceit in the marketplace, politics, and marriage*. New York: W. W. Norton & Company.
- Ekman, P. (1989). *Why kids lie. How parents can encourage truthfulness*. New York: Penguin.
- Ekman, P. (1992). *Telling lies. Clues to deceit in the marketplace, politics, and marriage* (2nd. ed.). New York: W. W. Norton & Company.
- Ekman, P. (1997). Deception, lying, and demeanor. In D. F. Halpern & A. E. Voiskounsky (Eds.), *States of mind. American and post-Soviet perspectives on contemporary issues in psychology* (pp. 93-105). New York: Oxford University Press.
- Ekman, P., & Frank, M. G. (1993). Lies that fail. In M. Lewis & C. Saarni (Eds.), *Lying and deception in everyday life* (pp. 184-200). London: The Guilford Press.
- Ekman, P., & Friesen, W. V. (1969a). Nonverbal leakage and clues to deception. *Psychiatry*, *32*, 88-106. (Reprinted in S. Weitz, 1974 [see reference], pp. 269-290).
- Ekman, P., & Friesen, W. V. (1969b). The repertoire of nonverbal behavior: Categories, origins, usage and coding. *Semiotica*, *1*, 49-98. (Reprinted in A. Kendon, 1981 [see reference], pp. 57-105).
- Ekman, P., & Friesen, W. V. (1974). Detecting deception from the body or face. *Journal of Personality and Social Psychology*, *29*(3), 288-298.
- Ekman, P., & Friesen, W. V. (1975). *Unmasking the face: A guide to recognizing emotions from facial clues*. New York: Prentice-Hall.
- Ekman, P., & Friesen, W. V. (1982). Felt, false, and miserable smiles. *Journal of Nonverbal Behavior*, *6*(4), 238-252.
- Ekman, P., Friesen, W. V., & O'Sullivan, M. (1988). Smiles when lying. *Journal of Personality and Social Psychology*, *54*(3), 414-420.
- Ekman, P., & O'Sullivan, M. (1989). Hazards in detecting deceit. In D. C. Raskin (Ed.), *Psychological methods in criminal investigation and evidence* (pp. 297-332). New York: Springer.
- Ellsworth, P. C., & Mauro, R. (1998). Psychology and law. In D. T. Gilbert, S. T. Fiske, & G. Lindzey (Eds.), *The handbook of social psychology* (Vol. 2, pp. 684-732). Boston, MA: McGraw Hill.
- Fairchild, H. P. (1963) (Ed.), *Diccionario de Sociología*. México, DF: Fondo de Cultura Económica.
- Feldman, R. S., Jenkins, L., & Popoola, O. (1979). Detection of deception in adults and children via facial expressions. *Child Development*, *50*(2), 350-355.
- Feldman, R. S., Tomasian, J. C., & Coats, E. J. (1999). Nonverbal deception abilities and adolescents' social competence: Adolescents with higher social skills are better liars. *Journal of Nonverbal Behavior*, *23*(3), 237-249.
- Feldman, R. S., & White, J. B. (1980). Detecting deception in children. *Journal of Communication*, *30*, 121-128.
- Fernández-Dols, J. M. (1994). El comportamiento no verbal. In J. F. Morales, M. Moya, E. Reboloso, J. M. Fernández, C. Huici, J. Marqués, D. Páez, & J. A. Pérez (Eds.), *Psicología social* (pp. 361-390). Madrid: McGraw-Hill.
- Ford, C. V. (1996). *Lies! Lies!! Lies!!! The psychology of deceit*. Washington, DC: American Psychiatric Press.
- Frank, M. G. (1992). Commentary: On the structure of lies and deception experiments. In S. J. Ceci, M. D. Leichtman, & M. Putnick (Eds.), *Cognitive and social factors in early deception* (pp. 127-146). Hillsdale, NJ: Lawrence Erlbaum.
- Garrido, E., & Masip, J. (2001). La evaluación psicológica en los supuestos de abusos sexuales. In F. Jiménez (Ed.), *Evaluación psicológica forense 1: Fuentes de información, abusos sexuales, testimonio, peligrosidad y reincidencia* (pp. 25-140). Salamanca: Amarú.
- Granhag, P. A., & Strömwall, L. A. (1999). *Deception detection based on repeated interrogations: Effects of information presentation and integration*. Unpublished manuscript.
- Granhag, P. A., & Strömwall, L. A. (2000). "Let's go over this again..." Effects of repeated interrogations on deception detection performance. In A. Czerederecka, T. Jaskiewicz-Obydzinska, & J. Wojcikiewicz (Eds.), *Forensic psychology and law. Traditional questions and new ideas* (pp. 191-196). Cracow: Institute of Forensic Research Publishers.
- Granhag, P. A., & Strömwall, L. A. (2001). Deception detection: Interrogators' and observers' decoding of

- consecutive statements. *Journal of Psychology*, 135(6), 603-620.
- Grice, P. (1989). *Studies in the way of words*. Cambridge, MA: Harvard University Press.
- Gudjonsson, G. (1992). *The psychology of interrogations, confessions and testimony*. Chichester: Wiley.
- Hall, H. V., & Pritchard, D. A. (1996). *Detecting malingering and deception. Forensic Distortion Analysis (FDA)*. Boca Raton, FL: St. Lucie Press.
- Hastorf, A., & Cantril, H. (1954). They saw a game. *Journal of Abnormal and Social Psychology*, 49, 129-134.
- Hayano, D. M. (1980). Communicative competence among poker players. *Journal of Communication*, 30, 113-120.
- Hernández-Fernaud, E., & Alonso-Quecuty, M. L. (1997). The cognitive interview and lie detection: A new magnifying glass for Sherlock Holmes? *Applied Cognitive Psychology*, 11(1), 55-68.
- Hewstone, M., Stroebe, W., & Stephenson, G. M. (Eds.), (1996). *Introduction to social psychology*. Oxford: Blackwell.
- Hocking, J. E. (1977). *Detecting deceptive communication from verbal, visual, and paralinguistic cues: An exploratory experiment*. Doctoral Dissertation. Michigan State University.
- Hocking, J. E., & Leathers, D. G. (1980). Nonverbal indicators of deception: A new theoretical perspective. *Communication Monographs*, 47(2), 119-131.
- Jacobs, S., Dawson, E. J., & Brashers, D. (1996). Information manipulation theory: A replication and assessment. *Communication Monographs*, 63(1), 70-82.
- Kendon, A. (Ed.) (1981). *Nonverbal communication, interaction, and gesture. Selections from Semiotica*. The Hague: Mouton Publishers.
- Knapp, M. L., Hart, R. P., & Dennis, H. S. (1974). An exploration of deception as a communication construct. *Human Communication Research*, 1(1), 15-29.
- Köhnken, G. (1985). Speech and deception of eyewitnesses: An information processing approach. In F. L. Denmark (Ed.), *Social/ecological psychology and the psychology of women* (pp. 117-139). North-Holland: Elsevier Science Publishers B. V.
- Köhnken, G. (1987). Training police officers to detect deceptive eyewitness statements: Does it work? *Social Behavior*, 2(1), 1-17.
- Köhnken, G. (1989). Behavioral correlates of statement credibility: Theories, paradigms, and results. In H. Wegener, F. Lösel, & J. Haisch (Eds.), *Criminal behavior and the justice system* (pp. 271-289). London: Springer Verlag.
- Kraut, R. (1980). Humans as lie detectors. Some second thoughts. *Journal of Communication*, 30, 209-216.
- Lamb, M. E., Sternberg, K. J., & Esplin, P. W. (1994). Factors influencing the reliability and validity of statements made by young victims of sexual maltreatment. *Journal of Applied Developmental Psychology*, 15(2), 225-280.
- Leekam, S. R. (1992). Believing and deceiving: Steps to becoming a good liar. In S. J. Ceci, M. D. Leichtman, & M. Putnick (Eds.), *Cognitive and social factors in early deception* (pp. 47-62). Hillsdale, NJ: Lawrence Erlbaum.
- Levine, T. R., Park, H. S., & McCornack, S. A. (1999). Accuracy in detecting truths and lies: Documenting the "veracity effect". *Communication Monographs*, 66, 125-144.
- Loftus, E. F. (1979). *Eyewitness testimony*. Cambridge, MA: Harvard University Press.
- Loftus, E. F. (1997). Creating false memories. *Scientific American*, 277, 70-75.
- Lord, C. G., Lepper, M. R., & Ross, L. (1979). Biased assimilation and attitude polarization: The effects of prior theories on subsequently considered evidence. *Journal of Personality and Social Psychology*, 37(11), 2098-2109.
- Lykken, D. T. (1998). *A tremor in the blood. Uses and abuses of the lie detector*. New York: Plenum Press.
- Magaldi, M. J. (1987). *El falso testimonio en el sistema penal español*. Barcelona: Promociones Publicaciones Universitarias.
- Mann, S., Vrij, A., & Bull, R. (2000). Telling and detecting true-lies. In A. Czerederecka, T. Jaskiewicz-Obydzinska, & J. Wojcikiewicz (Eds.), *Forensic psychology and law. Traditional questions and new ideas* (pp. 221-225). Cracow: Institute of Forensic Research Publishers.
- Manzanero, A. L. (2000). Credibilidad y exactitud de los recuerdos de menores víctimas de agresiones sexuales. *Anuario de Psicología Jurídica*, 10, 49-67.
- Manzanero, A. L., & Diges, M. (1993). Evaluación subjetiva de la exactitud de las declaraciones de los testigos: La credibilidad. *Anuario de Psicología Jurídica*, 3, 7-27.
- Masip, J., & Garrido, E. (2000). La evaluación de la credibilidad del testimonio en contextos judiciales a partir de indicadores conductuales. *Anuario de Psicología Jurídica*, 10, 93-131.
- Masip, J., Sporer, S. L., Garrido, E., & Herrero, C. (in press). The detection of deception with the Reality Monitoring approach: A review of the empirical evidence. *Psychology, Crime & Law*.
- McCornack, S. A. (1992). Information Manipulation Theory. *Communication Monographs*, 59(1), 1-16.
- McCornack, S. A., Levine, T. R., Morrison, K., & Lapinski, M. (1996). Speaking of information manipulation: A critical rejoinder. *Communication Monographs*, 63(1), 83-91.
- McCornack, S. A., Levine, T. R., Solowczuk, K., Torres, H. I., & Campbell, D. (1992). When the alteration of information is viewed as deception: An empirical test of Information Manipulation Theory. *Communication Monographs*, 59(1), 17-29.
- Meets, S. (1989). An exploratory investigation of deception in close relationships. *Journal of Social and Personal Relationships*, 6, 159-180.
- Menzel, E. W. Jr. (1986). Preface. In R. W. Mitchell & N. Thomson (Eds.), *Deception, perspectives on human and nonhuman deceit* (pp. xv-xix). New York: State University of New York Press.

- Miller, G. R. (1983). Telling it like it isn't and not telling it like it is: Some thoughts on deceptive communication. In J. I. Sisco (Ed.), *The Jensen lectures* (pp. 91-116). Tampa, FL: University of South Florida.
- Miller, G. R., Bauchner, J. E., Hocking, J. E., Fontes, N. E., Kaminski, E. P., & Brandt, D. R. (1981). ...and nothing but the truth. How well can observers detect deceptive testimony? In B. D. Sales (Ed.), *Perspectives in law and psychology, vol. II: The trial process* (pp. 145-179). New York: Plenum Press.
- Miller, G. R., & Burgoon, J. K. (1982). Factors affecting assessments of witness credibility. In N. Kerr & R. Bray (Eds.), *The psychology of the courtroom* (pp. 169-194). New York: Academic Press.
- Miller, G. R., & Stiff, J. B. (1993). *Deceptive communication*. Newbury Park: Sage.
- Mitchell, R. W. (1986). A framework for discussing deception. In R. W. Mitchell & N. Thomson (Eds.), *Deception, perspectives on human and nonhuman deceit* (pp. 3-40). New York: State University of New York Press.
- Mitchell, R. W., & Thomson, N. (1986a). Epilogue. In R. W. Mitchell & N. Thomson (Eds.), *Deception, perspectives on human and nonhuman deceit* (pp. 357-361). New York: State University of New York Press.
- Mitchell, R. W., & Thomson, N. (1986b). Introduction. In R. W. Mitchell & N. Thomson (Eds.), *Deception, perspectives on human and nonhuman deceit* (pp. xxiii-xxv). New York: State University of New York Press.
- Morris, R. A. (1989). The admissibility of evidence derived from hypnosis and polygraphy. In D. C. Raskin (Ed.), *Psychological methods in criminal investigation and evidence* (pp. 333-353). New York: Springer.
- O'Hair, D., & Cody, M. J. (1994). Deception. In W. R. Cupach & B. H. Spitzberg (Eds.), *The dark side of interpersonal communication* (pp. 181-213). Hillsdale, NJ: Lawrence Erlbaum.
- Offe, H. (2000). El dictamen sobre la credibilidad de las declaraciones de testigos. *Anuario de Psicología Jurídica*, 10, 11-23.
- Parham, I. A., Feldman, R. S., Oster, G. D., & Popoola, O. (1981). Intergenerational differences in nonverbal disclosure of deception. *Journal of Social Psychology*, 113(2), 261-269.
- Porter, S., & Yuille, J. C. (1996). The language of deceit: An investigation of the verbal clues to deception in the interrogation context. *Law and Human Behavior*, 20(4), 443-458.
- Poyatos, F. (1986). Nonverbal categories as personal and sociocultural identifiers. In P. Bouissac, M. Herzfeld, & R. Posner (Eds.), *Iconicity: Essays on the nature of culture* (pp. 469-525). Tubinga: Staffenburg Verlag.
- Poyatos, F. (1994). *La comunicación no verbal, I. Cultura, lenguaje y conversación*. Madrid: Ediciones Istmo.
- Pryor, B., & Leone, C. (1981). Behavioral stereotypes of deceptive communication. *Trial*, 17, 14-19.
- Rosch, E., & Mervis, C. B. (1975). Family resemblances: Studies in the internal structure of categories. *Cognitive Psychology*, 7(4), 573-605.
- Ross, L., & Nisbett, R. E. (1991). *The person and the situation. Perspectives of social psychology*. Boston: McGraw-Hill.
- Ruby, C. L., & Brigham, J. C. (1997). The usefulness of the Criteria-Based Content Analysis technique in distinguishing between truthful and fabricated allegations. A critical review. *Psychology, Public Policy, and Law*, 3(4), 705-737.
- Russow, L.-M. (1986). Deception: A philosophical perspective. In R. W. Mitchell & N. Thomson (Eds.), *Deception, perspectives on human and nonhuman deceit* (pp. 41-51). New York: State University of New York Press.
- Saarni, C., & Lewis, M. (1993). Deceit and illusion in human affairs. In M. Lewis & C. Saarni (Eds.), *Lying and deception in everyday life* (pp. 1-29). London: The Guilford Press.
- Sánchez, F., & Becerra, A. (1991). El tema de la pregunta y la elaboración de las respuestas en la detección de la mentira. *Revista de Psicología Social*, 6(1), 73-83.
- Schefflen, A. E. (1965). Quasi-courting behavior in psychotherapy. *Psychiatry*, 28, 245-257.
- Snyder, C. R., & Higgins, R. L. (1988). From making to being the excuse: An analysis of deception and verbal/nonverbal issues. *Journal of Nonverbal Behavior*, 12(4), 237-252.
- Sporer, S. L. (in press). Reality monitoring and the detection of deception. In P.-A. Granhag, & L. Strömwall (Eds.), *Deception detection in forensic contexts*. Cambridge University Press.
- Steller, M. (1989). Recent developments in statement analysis. In J. C. Yuille (Ed.), *Credibility assessment* (pp. 135-154). Dordrecht: Kluwer Academic Publishers.
- Steller, M., & Kohnken, G. (1989). Criteria-Based Statement Analysis. In D. C. Raskin (Ed.), *Psychological methods in criminal investigation and evidence* (pp. 217-245). New York: Springer.
- Stone, M. (1991). Instant lie detection? Demeanour and credibility in criminal trials. *The Criminal Law Review*, 821-830.
- Taylor, R., & Vrij, A. (2000). The effects of varying stake and cognitive complexity on beliefs about the cues to deception. *International Journal of Police Science and Management*, 3, 111-123.
- Turner, R. E., Edgley, C., & Olmstead, G. (1975). Information control in conversations: Honesty is not always the best policy. *Kansas Journal of Sociology*, 11, 69-89.
- Undeutsch, U. (1982). Statement reality analysis. In A. Trankell (Ed.), *Reconstructing the past: The role of psychologists in criminal trials* (pp. 27-56). Stockholm: Norsted.
- Undeutsch, U. (1984). Courtroom evaluation of eyewitness testimony. *International Review of Applied Psychology*, 33, 51-67.
- Undeutsch, U. (1989). The development of statement reality analysis. In J. C. Yuille (Ed.), *Credibility assessment* (pp. 101-119). Dordrecht: Kluwer Academic Publishers.
- Undeutsch, U. (1992). Highlights of the history of forensic psychology in Germany. In F. Lösel, D. Bender, & T.

- Bliesener (Eds.), *Psychology and law: International perspectives* (pp. 509-518). Berlin: Walter de Gruyter.
- Vallone, R. P., Ross, L., & Lepper, M. R. (1985). The hostile media phenomenon: Biased perception and perceptions of media bias in coverage of the "Beirut Massacre". *Journal of Personality and Social Psychology*, 49(3), 577-585.
- Volbert, R. (1999, July). Does CBCA differentiate between statements based on true versus pseudomemories? Paper presented at the *Psychology and law – International conference*, Dublin (Ireland).
- Vrij, A. (1994). The impact of information and setting on detection of deception by police detectives. *Journal of Nonverbal Behavior*, 18(2), 117-136.
- Vrij, A. (1995). Behavioral correlates of deception in a simulated police interview. *The Journal of Psychology*, 129(1), 15-28.
- Vrij, A. (1997). Changes in subtle hand/finger movements during attempted deception. In S. Redondo, V. Garrido, J. Pérez, & R. Barberet (Eds.), *Advances in psychology and law. International contributions* (pp. 147-154). Berlin: Walter de Gruyter.
- Vrij, A. (1998). Nonverbal communication and credibility. In A. Memon, A. Vrij, & R. Bull. (Eds.), *Psychology and law. Truthfulness, accuracy and credibility* (pp. 32-58). New York: McGraw-Hill.
- Vrij, A. (2000). *Detecting lies and deceit. The psychology of lying and the implications for professional practice*. Chichester: Wiley.
- Vrij, A., & Akehurst, L. (1998). Verbal communication and credibility: Statement Validity Assessment. In A. Memon, A. Vrij, & R. Bull. (Eds.), *Psychology and law. Truthfulness, accuracy and credibility* (pp. 3-31). New York: McGraw Hill.
- Vrij, A., Akehurst, L., & Morris, P. (1997). Individual differences in hand movements during deception. *Journal of Nonverbal Behavior*, 21(2), 87-102.
- Vrij, A., Edward, K., Roberts, K., & Bull, R. (2000). Detecting deceit via analysis of verbal and nonverbal behavior. *Journal of Nonverbal Behavior*, 24(4), 239-263.
- Vrij, A., & Graham, S. (1997). Individual differences between liars and the ability to detect lies. *Expert Evidence*, 5(4), 144-148.
- Vrij, A., & Mann, S. (2001). Telling and detecting lies in a high-stake situation: The case of a convicted murderer. *Applied Cognitive Psychology*, 15(2), 187-203.
- Vrij, A., & Semin, G. R. (1996). Lie experts' beliefs about nonverbal indicators of deception. *Journal of Nonverbal Behavior*, 20(1), 65-80.
- Vrij, A., Semin, G. R., & Bull, R. (1996). Insight into behavior displayed during deception. *Human Communication Research*, 22(4), 544-562.
- Vrij, A., & Winkel, F. W. (1992). Social skills, distorted perception and being suspect: Studies in impression formation and the ability to deceive. *Journal of Police and Criminal Psychology*, 8(1), 2-5.
- Vrij, A., & Winkel, F. W. (1993). Objective and subjective indicators of deception. *Issues in Criminological and Legal Psychology*, 20, 51-57.
- Wells, G. L. (1978). Applied eyewitness-testimony research: System variables and estimator variables. *Journal of Personality and Social Psychology*, 36(12), 1546-1557.
- Yeung, L. N. T., Levine, T. R., & Nishiyama, K. (1999). Information manipulation theory and perceptions of deception in Hong Kong. *Communication Reports*, 12(1), 1-11.
- Zuckerman, M., DePaulo, B. M., & Rosenthal, R. (1981). Verbal and nonverbal communication of deception. *Advances in Experimental Social Psychology*, 14, 1-59.
- Zuckerman, M., Koestner, R., & Driver, R. (1981). Beliefs about cues associated with deception. *Journal of Nonverbal Behavior*, 6(1), 105-114.

(Artículo recibido: 20-1-2004; aceptado: 29-3-2004)

