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On the detection of others' goals in social interaction

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Imagine the following situation. You are in your office at work on a Friday afternoon talking with a colleague. He starts to complain about a major project for which he is primarily responsible. You mention to him that you are familiar with the project even though you are not directly involved in it, to which he responds, "I know". He continues saying, "A major deadline has been moved forward; so now, rather than having two weeks, I only have until *Tuesday!*" You think it could easily be completed over the weekend and are confused about his concern, so you say, "Why are you so worried? You have plenty time." He responds, "My girlfriend and I have planned a little getaway this weekend for her birthday, and we leave tonight. If I cancel our trip, she'll be pissed!" You reply, "Ouch! *Now* I understand." He then asks, "What are you doing this weekend?" You open your mouth to tell him that you have no plans, but then stop yourself mid-thought because you realize what might come next if you continue: Does he want you to finish the project so he doesn't upset his girlfriend? Or does he not have this ulterior motive and is genuinely interested in your plans? You feel badly for your colleague because of his double bind...but then again you don't want *your* weekend consumed with *his* project.

This situation is easily recognized. The specific details are different, but most people can recall a conversation wherein you find yourself wondering what someone else is trying to do or accomplish while talking with you. Your teenage daughter compliments you and does extra chores around the house: Does she want permission to go to a party, an increase in her allowance, to occupy her free time, or to lessen your burden because she knows you had a bad day? A friend calls you because he had an argument with his spouse: Is he looking for your advice or only seeking a sounding board on which to vent his frustration? A classmate avoids answering your question about a job for which she plans to apply by changing the topic: Is she trying to avert any unwanted competition by preventing you from apply? These predicaments have one thing in common: Goal detection.

Like the above examples, people infer others' objectives throughout conversation with varying levels of certainty (Berger, 2000; Palomares, 2008). Sometimes these inferences are generated automatically or implicitly (Hassin, Aarts, & Ferguson, 2005), whereas other times inferences enter conscious awareness so that thought can be devoted to figure out what someone is trying to "do." In this chapter, I focus on this process of detecting others' goal in social interaction. Specifically, I discuss goal detection with an emphasis on the cognitive mechanisms involved in the generation of accurate goal inferences. In doing so, I first describe a few concepts central to goal pursuit and then briefly situate it in a larger scene of message production in social interaction wherein the foundation of goal detection resides. Next, I present a theoretical framework for goal detection that is abstract in its conceptualization yet reified in its application. That is, because the framework is general, concrete manifestations of it exist that can help explain goal detection in many situations. Fourth, I present a collection of moderating variables that can also play a role in goal detection; and in a final section, I discuss some potential consequences of goal detection.

Central Concepts for Goal Pursuit (and Its Detection)

People strive to achieve an assortment of objectives almost constantly throughout their life. Whereas some of these objectives take on the form of personal strivings or life goals (e.g., raise children, obtain a career, prepare for retirement, minimize stress; Emmons, 1986), other goals are relatively more immediate and require interaction to be achieved (Berger, 1997; Clark & Delia, 1979; Wilson & Putnam, 1990). The present explication of goal detection will focus on these latter, so-called conversation or interaction goals (henceforth simply referred to as goals). Goals are mental representations of desired end states (Berger, 2002, 2007; Wilson, 2002). Individuals' thoughts in conversation focus on goals (Waldron, 1990), just as goals in part determine their behavior (Berger, 1997; Cody & McLaughlin, 1990; Wilson, 2002). Examples of

goals include: acquiring, giving, or concealing information (Berger & Kellermann, 1983, 1989, 1994); seeking affinity (Daly & Kreiser, 1994) or disaffinity (Kellermann & Lee, 2001); gaining or resisting compliance (Cody, Canary, & Smith, 1994; Dillard, 1990; Wilson, 2002); initiating, maintaining, escalating, or terminating a relationship (Berger, 1993; Cody et al.; Dillard, 1989; Wilson, Kunkel, Robson, Olufowote, & Soliz, 2009); comforting or providing social support (Burlinson, 1994; Feng, 2009); embarrassing (Sharkey, 1997); deceiving (Buller & Burgoon, 1994; O'Hair & Cody, 1994); inducing emotional or psychological hurt (Kellermann & Lee, 2002; Kowalski, 2001); and other objectives that people seek via interaction with others (for lists of goals see Bjerg, 1968; Chulef, Read, & Walsh, 2001; Kellermann & Kim, 1991). Goals and goal-directed communication permeate social interaction (Berger, 2002).

Goals are distinct from constraints or expectations to which individuals pay heed during goal pursuit (Kellermann & Shea, 1996; Kim, 1994). Individuals' means to obtain a goal, in other words, are subject to social concerns, such as politeness or efficiency (Kellermann, 2004; Kellermann & Park, 2001). In the introductory scenario, for example, assuming the colleague wanted you to complete his project, then he was relatively indirect (i.e., "What are you doing this weekend?") in order to maintain politeness rather than explicitly ask for the favor (e.g., "Could you do the project?") and impose on you. The means to achieve a goal comprise plans, strategies, and tactics. Plans are mentally represented hierarchies of goal-directed action sequences (Berger, 1997). For example, the colleague likely had a two-step plan: (a) reveal information germane to his double bind, and (b) ask what your weekend entailed. Plans include strategies and tactics. A strategy is a cognitive representation of a general class of methods to achieve a goal, whereas a tactic is a specific action or behavior employed to realize a goal (Beach, 1985; Berger). General strategies include specific tactics. In the double-bind example therefore, the first step of his plan included the strategy to provide pertinent information that manifested in a reveal tactic of exactly

what he said. Goals and related concepts, such as tactics, are integral to goal detection in social interaction.

The Foundation of Goal Detection

The relatively recent systematic inquiry into goal detection (Palomares, 2008) has its roots in theory and research on message production (Berger, 2000, 2007; Greene & Graves, 2007; Wilson & Feng, 2007). Thus, to the extent that one wishes to study goal detection, one must first understand the larger theoretical landscape from which it has emerged. In the current section, I situate goal detection into related previous scholarship, albeit briefly given the existence of more comprehensive expositions of this work found elsewhere (see: Berger, 2002, 2005b; Daly & Wiemann, 1994; Greene, 1997b; Wilson, 2002).

Message production focuses on understanding strategic communicative behavior and the goals that drive this process. Theories of message production strive to explain why people say what they do. Early research on message production prioritized strategy selection and thereby placed goals in the conceptual background (Wilson, 2002). The basic focus of this research was twofold: (a) What circumstantial or situational influences affect the strategies people use to achieve goals (e.g., Miller, Boster, Roloff, & Seibold, 1977), and (b) what individual differences impact strategy selection (e.g., Delia & Clark, 1977)? Although fundamentally different in some respects, both foci maintain strategy selection at their core. This strategy-selection perspective transitioned to the contemporary emphasis on goal pursuit wherein people are construed as social actors with cognitively-based goals that direct their communicative action and behavior (Wilson, 2002). Thus, whereas the first generation of message production sought to build taxonomies of strategies, the more recent manifestation of message production has sought to categorize goals (e.g., Cody et al., 1994). Goal-pursuit research also has highlighted how people form or activate goals (Wilson, 1990), how they at times pursue multiple goals while simultaneously satisfying a

handful of social constraints (Dillard, Segrin, & Harden, 1989; Kellermann & Park, 2001), how they develop plans to achieve hierarchically organized goals either pre-conversationally or online (Berger, 1997), and generally the cognitive processes involved in pursuing goals and the resultant messages generated (Berger, 2007; Greene & Graves, 2007; Wilson & Feng, 2007).

Goal detection emerged primarily in response to two features of message production scholarship. First, a criticism of both of the strategy-selection and goal-pursuit perspectives is that work emerging from them is generally non-interactive (e.g., Bavelas, 1991). That is, studying goals does not readily provide a means to move from an examination of monologue to one of dialogue. The goal-pursuit perspective is arguably less susceptible to this criticism than strategy selection is, but it is still subject to the critique despite its emphasis on *interaction* goals because very little research has highlighted any interactive dynamics of message production when examining goals, planning, and other relevant aspects (Berger, 2002; Wilson, 2002). Second, message production entails very little focus on the processing or reception of messages. To an extent, this characterization is not surprising given the label message production, but underlining both the production and processing of messages is likely more fruitful to the advancement of communication science than focusing on production alone; after all, one does not produce messages absent at least an intent for someone to receive and process them (cf. Greene & Graves, 2007).

Thus, goal detection emerged, in part, as a reaction to the historical and current instantiation of message production (Berger, 2000). Goal detection, by definition, requires emphases on both interaction and message processing. In fact, although scholars maintain, and perhaps even highlight, an implicit assumption that people detect or infer others' goals in social interaction (e.g., Bower, Black & Turner, 1979; Carberry, 1990; Cohen, Morgan, & Pollack, 1990; Schank & Abelson, 1977; Schmidt, 1976), little theory or research has been devoted to the

phenomenon (Berger, 2000). Goal detection, however, is an integral aspect of interaction, its existence is a fundamental tendency of human nature, and its occurrence is sensitive to the socio-cognitive production and processing of messages.

A Goal Detection Theoretical Framework

The basic logic of the framework is that because factors in interaction are cognitively associated with goals, factors increase the accessibility of potentially inferable goals and thereby shape the inferences of another's goal. Thus, goal detection is, in part, a function of a detector's activated goal linkages in a particular interaction. The following first lays out the assumptions of the theoretical framework, then advances the mechanisms proposed to account for the basic processes of goal detection, and finally provides empirical evidence for the framework.

Assumptions

Goal detection, or the process by which individuals infer others' goals, likely has an evolutionary genesis that imparted an innate inclination to infer others' goals (Bogdan, 1997; see also Berger, 2000). Goal achievement increases the likelihood of survival and hence improves fitness. The ability to detect others' goal can foster goal achievement because others' goals can obstruct one's own goal fulfillment. Thus, to the extent that people can accurately infer others' goals, they are likely to increase their survival and fitness. In support of goal detection's evolutionary roots, infants (Phillips, Baron-Cohen, & Rutter, 1992) and even infant chimpanzees (Uller, 2004) infer others' goals, and children infer protagonists' goals in stories (Lynch & van den Broek, 2007). Further, people differ in the extent to which they construct messages that take a cointeractant's goal into account (Waldron & Applegate, 1994) which might benefit relational development and maintenance (Lahey & Canary, 2002). The framework assumes a degree of innateness in the proclivity to infer others' goals because accurately doing so increases fitness.

People typically seek one primary goal along with multiple secondary constraints

(Dillard, 2004; Wilson & Feng, 2007). Goal inferences likely center on another's primary rather than constraints for a few reasons. Primary goals define an interaction (e.g., persuade, learn), whereas constraints (e.g., maintain politeness) emerge across interactions to guide behavioral choices (Dillard et al., 1989). Goal inferences also highlight a single goal rather than multiple goals. People are inclined to use a single dispositional reason to explain another's behavior more than they are likely to use a diverse set of reasons (Heider, 1958). People prefer quick heuristic-based solutions over complicated and mentally taxing ones to limit cognitive effort (Macrae, Milne, & Bodenhausen, 1994; Tversky & Kahneman, 1986). Generating causal reasons for another's behavior is usually unidimensional and less complex than explaining their own behavior (Fiske & Taylor, 2008). Behavioral inferences of others typically draw on unchanging accounts across situations more often than dynamic and unpredictable accounts (Sande, Goethals, & Radloff, 1988). Thus, the framework assumes people (i.e., detectors) generally infer a single, primary goal rather than constraints or multiple goals.

A set of distinct concepts are central for the goal detection process: accuracy, certainty, and onset (Palomares, 2008, in press a). Defined along a continuum, *inference accuracy* is the extent to which a detector's inference conceptually matches a pursuer's true goal. If the true goal is to obtain personal information, for example, then inferring get to know you would be highly accurate, whereas inferring learn background would be moderately accurate and hurting would be highly inaccurate. *Inference certainty* is the perception of trust and confidence that a detector has in the validity of an inferred goal based on the accumulation of goal-relevant information. The desire to increase certainty raises the extent to which people seek information about others (Berger, 1986; Bradac, 2001). People, for example, uncover new information to accurately and certainly understand an unclear message (Hewes, 1995). Goal inferences are tentative when the diagnosticity in goal-relevant information is questionable (Berger, 2007; Craig, 1986; Tracy,

1991). A confident inference could mean accumulating enough inference-relevant data which might take a great deal of time (Palomares). On the other hand, some goal inferences can emerge spontaneously (Hassin et al., 2005) without a certainty assessment. Goal inferences, thus, emerge and change during interaction with varying amounts of certainty. Independent of how accurate or certain, people can generate an inference at anytime or perhaps in advance or after an interaction. *Inference onset* is the moment of inception for a goal inference. The more delayed an inference, the greater the onset latency.

Explanatory Mechanisms

A central premise of the theoretic framework is that goals are linked to factors. *Factors* are components of interaction that provide meaning, interpretability, and structure (Palomares, 2008). Factors are elements of external reality that have corresponding mental representations. Factors, thus, are susceptible to subjective and objective influences. Factors are idiosyncratic at times; yet, social actors mutually hold basic categories of factors, as well as similar mental representations of them particularly when people are from similar speech communities (Aarts & Dijksterhuis, 2000; Berger, 2005a, 2007; Coulmas, 1981). Whereas most interactions will contain the same class of factors, specific instances of any given factor vary across interactions. Classes of factors include contexts, tactics, relational types, perspectives, and other aspects of interaction. A grocery store, for example, is a context factor, whereas revealing is a tactic factor. Factors are akin to features (Greene, 1997a; Meyer, 1997; Wilson, 1990), cues (Berger & Kellermann, 1994), concepts (Schank & Abelson, 1977), and dimensions (Cody et al., 1994).

The mental representation of any given factor can become linked to (i.e., cognitively associated with) any goal if they are both frequently and consistently activated in interaction (Bargh & Gollwitzer, 1994; Bargh & Barndollar, 1996; Fitzsimons, Shah, Chartrand, & Bargh, 2005). When an objective factor (implicitly or explicitly) triggers its mentally represented

counterpart, any cognitive associations among the factor and goals (henceforth, *factor-goal linkages*) are also accessed (Palomares, 2008). Factor-goal linkages are similar to cognitive rules (Wilson) and procedural records (Greene, 1997a). For example, one type of factor-goal linkage is a context-goal linkage that could associate a restaurant context with an order-food goal (Schank & Ableson), whereas a promise tactic is connected to an enforce-obligation goal via a tactic-goal linkage (Wilson, 1990). Restaurants, thus, increase the accessibility of an order-food goal and promises activate an enforce-obligation goal.

Factors are diagnostic of the goals individuals pursue for two reasons (Palomares, 2008): (a) Activated factors increase the accessibility of linked goals (Fitzsimons & Bargh, 2003), and (b) people pursue a highly accessible goal more than a less accessible one (Dik & Aarts, 2007; Wilson, 1990). Given the diagnostic value, factors can impact goal detection by generating *goal inference restrictions*, which are limitations that narrow the range of inferable goals (Palomares). If a factor is strongly linked to a small set of goals, then it will produce greater (i.e., more narrow) inference restrictions than a factor strongly linked to a large number of goals. For example, a maximally restrictively factor that was linked to one goal yielded inferences of that goal more frequently than a less restrictive factor linked to many goals (Palomares). Goal inference restrictions, in other words, affect the likelihood that a detector will infer a particular goal. The magnitude of inference restrictions depends on the strength of the factor-goal linkages and the number goals triggered by a factor. A factor will increase the accessibility of any linked goals; the stronger the association between the factor and any given goal, the more accessible the goal becomes. For example, activating a mother-child relational type increased the accessibility of goals linked to that factor (e.g., succeed in school) more than a friendship did; a mother-child relational type, thus, led to inferences of a succeed-in-school goal more than a friendship relational type did (Fitzsimons & Bargh, 2003).

As inference restrictions contract to include only the true goal, the accuracy of a goal inference increases. This narrowing improves the chances that a detector will infer the true goal because only that goal is highly accessible. For example, a factor that only made a single goal strongly accessible generated inferences of that goal more often than a factor that was strongly linked to the goal plus two others (Palomares, 2008). Inference restrictions also impact the time of onset for any given inferred goal. Specifically, as factors increasingly restrict potential inferences, onset latency decreases because of the quick confinement to a sufficiently narrow set of inferable goals. In other words, the rapid restriction of accessible goals leads to an inference faster than if accessible goals are restricted more slowly. For example, an inference would sooner include a particular goal if a factor solely activated that goal than if a factor prolongably made multiple goals highly accessible. Unlike accuracy and onset however, the narrowing of inference restrictions is insufficient to increase certainty. Palomares, for example, found no variation in certainty across different levels of inference restrictions; rather, certainty was greater in unambiguous than ambiguous contexts because of a marked reduction in the diagnosticity of the ambiguous contexts. Inference certainty, thus, depends on the overall amount of information that supports a goal inference. The more goal-consistent data acquired, the greater the certainty is for inferring that goal. Goal inference restrictions will affect what goal someone infers and when they infer it, but the accumulation of confirmatory information impacts inference certainty.

Empirical Support

The explanation of the theoretical framework for goal detection has been tested in a handful of experiments to date. The following provides some highlights from these studies to demonstrate the utility of the framework with an emphasis on the accuracy of goal detection.

Perhaps the most fundamental tenet of the framework is that because factors in social interaction vary in their linkages to goals, factors impact goal inferences. Extending this logic

further implies that some factors will lead people to infer a certain goal, whereas other factors will lead to different goal inferences. Two experiments using a scenario-based method of imagined interactions tested and supported these claims by focusing on two factors—a context and a tactic (Palomares, 2008). Participants read a scenario that was written in the first person about their “trip” to a foreign country. Toward the end of the scenario, participants read that they went someplace where they had a conversation with someone. The setting of the conversation (e.g., cathedral) varied to manipulate the context factor and its linked goal, whereas what the person said to the participant (e.g., thank you) varied to manipulate the tactic factor and its linked goal. After reading the scenario, participants selected one of three (randomly ordered) goals as their inference. Detectors frequently inferred a goal that was linked to the factors in the scenario they read more than goals not linked to the factors. For example, the goal of give me information was strongly linked to the job fair context but not the cathedral context, get something from me was strongly linked to the cathedral only, and provide assistance was not strongly linked to either context. Thus, when at the job fair, 55.6% of detectors inferred give information, less than a third inferred get something, and only 13% inferred provide assistance. At the cathedral however, 64.3% of detectors thought the person with whom they spoke tried to get something, while only 30.4% and 5.4% inferred give information and provide assistant respectively. Similar results occurred for tactics as a factor: Give information was strongly linked to the reveal tactic only, get something was strongly linked to the thank tactic only, and provide assistance was not linked to either tactic. Nearly half of all detectors inferred give information when the person with whom they spoke revealed something compared to only 33.3% who inferred get something and 17.9% who inferred provide assistance. Likewise, if a detector read that they were thanked, then 68.6% inferred get something; but only 17.1% inferred give information; and 14.3% inferred provide assistance. Clearly, the factors of the conversations (albeit imagined) influenced goal inferences.

Although these data support the theoretical framework, they are limited in at least two ways. First, the data say little about the interaction of multiple factors. That is, a context factor and a tactic factor can provide similar, dissimilar, indifferent, or otherwise independent sets of diagnostic information. For example, the context might suggest one goal, while the tactic implies another. Understanding what happens in circumstances like these is useful because interaction typically involves a dynamic system of many factors. Second, the data emerged from two studies that employed relatively unrealistic and in fact entirely hypothetical interactions. To an extent the experiments in the previous paragraph addressed the first concern (for more details see Palomares, 2008), but they did not address the latter issue. Thus, subsequent research on goal detection has moved away from scenarios to actual conversations between two people using a basic method wherein one person (i.e., goal pursuer) is assigned a goal to achieve while talking with a second person (i.e., goal detector) who has no goal and is not informed of the pursuer's goal. The following describes these experiments.

A general principle primarily supported across these experiments is the *integration principle*, which posits that the tactics a pursuer employs to achieve a goal will impact a detector's inference accuracy *only if* the context itself is not diagnostic of the pursuer's true goal (Palomares, in press b). The extent to which linkages from any given class of factors are incorporated in the restriction process depends on its diagnostic utility relative to other classes of factors. That is, if one factor alone can adequately restrict inferable goals to the true goal, then other factors are less useful and therefore not completely integrated. Thus, if the context is strongly linked to the pursuer's true goal, then a detector tends to infer this goal primarily using the context-goal linkage and tactics have very little impact on the accuracy of goal inferences. But if the context is not strongly linked to the pursuer's true goal, then because diagnosticity from the tactics is needed it will be integrated into the inference restriction process. Tactics, in

other words, will impact accuracy only if the context does not already produce adequately narrow inference restrictions.

The first experiment that directly tested the integration principle examined the initial interactions of unacquainted individuals (Palomares, in press a, Exp. 1). Pursuers were randomly assigned one of three types of goals: (a) a goal strongly linked to the initial-interaction context (i.e., find personal information), (b) a goal moderately linked to that context (e.g., find political affiliation), or (c) a goal not linked to the context (e.g., find reasons for a political affiliation). Detectors were not given a goal and were not informed of their partner's true goal. After the five-minute interaction, detectors wrote in open-ended responses what they thought their partner's first and foremost goal was while talking with them. The conversations were videotaped and coded for how efficient the pursuer's tactics were in his/her attempt to achieve the assigned goal. Increases in efficiency strengthen the linkages between the pursuer's true goal and tactics and thus increasingly restrict potential inferences to true goal. For example, a tactic that is highly efficient for achieving a goal will be strongly linked to that goal compare to an inefficiency tactic. Results were generally consistent with predictions and revealed that when the goal was strongly linked to the initial-interaction context, efficiency was not correlated with accuracy; but if the goal was weakly linked to the context, then efficiency and accuracy were positively correlated. In other words, the detector's accuracy increased as the pursuer's efficiency increased *only if* the goal was not linked to the initial-interaction context, which is consistent with the integration principle. Because finding reasons for a political affiliation is rare in initial interactions, no strong linkage exists between this goal and context. As a result, the tactics and their goal linkages are particularly germane in this instance, whereas they are less useful when the context is diagnostic of the true goal.

Although this experiment supported the integration principle, it is subject to two

limitations. First, the principle implies a causal relationship between the efficiency of tactics and accuracy, but causality is questionable given the experimental design (i.e., efficiency was measured, not manipulated). A highly conceptually similar second experiment (Palomares, in press a, Exp. 2), thus, provided more direct evidence that efficiency actually increases accuracy when the true goal is not linked to the context. This study also examined initial interactions, but it employed confederates who were randomly assigned one of the three goals and a level of efficiency at which to pursue the goal. This second experiment fully replicated the accuracy results of the first experiment, suggesting that efficiency actually caused the increase. The second limitation is regarding the generalizability of the results. Because the experiments only used initial interactions and information seeking goals, extending the findings beyond other types of relationships and goals is difficult. Thus, an experiment tested the integration principle by using both unacquainted individuals and close friends (Palomares, 2008). Also, the study employed different goals with an assortment of emphases ranging from informational (e.g., exchange interesting stories) and persuasion (e.g., convince to vote) to interactional (e.g., avoid awkwardness) and relational (e.g., discover people known in common). Pursuers were given a goal empirically predetermined to be: (a) strongly linked only to the relational context of their dyad (i.e., close friends or initial interaction), (b) strongly linked to the other relational context but not the relational context of their dyad, or (c) not strongly linked to either their or the other relational context. As usual, detectors were not given a goal and then after the interaction asked to infer a goal. The general principle that efficiency significantly increases accuracy only if the goal is not strongly linked to the context was again supported. For example, because winding down and relaxing is a common goal for close friends (but not initial interactions), efficiency was positively correlated to accuracy for unacquainted dyads but not close-friend dyads; whereas when the pursuer's true goal was avoid awkwardness, which is common to unacquainted but not

close-friend dyads, efficiency was positively correlated to accuracy for close-friend dyads but not unacquainted dyads. Moreover, if the pursuer sought a convince-to-vote goal, not strongly linked to either relational context, then efficiency was positively correlated to accuracy for both the unacquainted and close-friend dyads.

Antecedent Moderators for Goal Detection

Notwithstanding robust support for the integration principle that the efficiency of tactics plays a role in goal detection contingent on the context's association with the true goal, there are clearly other influences involved in the goal detection process. This reality is especially noticeable when considering that the greatest percentage of agreement based on either the tactic or the context (as described above) was 64.3% (Palomares, 2008). Even when considering the joint effects of a context and tactic that were both strongly and solely linked to the same goal, agreement in inferring that goal was 88.2% and not 100%. Thus, clearly some other variables play a role in influencing the accuracy of goal detection besides, or perhaps in conjunction with, the context and tactics of an interaction. In this section, I discuss some of these moderators.

Perspective Taking

One moderator is perspective taking, or one's tendency to approach an interaction from another's point of view (Galinsky, Ku, & Wang, 2005), which can play a role in goal detection in two ways. The first source is from pursuers' perspective taking which can promote them to seek their goal from their cointeractant's (i.e., detector's) standpoint and thus tailor messages accordingly (Higgins, 1981). Personalized message production encourages efficient goal pursuit and successful goal achievement (Schober, 1998), and it facilitates the conveyance of meaning and intention (Clark & Schaefer, 1987; Gibbs, 1987; Krauss & Chiu, 1998). Recipient-tailored messages, therefore, would enhance the extent to which a detector's inference restrictions contain the pursuer's true goal. As a result, perspective-taking pursuers could increase the extent

that detectors' inferences are accurate. This effect, however, was not demonstrated in one study (Palomares, in press a, Exp 1). Pursuers' perspective taking, however, was associated with the time of onset for a goal inference in the same experiment: The more a pursuer self-reported a tendency to approach interactions from another's point of view, the sooner detectors inferred a goal. This effect, however, was not replicated in subsequent studies, which questions its validity.

The second source of influence (i.e., detectors' perspective taking) has been more productive. Perspective-taking expands the extent to which the mental representations of the self and another overlap (Davis, Conklin, Smith, & Luce, 1996; Galinsky & Moskowitz, 2000). For example, observers who took the point of view of an actor completing a task encoded the actor's goals more similar to the actor's encoding than non-perspective-takers (Lozano, Hard, & Tversky, 2006). Due to increased mental overlap, perspective-taking detectors likely have inference restrictions that focus on the pursuer's true goal. Also, interpreting utterances is a function of the interpreter's perspective (Keysar, 1994). Perspective-taking, thus, can increase a detector's accuracy. This effect, however, likely depends on the directness of a pursuer's statement (cf. Gibbs, 1994; Holtgraves, 2005). Perspective taking will increase accuracy only if goal pursuit is inefficient because it is not beneficial if the tactics adequately restrict inferable goals to the true goal. That is, perspective taking affords detectors the ability to infer a goal accurately, but detectors only employ this utility if the pursuer's goal is not readily inferable, which is usually the case for inefficient goal pursuit. In fact, this hypothesis was confirmed in two experiments: The efficiency-accuracy correlation for low efficiency was statistically significant, whereas the same correlation was not significant for moderate or high levels of efficiency (Palomares, in press a; 2009a).

Suspicion of Others' Motives

Detectors' suspicion of others' motives (cf. Wrightsman, 1991) is another moderator that

plays a significant role in goal detection. Because suspicious individuals tend to be cynical and distrusting of others, skeptics might second guess innocuous goals (e.g., information seeking) that seem superficially probable and instead infer underlying malevolent goals (e.g., induce embarrassment). Suspicion likely emerges from a schema that predisposes people to discount message veracity (Malamuth & Brown, 1994). Skeptics have a chronically accessible mental structure that hampers the inference restriction process. Regardless of whether diagnosticity from the context and tactics points to the true goal, skeptics likely have other antisocial goals more accessible that they are inclined to infer. In fact, detectors' suspicion of others' motives was negatively correlated with their accuracy, which is an effect found in two experiments (Palomares, in press a, Exps. 1 & 2), suggesting that suspicion has detrimental effects for accuracy unless skeptical detectors can set aside negative inferences when they are unwarranted. This conclusion, however, is valid only in some circumstances.

For example, in established relationships, such as colleagues, a detector could be especially suspicious with a certain person based on their history and thus infer negative goals (e.g., promote self-interest) almost whenever they talk. Anecdotes also indicate conversations wherein a stated goal is a red herring to conceal someone's true objective. Overt goal statements such as, "I'm only trying to help you," "I'm just kidding," or "I am not trying to be nosy" may be used to hide more antisocial objectives such as taking-advantage, humiliating, and prying, respectively. Yet, the odds that such ruses actually stymie detectors likely decrease as their suspicion increases, which suggests a conceptual distinction between accuracy and what is called superficial accuracy or correspondence. Whereas accuracy is the similarity between a pursuer's true goal and a detector's inferred goal, correspondence is the similarity between a pursuer's stated goal and a detector's inferred goal. In interactions with goal subterfuge, suspicion may be negatively associated with correspondence but positively correlated with accuracy. Research

regarding the benefits versus detriments of suspicion for inference accuracy is only beginning to be fully examined empirically (see Palomares, 2009b).

Cognitive Busyness

A third moderator that has been examined is the extent to which detector's cognitive resources are limited. A cognitive load (cf. Gilbert & Hixon, 1991) can interfere with the inference restriction process and thus affect accuracy under some circumstances. An experiment examined goal detection in an initial-interaction context using the same dyadic design (Palomares, 2009a); yet, whereas the previously discussed research manipulated pursuers' and not detectors' goals, this study held pursuers' goal constant (i.e., find personal information) but manipulated detectors' goal. Detectors sought one of three goals that varied in the congruency with the pursuer's information-seeking goal: (a) a goal *identical* to the pursuer's goal, (b) a goal *concordant* (i.e., reveal personal information) with the pursuer's goal, or (c) a goal *discordant* (i.e., conceal personal information) with the pursuer's goal. Cognitive busyness was also manipulated such that some detectors were mentally taxed by giving them a secondary task (i.e., remember a nine-digit string) during the interaction. Busyness makes the integration of two sources of data difficult: When a detector is cognitively busy, either the context or tactic factors trump the other factor as the primary source of diagnosticity for inferring a goal. Which source is prioritized depends on their relative importance: The more meaningful or salient source will trump the other source when mental load is high (Trope & Gaunt, 2000).

Results revealed that efficiency was not associated with accuracy for the identical goals condition regardless of the detector's cognitive busyness because the pursuer's true goal was highly accessible for detectors given their own pursuit of that goal and that goal's strong link to the initial-interaction context, both of which narrowed potential inferences to the true goal thereby allowing detectors to infer it accurately. In other words, because the pursuer's true goal

remains accessible for detectors even if they are cognitively busy, the integration of tactics is not needed, thereby preventing an accuracy-efficiency correlation. For goal concord, however, no single goal was maximally constrained via inference restrictions because two goals were highly accessible (i.e., detector's own goal and the true goal); thus, consistent with the integration principle, efficiency was positively correlated with accuracy but only when detectors were not cognitively busy. Because the pursuer's goal is not particularly relevant for the detector's own goal achievement, a busy detector prioritizes the context factor over tactic factors. A strained cognitive capacity inhibited the integration of tactics and their diagnosticity causing efficiency to be unrelated to accuracy. For goal discord, on the other hand, not busy detectors tended to infer the information seeking goal regardless of the pursuer's efficiency because that goal is an obstacle for detectors' concealment goal. However, because the pursuer's goal is an especially relevant obstacle for the detector's own goal achievement, a busy detector prioritizes tactic factors over the context factor. As a result, efficiency was positively related to accuracy for discordant goals. This experiment demonstrated that busyness and goal congruency can moderate the extent to which the integration principle materializes (Palomares, 2009a).

Consequences of Goal Detection

The theoretical framework primarily focuses on the cognitive processes of the antecedents for how people determine what someone else is trying to achieve during a conversation. Although this understanding is useful, it says little about what potential consequences might emerge depending on a particular goal inference. Stated differently, the previous discussion warrants answering questions like: To what extent does a detector's inference accuracy matter, or is it merely trivial? On initial thought, two answers emerge. First, because scholars might assume that accuracy is more common than inaccuracy, they can argue that any undesirably outcomes from inaccuracy are frivolous (e.g., "Inaccuracy is scarce, so why

worry about it?”). Much evidence exists to the contrary of the main assumption of this consideration (Bavelas, 1991; Berger, 1997; Dillard, 1997; Lakey & Canary, 2002; Reason, 1990; Tracy, 1991): People attribute causality to others with at least some biases (Heider, 1958; Ross, 1977), they make errors in various judgments despite reward and encouragement to be accurate (Kahneman & Tversky, 1972; Tversky & Kahneman, 1973), and they infer different (and often inaccurate) intentions based on their expectations (Wyer & Gruenfeld, 1995). For example, women considered the affectively neutral behavior of their male partners as an expression of love (consistent with their expectations), whereas men considered the neutral behavior of their female partners as an expression of hostility (also consistent with their expectations; Gaelick, Bodenhausen, & Wyer, 1985). Moreover, much of the research reported in the previous two sections indicates relatively moderate or even high levels of inaccuracy (e.g., Palomares, 2008, in press a, in press b). A second response is that moments likely exist when someone is highly inaccurate yet still manages to have a seamless interaction; thus, even if inaccuracy is not rare, it is nonetheless inconsequential. This issue also does not render the study of goal detection illegitimate. In fact, much evidence exists that demonstrates inaccurate goal detection can produce significant, and sometimes undesirable, outcomes. The following discusses some possibilities.

First, goals provide a definition or framework to understand social interaction (Berger, 2000, 2003; Dillard, 1990). When individuals accurately know another's goal, they can better remember what happened, recall events in correct order, and fill in gaps between events (Taylor & Crocker, 1981; Zadny & Gerard, 1974). For example, therapists listening to a recorded interview found more pathologies in the interviewee when lead to believe a goal of the interaction was for a psychiatric intake compared to a job interview (Langer & Abelson, 1974). People typically summarize past interactions in goal terms (e.g., “He was trying to convince me

that...”; “She was getting advice”; “She was asking for a favor”; Berger, 2000). Therefore, (in)accuracy can alter detectors’ perception and memory of conversations.

Next, successful communication at times depends on the ability to detect another’s goal accurately (Berger, 2000, 2003; Schober, 1998). People informed of their partners’ goals gave directions tailored to those goals, whereas those uninformed were much less adaptive (Russell, 1997). Also, in an organizational context, the more employees perceived goal mismatch among departments, the more frequent and severe conflicts were (Nauta & Sanders, 2001). Inaccurately detecting another’s goal, or not detecting one at all, may lead to a conversational dilemma or predicament (Cupach, 1994; Daly, Diesel, & Weber, 1994).

Finally, the ability to detect another’s goal can impact the extent to which both interactants are judged communicatively competent. Being able to detect accurately the goal of another helps facilitate the achievement of a speaker’s own goal (Berger, 2000, 2003; Bogdan, 1997; Wilensky, 1983), and the more individuals are able to achieve their own goals, the more others perceived them as competent (Lakey & Canary, 2002). Relatedly, the more sensitive one is to another’s goal the more others rate them competent (Lakey & Canary, 2002). People unable to accurately adjust their beliefs about their partners’ goals made incorrect attributions about their partners (Russell & Schober, 1999). Also, detectors’ accuracy was positively associated with their judgment of the pursuer’s communication competence (Palomares, in press a) especially when detectors’ goal inference was highly accurate (Palomares, 2009a). Clearly, goal detection is consequential for communicators, both pursuers and detectors.

Conclusion

The role of goal detection as an important component of social interaction is unquestionable. Whereas some inaccurate goal inferences are potentially innocuous, others can still produce side effects that warrant further investigation into the goal detection process. Future

efforts that systematically investigate goal detection with an aim to probe further into these and other aspects are necessary. Doing so will continue to generate knowledge about how people understand others' goals in social interaction specifically and message production and processing more generally.

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