

## Lie Detection As an Attribution Process: The Anchoring Effect Revisited

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■ In this chapter, lie detection is conceptualized as a universal meta-communicative attribution task. Communications can be attributed either to the topic (e.g., advertising reflecting a genuine product advantage) or to the speaker (e.g., the advertising company's interests). While topic attribution implies high veracity, speaker attribution raises suspicion. The likelihood of eliciting this basic attribution module increases with factors such as linguistic anomalies, emotional arousal, or personal importance. New experimental methods and empirical results are reported that illustrate the basic theory assumptions, showing that veracity judgments can be influenced by cues which direct attention at the topic (veracity) or at the speaker (suspicion). In particular, the present approach raises an alternative account of the so-called anchoring effect in lie detection, that is, the higher suspicion when the communication task is to comprehend (topic focus) rather than to judge the truth (speaker focus). Using the computer mouse for online assessment of suspicion reactions, this phenomenon is shown to reflect the gradual development of topic versus speaker attributions, rather than an insufficient adjustment of an initial extreme anchor.

The aim of the present chapter is to delineate and illustrate an attributional theory of lie detection and credibility judgment, with particular reference to the so-called anchoring effect in lie detection.

All communication in everyday settings involves the meta-cognitive task of truth-monitoring. This requires communication participants to judge all the time - often under extreme uncertainty - whether an utterance reflects a true property of the topic of communication or some other motive or interest in the speaker. In attributional terms, truth-monitoring revolves around the conflict of topic attribution versus speaker attribution. Within this attributional framework, the role of several heuristic cues in mediating lie detection and credibility judgments will be emphasized. The proposed

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attribution process starts from an initial state of uncertainty which gradually changes in the direction of trust or suspicion, depending on whether the cues suggest topic or speaker attributions. The anchoring phenomenon is particularly relevant to this conception because it implies an opposite process, starting from an initial truth or deception anchor rather than an intermediate state of attributional uncertainty.

### **Theoretical Background of Lie Detection and Anchoring**

Traditionally, the detection of lies has been studied in forensic and diagnostic settings, rather than in everyday social communication (Christie & Geiss, 1970; Köhnen, 1987; Miller & Burgoon, 1982; Podlesny & Raskin, 1977; Szucko & Kleinmuntz, 1981). Maybe for this reason, lying and deception was largely considered in the context of emotionally charged, abnormal communications characterized by the leakage of fear, guilty feelings, nervousness, and lack of appropriate speech planning (see Ekman, 1985). Thus, the implicit (but hardly ever tested) theory underlying most early investigations relied on the central assumption that lying is an abnormal activity accompanied by exceptional emotional load stemming either from guilt and fear or from the cognitive difficulty of inventing false stories. From this perspective, the possibility of lie detection depends on whether the emotional (physiological, non-verbal) symptoms of the lie can be concealed or controlled effectively. The process of lie detection itself amounts to capturing those cues or symptoms that the liar cannot control and that authentically reflect the emotional reactions caused by the lie itself.

In more recent research on lying in everyday encounters, this belief in authenticated cues gives yield to the notion of heuristic cues to lie detection that may be unrelated to the process of lie production itself. These cues need not in any way causally reflect the process of lying and they may not be diagnostic at all regarding objective truth (Fiedler & Walka, 1993; Zuckerman et al., 1981). This is because the social learning environment does not provide regular and immediate feedback to learn the actual cue diagnosticities (i.e., the correlations between cues and the truth criterion), if an objective truth criterion exists at all. Moreover, the old theoretical premises yields the insight that lying is not an exceptional, emotional stressor but a normal, ubiquitous behavior that occurs very frequently and often serves a pro-social function of politeness or indirect communication (DePaulo et al., 1996; Fiedler, 1989; Turner, Edgley & Olmstead, 1975). For this reason, lying is a highly routinized and overlearned activity that hardly suffers at all from guilty feelings and emotional load.

With respect to everyday encounters, although judging the validity of statements is an omnipresent meta-communicative task, people often lack valid, authenticated cues and therefore have to rely on heuristical cues that may often reflect ill-founded stereotypes or naive theories of the lie (Fiedler, 1989). For example, such heuristic cues include infrequency (the reported event is too unusual or far-fetched to be believable), emotionality (self-disclosure and emotional revealing signals the truth), or verifiability (statements are less likely to be believed when they entail many factual references

to time, location, situation), as demonstrated by Fiedler and Walka (1993).

One of the most prominent findings in the modern heuristic approach to lie detection refers to the so-called anchoring effect mentioned at the outset. The original demonstration of this effect stems from Zuckerman, Koestner, Colella and Alton (1984) who manipulated the order of two orienting tasks. Receivers were either instructed to first understand what the communicator wants to say, before they were later asked to judge veracity or, conversely, the lie detection task preceded the comprehension task. Although these two orienting tasks were repeatedly alternated across many communications, the same statements appeared consistently more credible when the primary task was comprehension, as opposed to lie detection. Many subsequent studies (e.g., Zuckerman, Fischer, Osmun, Winkler & Wolfson, 1987) have replicated this finding which can be considered a stable and generalizable effect.

As evident from the notion of an "anchoring effect", the widely accepted heuristic explanation of the phenomenon uses Tversky and Kahneman's (1974) anchoring and adjustment heuristic. Accordingly, quantitative judgments often start from a high or low anchor on an underlying reference scale. This initial anchor is then updated in the light of incoming information about the judgment target but this adjustment process is typically insufficient because the information considered is incomplete. As a consequence, judgments starting from a low anchor tend to underestimate the actual quantity whereas judgments starting from a high anchor result in overestimations. Applying this hypothetical process to the veracity dimension, the impact of the primary communication task (comprehension vs. lie detection) on subjective truth is also interpreted as an anchoring effect. The crucial assumption here is that when the primary task is comprehension, a high-anchor is chosen as a starting value whereas a primary lie-detection task induces a low-veracity anchor. To the extent that relevant information remains uncertain and incomplete, the subsequent adjustment process will be insufficient and veracity will be biased towards the starting anchor, yielding higher veracity when the leading task is comprehension rather than lie detection.

While this account is consistent with the direction of the generally obtained veracity biases, there is no direct evidence for a dynamic process of judgment formation that starts with an extreme value and after continuous updating ends at an insufficiently adjusted, intermediate position. As is often the case in research on heuristics and biases (Gigerenzer, 1996), the mediating processes are merely inferred from the judgmental outcome rather than assessed independently. What could be, and ought to be, tested is whether the process of judgment formation really follows the temporal pattern indicated by the anchoring-and-adjustment heuristic, whether alternative processes could also account for the bias, and whether the influence of the primary communication task really consists in the induction of a starting value on the veracity dimension.

### **An Attributional Theory of Lie Detection**

The best way to critically test a theory is to find a rival theory that makes alternative

assumptions sensible (cf. Kuhn, 1970). In fact, our own critical appraisal of the so-called anchoring effect stems from our thinking about a new theory of lie detection that implies an alternative account of the alleged anchoring effect. The theory is essentially an attribution theory that mimics Schachter's (Schachter & Singer, 1962) well-known emotion theory. A similar theory was adopted by Jacoby, Kelley and Dywan (1989) in a recent paper on recognition as an attribution process. Schachter's model states that an emotion arises as an explanation of diffuse, unexplained arousal by meaningful social or environmental cues that give a specific meaning or interpretation to the emerging emotion. Likewise, Jacoby et al. assume that recognition decisions (old vs. new) reflect a diffuse feeling of experience or familiarity that is interpreted as belonging to the past (memorized stimulus) or to the present (distractor stimulus), dependent on the current task focus (on the past vs. the present) and other cues of the experimental situation. In fine analogy to these two theories, our lie detection framework fits into the same attributional scheme in that veracity judgment is conceptualized as an interpretation or disambiguation of a diffuse feeling of potential significance during communication.

Basic to our theory is the distinction between two modes of attribution in communication. Any communicated contents can be attributed either to the topic of communication or to causes and motives in the speaker. The former attribution presupposes that the message conveys a valid aspect of the reality being communicated. In the latter case, however, the communication appears to be peculiar to the speaker's (or writer's) own interests, self-presentation concerns, or instrumental strategies. While topic attribution means to follow the communication as if it were true, speaker attribution implies that the message may deviate from the truth. For example, when a used-car dealer praises the virtues of a vehicle, this may be informative about the car (topic attribution) or about the dealer (speaker attribution); the former presupposes the truth whereas the latter suggests distrust and manipulation of the truth.

What are the crucial events that trigger these attributions during communications and which factors determine the outcome? Furthermore, what factors correspond to the diffuse arousal and the attributional cues in Schachter's emotion theory? Although we believe that veracity appraisal is involved in virtually any communication, we do not think that the attribution process occurs permanently or at constant likelihood during conversation. Rather, in line with much other theorizing on the time and likelihood of attribution (Clore, Schwarz, & Conway, 1994; Hastie, 1984; Hilton & Slugosky, 1986), we believe that veracity attributions are elicited by important, threatening, or anomalous events that create a diffuse feeling of potential significance (analogous to Schachter's diffuse arousal). It is this feeling of potential significance that calls for attributional activities and that raises the critical question: Is the significant piece of information due to the topic or to the speaker? In the above example, this question may be elicited by the car dealer's conspicuous tone, by the fact that he just mentioned a new and important property of the car, or by the customer's deliberate attempt to be attentive

and cautious. In general, the intensity of this experiential feeling is a function of at least three conditions: anomalies of the communication itself (e.g., disfluencies; nervousity), importance of contents (e.g., extreme gains or losses), and sensitivity (or hyper-sensitivity) of the receiver (e.g., cautious attitude, paranoia).

Given a communication charged with such a feeling of potential significance, the outcome of the veracity judgment depends on similar attribution cues as in Schachter's theory, specifically, on whether the attribution cues point to topic (high veracity) or to speaker (low veracity) attributions. Much like Jacoby et al. (1989), we assume the critical cues to be a function of the processing goal of the current task (i.e., whether the attentional focus is on the topic or on the speaker). Here we arrive at our alternative explanation of the anchoring effect. If the processing goal cues comprehension of the communication topic, there will be an inclination towards topic attribution and, by implication, high-veracity judgments. In contrast, if the processing goal highlights the task of detecting lies and speaker deception, the resulting bias should be towards speaker attributions and low-veracity judgments.

Note that in this model, the process does not start from an extreme anchor but from a point of initial uncertainty or ambiguity. The origin of the bias lies in the subsequent disambiguation process rather than the starting point, or initial anchor. At the operational level, this suggests a straightforward test of the attribution model against the traditional anchoring account: Online assessment of the temporal course of suspicion or subjective credibility from the beginning to the end of the communication should afford a decision between both theories. The effect of speaker versus topic focus should be maximal either at the beginning of the process (suggesting an anchoring effect) or towards the end of the process (in line with the attribution model). We pursued this consideration by employing the computer mouse to keep track of lie detector's online reactions to video-taped and digitalized communications appearing on the computer screen.

### Empirical Evidence

Before we turn to this test of the anchoring effect, we consider an experiment that used less apparatusive equipment to test the two main assumptions of the attributional theory of lie detection. Participants were presented with (simulated) communications of witnesses in a courtroom who either intended to exonerate a defendant (because they believed in the defendant's innocence) or who intended to incriminate the defendant (because they believed the defendant is guilty). Depending on the experimental condition, the participant's focus was either on the speaker or on the topic of communication, that is, the primary task was either to judge the validity of the information given by the witness (speaker focus) or to make a judgment on the defendant's guilt in the light of that information (topic focus). As in previous experiments (Zuckerman et al., 1984), the focus treatment was based on an order manipulation so that either the witness question preceded the defendant question, or vice versa, but both judgments had to be given in

every case.

Note that these two independent factors (mitigating vs. aggravating content and speaker focus vs. topic focus) pertain to the two constituents of the attribution model. On the one hand, the focus manipulation was intended to suggest speaker versus topic attributions, analogous to the manner in which happiness or anxiety cues create attributions of diffuse arousal to particular emotions. If the focus was on the witness (speaker), the unexplained feeling of significance should lead to speaker attributions, thus raising suspicion and decreasing subjective veracity. In contrast, a focus on the defendant (topic of communication) should foster topic attributions and distract from critical appraisals of the speaker.

On the other hand, we assumed that the intensity of the feeling of potential significance can be operationalized by the contrast of mitigating versus aggravating witness statements. In the context of legal judgments, one way to manipulate (emotional) significance was to establish excitement via incriminating testimonies that cause stress in the witness and have more severe social and legal consequences for the defendant than exonerating testimonies. To control for this assumption, we assessed two obvious indicators of excitement, namely, the speaker's emotionality and the prevalence of errors and disfluencies (i.e., reflections of physiological and nonverbal arousal; cf. Podlesny & Raskin, 1977; Zuckerman et al., 1981). Granting that these two manipulation checks confirm that incriminating communications do indeed create a stronger feeling of excitement (as one variant of a feeling of potential significance) than exonerating communications, the attribution model predicts that the impact of the focus manipulation should be stronger in the aggravating condition than in the mitigating condition.

It is important to recognize that the present focus manipulation was not confounded with anchoring on a suspicion dimension. Thus, we carefully avoided any connotations or allusions to lying and deception, merely asking in a neutral tone whether the speaker is right or wrong, and whether the defendant is guilty or not.

The experimental design included one within-subjects factor (aggravating vs. mitigating content) and two between-subjects factors (speaker focus vs. topic focus and written versus oral presentation of testimony). As a first step in the production of the stimulus material, eight fictitious criminal cases were prepared, including a short description of the alleged perpetrator. The stimulus material consisted of eight criminal cases combined with eight short descriptions of the suspect: An architect, accused of sexual harassment of a female co-worker; an art historian, suspected of sexual child abuse; an owner of a bookstore, accused of brutal assault on the lover of his former girl friend; a day laborer, suspected in the bombing of a department store; a student of languages under suspicion of illegal drug possession; a medical technician, accused of burglary and theft; a student of design suspected in a hit-and-run offense and an insurance salesman, accused of poisoning the neighbour's dog. Eight participants served as communicators, taking the witness role. Each of these 8 witnesses was asked to give testimonies about the personality of two defendants under different instructions. In one

of their testimonies, they were to imagine that they did not like the person X and that they were convinced of his guilt (aggravating condition); in the other testimony they had to imagine that they liked him a lot and were convinced of his innocence (mitigating condition). The resulting 16 testimonies included one incriminating and one exonerating statement on each case. All testimonies were audiotaped. Two tapes were produced, each comprising all 8 cases, half with incriminating and half with exonerating information, allowing for a within presentation of the content of testimony factor (mitigating vs. aggravating). From each tape, a transcript was prepared for the written presentation condition.

A new sample of participants were then presented with the testimonies. One half of the participants heard the audiotapes and read the transcripts simultaneously, while the other half just received the transcripts. The focus factor was manipulated between subjects, in a manner analogous to the method described by Zuckerman et al. (1984). The Speaker Focus version presented as the first question: To what extent are you of the opinion that the characterization of Mr. X given in this statement is correct? The next question was: Did Mr. X commit the alleged crime? Both questions had to be answered on 5-point scales ranging from -2 to +2. In the Topic Focus condition, the order of the questions was reversed.

In addition, several questions referred to emotional signs and speech errors: Do you consider the message to be consistent, logical? ... vivid? ... emotional? Did the person given the testimony produce many slips of the tongue, stutter, or leave phrases unfinished? And did the person produce many "eh", "ehm", or "mm" fillers? These questions provide a manipulation check for the feeling of potential significance.

For each participant, all judgments pertaining to mitigating communications and all judgments pertaining to aggravating communications were averaged to provide two repeated measures. These aggregate scores (computed separately for all dependent variables) provided the input to various three-factorial 2(mitigating vs. aggravating) x 2(speaker vs. topic focus) x 2(text vs. audio) analyses of variance (ANOVAs), with repeated measures on the first factor.

The judgments of speaker validity exhibited the predicted influence of the focus treatments. As evident from the mean ratings in Table 1, speaker focus led to lower judgments of witness validity ( $M = 0.25$ ) than topic focus ( $M = 0.66$ ),  $F(1,64) = 5.92$ ,  $p < 0.05$ . This focus main effect was moderated by a significant focus x content of testimony interaction,  $F(1,64) = 4.35$ ,  $p < 0.05$ , indicating that the focus effect was stronger in the aggravating condition ( $M = 0.69$  vs.  $0.13$ ) than in the mitigating condition ( $M = 0.62$  vs.  $0.37$ ). Another way to look at this interaction is to recognize that validity decreased from mitigating to aggravating statements only when the attribution focus was on the speaker.

Taken together, this pattern is exactly what would be expected from a (Schachterian) attribution theory of lie detection. When the primary attentional focus is on the speaker, the subjective validity of the same witness communications decreases because the

**Table 1:** Mean Judgments of Speaker Veracity, Defendant Guilt, Frequency of Speech Errors and Emotionality of Speaker as a Function of Testimony Content and Focus

Content	Mitigating		Aggravating	
	Topic	Speaker	Topic	Speaker
Focus				
Speaker Veracity	0.62	0.37	0.69	0.13
Defendant Guilt	-0.31	0.78	0.33	0.87
Frequency of Speech Errors	0.34	0.40	0.78	0.57
Emotionality	0.10	-0.21	0.69	0.25

Note: Each judgment was given on a five-point scale ranging from -2 to +2.

uncertainty arising from the ambiguous state of affairs (i.e., the anomaly of the communication that raises a feeling of potential significance) is more likely to be attributed to the speaker than when the focus is on the topic of communication (i.e., the defendant's actual behavior). Moreover, as the amount of anomaly increases, the impact of the focus treatment increases accordingly. To corroborate this interpretation, we conducted similar ANOVAs on the two manipulation checks of anomaly. Both the degree of emotionality ascribed to the witness,  $F(1,64) = 24.06, p < 0.001$ , as well as the frequency of speech errors,  $F(1,64) = 14.61, p < 0.001$ , were clearly higher in the aggravating condition ( $M = 0.48$  and  $0.68$ ) than in the mitigating condition ( $-0.05$  and  $0.27$ ). This supports the assumption that aggravating statements about the defendant produced a higher degree of anomaly (giving rise to more conspicuous symptoms to be explained) than mitigating statements.

It is also interesting to consider the impact of the experimental variables on the other judgment, concerning the defendant's guilt. Note that this measure can be derived logically from the speaker judgment because high speaker validity implies that defendant judgments have to accord with the speaker's communication, whereas low speaker validity implies that defendant judgments should deviate from the speaker's communication. However, the attribution process may not follow such a logical reasoning process but may be governed by the simple focusing principle. Accordingly, the defendant judgments might follow the communicated statements if the attentional focus is on the topic, taking speaker validity for granted and trusting in Grice's (1975) maxim of quality. Only when the attributional focus is on the speaker, thus raising the possibility of non-veridical testimony, the defendant judgments might not follow the witness statement but should instead rely on some kind of default value associated with typical defendants in the courtroom. In fact, the empirical results are in line with such an attributional account.

The means portrayed in Table 1 indicate that when the focus is on the topic, judgments of the defendant are rather unbiased (i.e., close to the scale midpoint of 0) and

clearly vary with the message conveyed by the speaker, yielding higher guilt judgment when the witness incriminates the defendant ( $M = 0.33$ ) than when the witness exonerates the defendant ( $M = -0.31$ ). In comparison, when the focus is on the speaker, guilt attributions no longer follow the witness' opinion but tend to be generally suspicious ( $M = 0.78$  and  $0.87$ , for topic and speaker focus, respectively). This general increase in guilt ratings may be due to the fact that in the default case (i.e., when witnesses are discredited), the typical defendant in a courtroom is quite likely to be guilty.

These differences in guilt judgments turn out to be significant in an ANOVA conducted on each participant's summary scores. Apart from a strong main effect of testimony content,  $F(1,64) = 21.52, p < 0.05$ , with mitigating communications suggesting lower guilt attributions ( $M = 0.23$ ) than aggravating communications ( $M = 0.60$ ), and an equally strong main effect for focus,  $F(1,64) = 31.34, p < 0.001$ , reflecting increased guilt for witness rather than topic focus, the most interesting finding is the interaction,  $F(1,64) = 12.32, p < 0.01$ . This interaction indicates that guilt judgments only follow the witness statement when the focus is on the topic. If the attributional focus is on the speaker, however, his testimony is invalidated and participants no longer follow the witness' opinion.

These findings confirm the main prediction of the attribution model of lie detection in that the same communication raises more or less suspicion depending on whether the attributor's attention is directed towards the speaker or the message content, respectively. Moreover, this focus effect was more pronounced as the degree of unexplained anomaly increased (i.e., in the aggravating as compared to the mitigating condition). Thus, analogous to Schachter's emotion theory, the cues associated with the primary processing goal determined the locus of attribution of the uncertainty resulting from the communication. An attribution to the reality stated in the communication (i.e., to the defendant's actual guilt or innocence) was facilitated by topic focus, whereas an attribution to deceptive tendencies within the speaker was supported by speaker focus. With an increasing amount of anomaly, or feeling of potential significance to be explained, the impact of this focus effect increased.

The attribution theory implicit in the above account highlights the focus of attention or the processing goal as a major determinant of attribution. Although this simple principle is less well articulated in attribution theories than the models suggested by Kelley (1973) or Jones and Davis (1965), it should be noted that attention focus plays an important role in many attribution phenomena, like the discrepant judgments from actors' and observers' perspectives (Jones & Nisbett, 1972; Watson, 1982), the impact of stimulus salience or vividness on attribution (McArthur, 1981; Taylor & Fiske, 1978), and the role of disambiguating cues emphasized in aggression theories (Berkowitz, 1993) and emotion theories (Schachter, 1964).

However, attentional focus is but one of several determinants of attribution. Another, equally important factor is the principle of abnormality, as it is evident in Kelley's (1967) consensus variable, in Jones and McGillis' (1976) notion of expectancy violation-

ons, or in Hilton and Slugosky's (1986) abnormal-conditions premise. Common to all these theoretical conceptions is the assumption that unusual behaviors or events (i.e., low consensus, violations of target or group expectancies, abnormal behaviors) facilitate attributions to internal, intentional factors within the target subject, as opposed to situational factors in the external reality. A further experiment used this principle of abnormality to induce speaker versus reality attributions in lie-detection situations. If the crucial mediator of lie detection is indeed speaker attribution, and not demand characteristics associated with speaker focus, then the same decrease in veracity that results from speaker focus should also be obtained when the communicator is characterized by abnormal, unexpected behaviors suggesting internal attributions. Extending the present approach to both major principles of attribution (focus and abnormality) would not only provide convergent validation for our account, but also further the external validity and generality of our empirical findings.

To manipulate abnormality or unexpectedness, we borrowed an intriguing concept from Reeder and Brewer (1979), namely, the systematically different induction schemes governing attributions in the sociability versus ability domains. Positive, desirable behavior is the norm whereas negative, undesirable behavior is the exception in the sociability domain so that negative behaviors are more diagnostic and receive more weight in judgments of sociability than positive behaviors (see also Gidron, Koehler & Tversky, 1993; Skowronski & Carlston, 1989). In contrast, in the ability domain, positive behaviors are more diagnostic and have more impact on evaluative judgments.

All communications used for this experiment were self-presentations of applicants in simulated job interviews; communications in such a context should be largely confined to positive self descriptions. All speakers were instructed to present themselves in terms of sociability whereas others were asked to talk about their abilities. Although positive self presentation conforms to the norm in job interviews, such a positivity bias should appear less common and more unexpected in the ability than in the sociability domain, in line with the difference in diagnosticity.

In addition to this content-related factor, we also manipulated two other independent variables. Firstly, we also included a processing-goal manipulation resembling the task-focus manipulation in the experiment before and the so-called anchoring manipulation of previous studies. The focus of the experimental task was either on the degree to which the participant believes the speaker (i.e., the issue of credibility) or the degree to which the participant understands the speaker (i.e., the extraction of the reality behind the message, presupposing its truth). The former condition should induce speaker attributions and suggest the possibility of deception, whereas the latter instruction should lead to topic attributions and therefore suggest veridicality.

Secondly, we experimentally controlled for the actual truth of communications, including both true and deceptive self descriptions, in order to demonstrate that the same attributional mechanism holds regardless of actual truth. To the extent that lies and veridical communications can be discriminated, we wanted to show that the cues

mediating successful lie detection can also be explained within the attributional framework. That is, the very cues that people actually utilize to discriminate true and false statements can also be understood as meaningful aspects of an attribution process.

On the dependent-variable side, we applied a number of additional devices to more directly test the assumption of an anchoring-and-adjustment process. For this purpose, we video-taped the job interviews that provided the stimulus materials for the lie detection task. These video-clips were digitalized and presented on the computer screen so that the temporal course of the participant's veracity or suspicion impressions could be assessed, using the computer mouse as an online-measurement device. If the process induced by different focus instructions, or in different abnormality conditions, was really characterized by insufficient adjustment of an initial, one-sided anchor, then the mouse movements during the communication should reflect such a dynamic process.

Moreover, we made an attempt to support the attribution account through mediational analyses. Therefore, each participant rated the communications on a number of cue dimensions that can be assumed to mediate the attributional process of veracity judgment. Such message cues may suggest either internal (speaker) attributions or external (reality, topic) attributions. Particularly, infrequency or exceptionality of the reported event provides an immediately relevant cue to speaker attribution; self-reported positive features should appear more infrequent and exceptional in the ability than the sociability condition, thus making internal speaker attributions more likely. Conversely, the emotionality expressed in the message can be expected to suggest external attributions (i.e., to increase subjective truth). This follows from the fact that emotions (or emotion words) imply lack of control and reactions to external causes outside the subject (Brown & Fish, 1983; Fiedler, Armbruster, Nickel, Walther, & Asbeck, 1996; Fiedler & Semin, 1988; Semin & Fiedler, 1991). Other studies have directly shown that emotional state words cue inferences to external factors (Semin & Marsmann, 1994). Accordingly, one would expect the emotionality cue to support external (i.e., topic) rather than speaker attributions.

In many everyday interactions, the focus of attention is not constantly resting on one of several speakers but changes dynamically during the course of interaction and the turn-taking that governs the verbal interaction. In general, attention to one particular speaker should rise markedly when it is this speaker's turn to speak, and especially when this speaker is the target of an accusation, challenge, or direct request. Thus, addressing the speaker directly in conversation should provide an especially potent cue to establish a speaker focus, and according to the attribution theory, any anomalies produced by the highly focal speaker in this situation should likely lead to deception attributions. Thus, towards the end of every communication, a dialogical element was introduced in that the job interviewer challenged the applicant by a direct question. The speaker's coping with this highly focal moment should be a most useful predictor of subjective veracity, regardless of the actual truth of the message.

In a simulated job interview, 6 male and 6 female subjects provided two descripti-

ons about their sociability in specific situations and two descriptions about their ability to withstand stress. One of each of these statements was true, the other was false. At the start of the taping, a question introduced the topic (e.g. How sociable are you?). The statement followed. When the speaker appeared to finish, the off-voice asked "Could you describe that a little more concretely?". This constitutes the challenging treatment intended to elicit a particularly high speaker focus.

Four stimulus films were constructed out of the resulting 12 video-taped statements, each film comprising one statement from all 12 speakers, and each film version containing an equal number of ability and sociability statements as well as true and false statements. Thirty-two male and female students from the University of Heidelberg participated. They were randomly allocated to eight conditions, resulting from the combination of two focus treatments (speaker vs. topic) and four different film versions. Veridicality (true statements vs. lies) and content domain (ability vs. sociability) were varied within participants, or stimulus films, such that each participant saw three statements of each combination of veridicality and contents.

To induce a topic focus, participants were asked to indicate how well they understood the person (Understand condition). In contrast, to induce a speaker focus, their task was specified by the question how much they believed the person (Lie Detection condition). These different task instructions were reinforced by the task either to indicate their current degree of understanding or degree of belief (depending on the task condition) by moving the mouse-pointer upwards and downwards. To keep them reminded of their task, a vertical graphical scale was fixed to the left of the monitor screen with the label "I understand the person" or "I believe the person" written on top.

The stimulus films were presented on the computer screen. Before each film-clip started, the experimenter returned the mouse pointer to a position in the lower left of the screen (i.e., close to the no understanding or no belief end of the online scale). When the film-clip started, the subjects moved the mouse pointer to a position somewhere above that point and went on from there. After each clip, the film was stopped and the rating scales were administered. When all ratings were done, the complete film was shown a second time, this time without mouse movements. After each film-clip, only two ratings on 5-point-scales had to be given: credibility (not at all credible - totally credible) and subjective certainty (totally uncertain - totally certain).

The direct credibility ratings were first analyzed as a function of the three independent variables, truth status (true vs. false), content domain (ability vs. sociability), and task focus (understanding vs. lie detection). The corresponding means are given in Table 2. All three main effects turn out to be significant, but no other interaction effect. The truth status main effect,  $F(1,30) = 19.45, p < 0.001$ , indicates that true statements and lies were successfully discriminated well above the chance level. The task focus main effect,  $F(1,30) = 4.31, p < 0.05$ , replicates earlier findings showing higher credibility judgments in the topic focus condition (understanding set) than in the speaker focus condition (lie detection set). And the third main effect for content domains,

Table 2: Credibility and Weighted Credibility Judgments as a Function of Truth Value and Topic

Topic	True Communications		Lies		Total
	Sociability	Ability	Sociability	Ability	
Credibility					
Understand	3.94	3.25	3.31	2.69	3.30
Detect Lies	3.56	3.15	2.52	2.69	2.48
Total	3.75	3.20	2.91	2.69	
Weighted Credibility					
Understand	3.72	0.99	1.35	-1.07	1.25
Detect Lies	2.48	0.47	-1.89	-1.25	-0.05
Total	3.10	0.73	-0.27	-1.16	

Note: Credibility judgments were given on a 5-point scale (range 1 to 5)

$F(1,30) = 6.90, p < 0.05$ , reflects more credible impressions when communications referred to sociability than when they referred to ability.

Analogous results are obtained when credibility data are weighted with the associated confidence ratings. For this purpose, a constant of 3 was subtracted from the credibility scores (originally from 1 to 5), and the resulting values which are centered around zero were multiplied with the confidence score (also between 1 and 5). The same three-factorial ANOVA conducted on these weighted credibility scores also results in three main effects,  $F(1,30) = 18.89, 4.32$ , and  $7.14, p < 0.001, 0.05$ , and  $0.05$ , for truth status, task focus, and content domain, respectively (see bottom of Table 2).

These findings support the main predictions regarding the influence of two attributional determinants on lie detection. Topic focus led to higher subjective credibility (due to topic attributions) than speaker focus. Moreover, a related demonstration pertains to topic attribution induced by normality as a function of the content domain. If positive self-presentations referred to the sociability domain, speaker attributions and low-veracity reactions were less likely than when positive descriptions referred to ability. This difference was predicted under the assumption that in the ability domain positive behavior is more unusual, uncommon, or non-consensual and should therefore lead to more speaker attributions.

The means of the various cue judgments assessed during the first stimulus presentation are given in Table 3 as a function of experimental conditions. Judgments of the infrequency cue directly tap into the unexpectedness of the reported behaviors and events. The same ANOVAs as on the credibility judgments above were applied to the cue ratings, that is, each participant's ratings were averaged over all three communica-

**Table 3: Cue Judgments as a Function of Truth Value and Topic**

Topic	True Communications		Lies		Total
	Sociability	Ability	Sociability	Ability	
<b>Frequency</b>					
Understand	3.58	2.81	3.05	2.71	3.05
Detect Lies	3.40	2.75	2.69	2.56	2.85
Total	3.49	2.78	2.89	2.63	
<b>Emotionality</b>					
Understand	2.73	2.27	2.98	2.40	2.59
Detect Lies	2.75	2.27	2.60	2.23	2.46
Total	2.74	2.27	2.89	2.31	
<b>Detail Richness</b>					
Understand	2.56	2.73	2.54	2.60	2.61
Detect Lies	2.60	2.73	1.92	2.50	2.44
Total	2.58	2.73	2.23	2.55	
<b>Vividness</b>					
Understand	3.13	3.27	3.00	2.96	3.09
Detect Lies	3.03	3.08	2.50	2.66	2.82
Total	3.08	3.18	2.75	2.81	
<b>Concreteness</b>					
Understand	3.06	3.29	3.13	2.98	3.11
Detect Lies	3.44	3.48	2.90	3.15	3.24
Total	3.25	3.28	3.01	3.06	
<b>Cope with Challenge</b>					
Understand	2.73	2.88	2.27	2.54	2.61
Detect Lies	2.73	2.56	2.08	2.33	-0.05
Total	2.73	2.72	2.17	2.43	

tions of the same truth status and content domain. As expected, the ANOVA for the infrequency cue resulted in a strong main effect for content domains,  $F(1,30) = 20.70$ ,  $p < 0.001$ , indicating that positive self descriptions in the ability domain appeared much more infrequent or unusual than positive self presentations in the sociability domain. This finding is consistent with the notion that the ability domain induces a

speaker focus based on a sense of abnormality or unexpectedness. The only other significant test was due to a truth status main effect,  $F(1,30) = 13.00$ ,  $p < 0.001$ , showing in line with previous research (Fiedler, 1989; Fiedler & Wanka, 1993) that infrequency (i.e., low baserates) is a good predictor of incredibility (cf. Table 3).

Self descriptions related to ability and sociability also differed significantly on the other attributionally relevant cue dimensions of emotionality,  $F(1,30) = 10.03$ ,  $p < 0.01$ . Sociability-related communications conveyed a higher degree of emotionality ( $M = 2.77$ ) than ability-related communications ( $M = 2.29$ ). This means that the role of the emotionality cue is also consistent with the attributional account of lie detection. Emotional language refers to external causes (Brown & Fish, 1983; Fiedler et al., 1996), thus implying lack of control and external attribution rather than internal speaker attribution (Semin & Fiedler, 1991).

Of the remaining cues mainly intended to capture the anomaly component of the attribution theory (i.e., utterance length, detail richness, vividness, concreteness, subjectivity, coping with challenge), only the detail richness cue slightly differed between the ability and sociability domains (see Table 3),  $F(1,30) = 4.85$ ,  $p < 0.05$ . Therefore, the domain manipulation was largely independent of many other aspects of the communications. However, most of these other cues discriminated systematically between lies and true descriptions, thus suggesting an account for the above-chance lie detection performance. Presumably, non-veridical communications were simply higher in terms of the anomaly component than veridical communications. This interpretation is corroborated by truth status main effects (cf. Table 3) on utterance length,  $F(1,30) = 4.53$ ,  $p < 0.05$ , detail richness,  $F(1,30) = 6.17$ ,  $p < 0.05$ , vividness,  $F(1,30) = 7.28$ ,  $p < 0.05$ , concreteness,  $F(1,30) = 6.72$ ,  $p < 0.05$ , and satisfactory dealing with a challenging question,  $F(1,30) = 11.42$ ,  $p < 0.01$ . The direction of these effects indicates that lies tend to be shorter, less detailed, less vivid and concrete, and to provide less information in response to challenging questions than true communications. Together, these differences can be interpreted as reflecting the anomaly created by deceptive utterances.

Did the aforementioned cues actually mediate the resulting credibility judgments, in line with the two-factor model? To answer this question empirically, we conducted a regression analysis with (averaged) credibility of all 48 communications as the criterion and four predictors derived from those cues that are relevant to capturing the proposed attribution process. The first predictor, which is intended to assess the feeling of potential significance, is an aggregate of the four highly intercorrelated cues detail richness, vividness, utterance length, and concreteness. This normality versus abnormality (i.e., anomaly) predictor mainly reflects (in)sufficiency of information provided. The second and third predictor, emotionality and infrequency, are intended to reflect the attribution focus component. As explicated above, high infrequency should induce a speaker focus, whereas high emotionality should shift the focus onto external conditions. The fourth and final predictor is the amount or sufficiency of information the speaker provides in dealing with the challenge. Note that this predictor relates to both



**Table 4:** Regression Weights of Four Predictors for the Prediction of Subjective Veracity Judgments and Objective Truth

Predictor	Judged veracity		Criterion to be predicted	
	$\beta$	$r$	$\beta$	$r$
Feature richness	+0.04	+0.68	+0.57*	+0.35
Emotionality	+0.41*	+0.70	-0.28*	-0.05
Infrequency	-0.11	-0.32	-0.24*	-0.35
Coping with challenge	+0.51*	+0.77	-0.21	+0.15
Multiple correlation		$R = .86$		$R = .51$

Note: Regression weights ( $\beta$ ) marked with an asterisk are significant at least at the  $\alpha = 0.05$  level.  $r$  values are zero-order correlations.

attribution components in that it reflects the anomaly of a speaker's behavior in a situation that highlights speaker focus. Thus, the last predictor alone entails a mini-model of the attribution theory and should therefore be a most powerful predictor. The theoretically expected pattern is that suspicion should rise and credibility should decrease as emotionality decreases, infrequency increases, and as the speaker copes insufficiently with the challenge (i.e., providing impoverished information). The anomaly cue per se should not be a strong predictor because its impact depends on the changing task focus.

The outcome of the regression analyses is summarized in Table 4. The zero-order correlations between the cues and the criterion as well as the beta-weights are in line with the theoretical expectations. Both the emotionality cue,  $\beta = 0.41$ ,  $t(43) = 4.38$ ,  $p < 0.001$ , as well as coping with the challenge,  $\beta = 0.51$ ,  $t(43) = 4.08$ ,  $p < 0.001$ , contribute substantially to the prediction of credibility. The infrequency cue also relates to the criterion in the expected direction,  $\beta = 0.11$ ,  $t(43) = 1.36$ ,  $p > 0.10$ , but not significantly, possibly because of the restricted reliability of this particular cue measure (see Table 3). And finally, the anomaly cue is unrelated to the credibility criterion,  $\beta = 0.04$ . The multiple correlation between judged credibility and all four predictors together amounts to  $R = 0.86$ ,  $F(4,43) = 41.42$ ,  $p < 0.001$ , suggesting a high degree of predictability.

It is worth noting that as usual (cf. Fiedler, 1989), the four cue utilization coefficients are hardly congruent with the ecological cue validities, that is, their actual relationships to utterance truth. The regression weights of the same four cues for predicting actual truth are also included in Table 4.

The online assessment of the participants' immediate reactions during the reception of the communications not only provides a chance to analyze the specific events that elicit suspicion or credibility responses, but also affords a direct test of the anchoring-and-adjustment account. If the focus effect were due to the fact that participants who detect lies and participants who try to understand the speaker start at opposite anchors

on the underlying scale, and if the resulting difference between both focus conditions is but a residual anchoring difference due to insufficient adjustment, then the mouse positions should reflect such a characteristic course over time. In particular, the anchoring-and-adjustment account predicts that early mouse coordinates should be more extreme and should exhibit a stronger focus effect than late mouse coordinates, that the number of adjustment reactions should be inversely related to the initial position, and that the temporal pattern should be consistent with an anchoring-and-adjustment explanation. In contrast, our attributional account does not suggest such a pattern but rather predicts that early mouse positions reflect initial uncertainty that is later resolved in an attributional process leading to more extreme values towards the end of the process.

To eliminate unintended movements and motor artifacts, only reliable mouse movements were counted that met the criterion that the vertical coordinates had to move in the same direction over at least 6 measurement points. The beginning and the end of each such run was recorded in terms of the mouse positions and the time code on the video-tape. Ascending movements were classified as credibility reactions and descending reactions as suspicion reactions.

First of all, several analyses were performed to check on the validity of the mouse position measure. A three-factorial ANOVA on the final mouse position (averaged over the ten records of the last half second to stabilize the measurement) revealed similar effects as the credibility judgments (see Table 5), namely, significant main effects for truth status,  $F(1,30) = 14.72$ ,  $p < 0.001$ , focus,  $F(1,30) = 4.44$ ,  $p < 0.05$ , and for the ability versus sociability comparison,  $F(1,30) = 5.18$ ,  $p < 0.05$ . Moreover, the final mouse position was substantially correlated with the subsequent ratings,  $r = 0.513$ . An ANOVA of the total number of (ascending or descending) reactions (as defined above) is also of interest to substantiate the validity of the manipulations. A significant main effect,  $F(1,30) = 6.10$ ,  $p < 0.05$ , is due to a generally higher number of reactions in the ability ( $M = 10.14$ ) than in the sociability condition ( $M = 8.76$ ). Again, this is consistent with the assumption that positive ability self-descriptions produce a greater amount of anomaly or uncertainty than positive sociability descriptions. Moreover, this main effect interacts with the focus manipulation,  $F(1,30) = 6.10$ ,  $p < 0.05$ , such that the increased vigilance created by the ability domain is fully due to the lie detection task (11.52 vs. 8.46), as opposed to the understanding task (8.75 vs. 8.75).

Finally, an ANOVA on the number of suspicious (i.e., descending) mouse reactions yields two main effects, for ability versus sociability,  $F(1,30) = 15.03$ ,  $p < 0.001$ , and for task focus,  $F(1,30) = 7.08$ ,  $p < 0.05$ . Suspicious on-line reactions were more frequent when communications dealt with ability than sociability and when participants tried to detect lies rather than to understand the speaker. All these additional findings corroborate the construct validity of the proposed attributional account.

Given these clear signs of reliability, we assume that the actually obtained tendencies in the mouse movements provide a suitable test of the anchoring-and-adjustment account of the focus effect, as contrasted with our attributional account. Specifically, if

Table 5: Frequency Count of Different Mouse-Profile Patterns

Topic	True Communications			Lies		
	Sociability	Ability	Ability	Sociability	Ability	Ability
Endpoint	m	e	m	e	m	e
Understand	6	42	6	42	4	44
Detect Lies	5	43	13	35	13	35
Total	11	85	19	77	17	79
					18	78
Trend	a	d	a	d	a	d
Understand	29	5	24	6	25	7
Detect Lies	24	10	21	12	18	19
Total	53	15	45	18	43	26
					37	24
Change Dir.	0	1	>1	0	1	>1
Understand	34	8	6	36	8	4
Detect Lies	30	11	7	24	12	12
Total	64	19	13	60	20	16
					57	21
					18	58
					19	19
					0	1
					>1	0
					5	37
					6	5
					13	14
					14	19
					19	19

Note: The sum of all frequencies does not add to 192, because many curves did not show a clear trend. Abbreviations m and e denote endpoints closer to the middle of the scale or close to one extreme, respectively. Ascending and descending trends are denoted a and d, respectively.

the higher veracity ratings in the comprehension than in the lie detection condition reflects an insufficient adjustment of an initial anchor, then the general trend of the mouse positions should be from extremely credible to still rather credible in the understanding condition and from extremely suspicious to still rather suspicious in the lie detection condition. In contrast, the attributional account predicts a course from less extreme, undecided positions at the beginning to more extreme or decisive mouse values towards the end of the process.

Two sets of analyses were conducted to test these conflicting predictions, ANOVAs of mouse positions in successive segments of the time course and frequency counts of qualitatively different categories of mouse curves over time. These analyses were based on gliding averages computed separately for each participant's mouse reactions to communications from different experimental conditions. By averaging every 10 successive mouse position records (corresponding to a time window of one half second), the mouse measures became smoother and more reliable than the raw data. For ANO-

Truthful ■ Lie

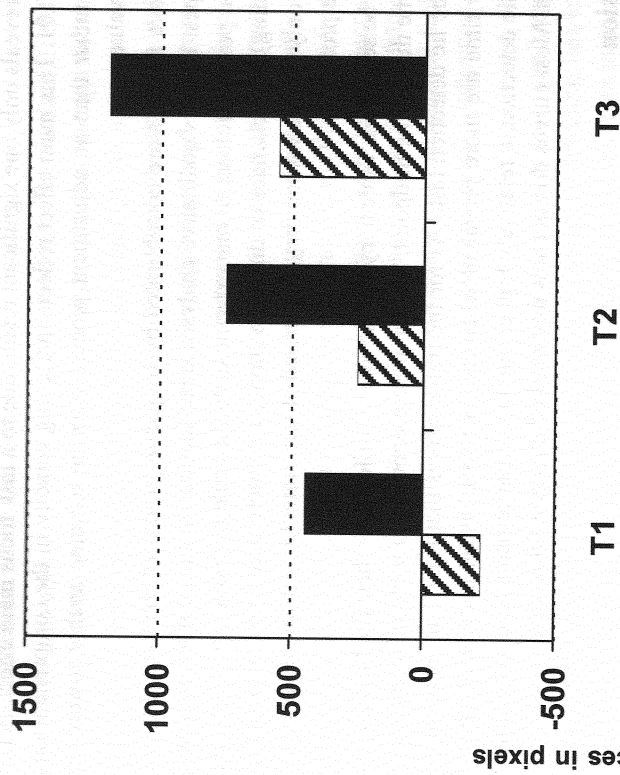


Figure 1: Differential suspicion response in the lie-detection minus the comprehension condition, expressed in online mouse-responses in three time segments (T1, T2, and T3)

VA purposes, then, the mouse scores at three temporal positions were recorded, namely, after one third of the whole process, after two thirds, and at the very end of the temporal process. Note that this procedure adapts to variable communication length and note that the initial mouse value (i.e., before the first third) was ignored to rule out the impact of the initial resting position of the mouse (set by the experimenter near the suspicious end of the scale).

Figure 1 portrays the difference of mouse positions for the lie-detection condition minus the comprehension condition, as a function of time segment and separately for actually true and false communications. Note that positive values on this difference scores reflect the common finding of more suspicion when the primary task is lie detection rather than comprehension, normally denoted an anchoring effect. Both for truthful communications and for lies, these difference scores increase steadily, thus supporting the predictions of the attribution theory and disconfirming the assumption of an initial anchor that is (insufficiently) adjusted.

A direct and straightforward test of the anchoring versus attribution issue is based on a difference score that captures each participant's earliest mouse position (for communications of a given type) minus the same participant's final position. A high value

on this difference score reflects an increase in subjective credibility over time while a low (or negative) value indicates a decrease in experienced credibility. The ANOVA on this score reveals only one significant result, due to a task focus main effect,  $F(1,30) = 7.98, p < 0.01$ . This main effect reflects increasing veracity in the comprehension task condition rather than an adjustment process from an extreme anchor towards more moderate values.

The above findings are corroborated by frequency counts of the individual mouse curve shapes. For this qualitative analysis, three features of the profiles were investigated: final position (closer to one extreme or to the scale midpoint), trend (ascending or descending), and changes of direction (none, 1 or more than 1). Changes of direction were only counted when they comprised at least one third of the temporal extension of the profile.

As can be seen from Table 6, by far the most profiles have their final point closer to one extreme than to the midpoint. This is more pronounced for the understanding task than for the lie detection task. As for the trend, curves that reflect an increase in veracity over time are more prevalent when the task focus is on understanding. With a focus on lie detection, a relatively higher number of participants tend to become more suspicious. Most curves do not show any marked change of direction.

## Conclusion

Interpersonal communication involves the omnipresent meta-cognitive task of credibility monitoring, or validity judgment. At the heart of this task is the decision of topic versus speaker attribution. Topic attribution means to explain one's internal reactions to a message as due to the topics and stated information advanced in the communication, granting the maxim of quality (Grice, 1975) and discarding the possibility of invalidity and deception. In contrast, speaker attribution means to ascribe one's internal reactions to the message at least partially to editorial, strategic, or instrumental goals of the speaker, rather than authenticated information conveyed in the message. For example, the diffuse excitement raised by an incriminating testimony may be attributed to the topic (the defendant's guilt) or to the speaker (the deception attempt). However, the experiential states that trigger the topic versus speaker attribution are not confined to arousal states or excitement but may as well reflect text anomalies, non-verbal conspicuousness, severe consequences and vested interests, or an enhanced state of caution or even paranoia in the receiver.

As a common denominator of all these sources of internal reactions, we have introduced the notion of "feeling of potential significance", which seems more appropriate than Schachter's analogous term of "unexplained arousal". Our attributional theory of lie detection assumes that attributional loops are elicited in the steady flow of communication whenever such a diffuse feeling of potential significance calls for explanation. The theory further assumes that in resolving this ambiguity about experiential states, the individual is led (or misled) by various cues suggesting either topic attribution

(high veracity) or speaker attribution (low veracity). The impact of the resulting attribution for subsequent judgments should increase with the intensity of the feeling of potential significance.

To establish this approach, we pitted some distinctive implications of the attributional account against the traditional account of the so-called anchoring effect in lie detection. The often-replicated finding that veracity judgments are lower and suspicion is higher when the primary orienting task involves lie detection rather than understanding is commonly interpreted as reflecting an anchoring-and-adjustment process. Accordingly, the veracity judgment process starts with an extreme anchor determined by the orienting task (i.e., a high veracity anchor in an understanding task, and a low veracity anchor in a lie detection task); the resulting bias is due to insufficient adjustment. Thus, the anchoring account implies a temporal process that starts from an extreme anchor and moves towards a more moderate position due to insufficient adjustment. In contrast, the attribution account suggests an opposite process that is characterized by an intermediate starting point reflecting the uncertainty of unexplained feelings and a subsequent polarization towards more and more extreme veracity judgments (reflecting topic versus speaker attribution).

The data reported here support the attributional account in several respects. The impact of different orienting tasks on veracity judgments - detecting lies versus comprehension - increases over time, reflecting a process that starts from initial ambiguity, rather than a pronounced starting anchor. Moreover, a number of other findings demonstrated that veracity judgments depend on whether cues support topic attribution or speaker attribution, especially when a feeling of potential significance has been elicited. These cueing influences are independent of whether the task instruction contains explicit hints to deception and suspicion.

Focusing on the speaker (lie detection) as opposed to the topic of a message (understanding) is not the only way to direct the attribution process to the speaker. The principle of abnormality provides an equally effective means of inducing internal attributions to the speaker (cf. Hilton & Slugosky, 1986; Taylor & Fiske, 1978). If the speaker deviates from group-based or target-based expectancies (Jones & McGillis, 1976) or if the speaker reports infrequent or highly diagnostic behaviors or events, the likelihood of speaker focus and speaker attribution can be expected to increase. In accordance with this prediction, unusual or diagnostic self presentations (in terms of ability) led to more speaker attributions (i.e., less veracity) than more common self presentations in the sociability domain. This finding derived from Reeder and Brewer's (1979) theory of domain-specific attribution schemata provides further support for an attribution account.

In addition to these experimental findings, the mediational role of various cues in the lie detection process can also be understood within the attribution framework. Correlational analyses show that cues which shift the focus onto the speaker, like unusual reports or unsatisfactory coping with a challenging question, increase speaker attributions and suspicion. Conversely, cues that shift the focus away from the speaker

towards the message topic, such as speaker emotionality, enhance topic attributions and credibility.

Everyday conversation is often guided by an uncritical topic focus, as delineated in Grice's (1975) principle of cooperative communication. Accordingly, the truth and relevance of communicated contents is often taken for granted, leading to many erroneous inferences and naive topic attributions. As a consequence of this assumption of truth as a default value (Gilbert, Krull & Malone, 1990), we often engage in a fundamental attribution error (Ross, 1977) or the analogous "truth bias" in the lie detection literature (Buller, Strzyzewski & Hunsaker, 1991). For example, in the famous Jones and Harris (1967) experiment, people treated a pro-versus anti-Castro statement as a true attitude expression, although it was clear that attitude positions were not freely chosen but deliberately assigned by the experimenter. In these and many other demonstrations of fundamental attribution errors or spontaneous trait inferences (Uleman, 1987), uncritical truth assessment can be explained by the typical topic focus that characterizes language comprehension and cooperative communication.

From these social psychological references, it is obvious that an attributional approach to the meta-cognitive task of credibility monitoring is not confined to lie detection proper but can also contribute to our understanding of many other phenomena of social judgment and cognition. For a final example, this may be illustrated in the fascinating phenomenon of belief perseverance after debriefing (Ross, Lepper & Hubbard, 1975). When people receive a false feedback about their alleged performance, the belief in this feedback and its consequences for self-esteem can not be erased by an explicit debriefing. This notable finding resembles the present observation that even when the lie detection task follows after an initial comprehension task, it is the primary orienting task that determines the veracity attribution. It appears as if the primary attribution process is not reversible. Once the message is believed to be true because of an initial topic focus, a secondary focus on the speaker can not (fully) undo the primary attribution.

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■ In their attempt to estimate the numerical answers to difficult questions, persons can be easily influenced by presenting them estimates of other persons. One explanation of this so-called anchoring effect assumes that the suggested anchor value selectively activates one's knowledge base, thus biasing any future estimation process. This process may, however, depend on the individual's suggestibility. This paper presents an experiment that explores the influence of suggestibility on anchoring. An anchor was found to be more influential when (a) it came from an expert rather than from a layman and when (b) it was a precise value rather than an interval. Additionally, (c) an anchor was maximally influential when it was subjectively rated as "good", while it had no effect at all when it was rated as "poor". However, (d) the individual suggestibility was not related to the amount of anchoring.

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Research underlying this chapter was supported by a grant from the Deutsche Forschungsgemeinschaft.