

# The Role of Thin-Slice Judgments in Consumer Psychology

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This article examines the potential theoretical and practical contributions that thin-slice judgments may offer to consumer psychology. We begin by exploring thin-slice judgments in the context of existing consumer information processing research. Then, we discuss the antecedents of thin-slice judgments, the type of processing that may underlie and impact thin-slice judgment formation. Finally, we review the potential consequences of thin-slice judgments and investigate applications within the consumer domain.

What theoretical or substantive contribution might the examination of thin-slice judgments offer to consumer psychology? Ambady, Krabbenhoft, and Hogan (2006) begin to answer this query by offering us empirical evidence for the relevance of thin-slice judgments to the sales process. We continue to address this question by highlighting a number of potential theoretical and practical advances that an understanding of thin-slice judgments may bring to our discipline. As Ambady et al. (2006) advise and we concur, “First impressions are also essential in the realm of consumer decision-making.” This commentary begins by focusing on thin-slice judgments in the context of information processing theory and the study of nonconscious processes. Then, we focus on identifying some of the antecedents of thin-slice judgments including nonverbal communication and affect. Finally, we describe several potential consequences or applications of thin-slice judgments to consumer behavior and marketing. The goal of this approach is to illustrate how the study of thin-slice judgments offers the potential for theoretical and substantive progress in the discipline of consumer psychology.

## INFORMATION PROCESSING AND THIN-SLICE JUDGMENTS

The cognitive information-processing paradigm has dominated consumer behavior research for the past two decades

(Johar, Maheswaran, & Peracchio, in press). As Jacoby, Johar, and Morrin (1998) described, this approach generally characterizes information processing as conscious and deliberative. More recently, consumer psychologists have questioned this conscious processing paradigm and have called for more research into the role of nonconscious processes (Johar et al., in press; Zaltman, 2000). Findings from consumer-psychology research suggest that marketing-related judgments and decisions can occur in an automatic manner that would seem consistent with the notion of thin-slice judgments (Bargh, 2002).

Automatic processes have typically been characterized as possessing four distinguishing features: a lack of intention, of conscious awareness, and of control, as well as a great deal of efficiency in that these judgments occur without deliberative effort on the part of an individual and are immune to conditions that tax an individual’s cognitive resources (Bargh, 1996). As Ambady and colleagues suggest (Ambady, Bernieri, & Richeson, 2000; Ambady et al., 2006), thin-slice judgments seem to fit the requirements for an automatic process. By contrast, conscious processing consumes cognitive resources and is intentional, controllable, and within the awareness of an individual.

Recent consumer research supports the contention that many consumer psychological processes may have both automatic and conscious components. Hence, consumer psychologists have begun to provide a variety of empirical demonstrations of the impact of automatic and nonconscious processes on judgments (Raghubir & Krishna, 1996; Raghubir & Srivastava, 2002; Yorkston & Menon, 2004). For

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example, Raghurir and Krishna (1996) introduced to the consumer domain research on the impact of spatial perception biases on distance judgments. Their findings indicated that, immediately after initial exposure, when consumers estimate the direct distance between two points in a path, they use the perceptual salience of direct distance measurement in an automatic manner. Only later, in a second stage characterized by deliberative, systematic processing, are those distance estimates updated. This two-stage model of cognition suggests that consumer judgments are formed and framed in an initial automatic stage and then followed by conscious, deliberate processing. The automatic nature and speed of thin-slice judgments presupposes that they occur during the earliest stage of consumer judgment formation. Future research in consumer psychology should explore how such automatically formed thin-slice judgments frame and impact subsequent deliberative processing. For instance, automatic judgments may prime certain concepts, activating them in memory, and inhibit other concepts, causing subsequent judgments to be either more or less accurate. Under these conditions, deliberative processing may require a great deal of cognitive resources to move beyond an initial automatic judgment, making this processing only feasible in certain situations, such as when consumers are highly involved.

The automatic nature of thin-slice judgments suggests a strong parallel between them and a growing area of research in consumer psychology: implicit attitude measurement (Brunel, Tietje, & Greenwald, 2004; Forehand & Perkins, 2005; Greenwald, McGhee, & Schwartz, 1998; Maison, Greenwald, & Bruin, 2004). The implicit measurement of attitudes is based on the automatic activation of individuals' judgments toward an attitude object. The Implicit Attitude Test (IAT) compares response times between compatible versus incompatible combinations of attitude objects (e.g., flowers vs. insects) and valence attributes (e.g., pleasant or unpleasant words). The IAT is based on the assumption that if individuals have an automatically activated positive attitude toward flowers but not insects, they should associate pleasant words with flower names faster than with insect names. Hence, the IAT could be considered a classification task based on the automatic activation of stereotypes toward an attitude object and the use of those stereotypes to form a judgment toward the object. As we discuss in the next section, research on the implicit measurement of attitudes may shed some light on the sources of information used to form thin-slice judgments.

### THE ANTECEDENTS AND CONSEQUENCES OF THIN-SLICE JUDGMENTS

Perhaps the most relevant and intriguing aspect of thin slices for consumer psychology is how these short observations seem to allow accurate prediction of outcome variables such as feature judgments and overall judgments of effectiveness.

As Ambady and Rosenthal (1992) pointed out, this finding offers several implications, all of which are of theoretical and substantive interest to consumer psychologists. First, this research implies that many of our day-to-day consumer judgments, at an aggregate level, may be more accurate than we previously expected. These findings also suggest that the judgments and perhaps the behavior of buyers, sellers, and customer service personnel may be predictable in some contexts. Thin slices may assist us in accurately assessing and predicting outcomes in consumer decision-making situations. Finally, thin-slice judgment research implies that people nonconsciously communicate much information that may be, as DePaulo (1992) proposed, more accessible to the observer than to the sender and quite difficult for the sender to suppress.

In the next section, we review evidence regarding why thin slices may allow accurate consumer judgment formation.

#### Antecedents of Thin-Slice Judgments: What Type of Processing Underlies a Thin-Slice Judgment?

Ambady and Rosenthal (1992) have offered several explanations for the type of processing that may underlie thin-slice judgments. First, adopting an ecological approach to thin-slice judgments, they have suggested that successfully decoding nonverbal information is essential to accurate thin-slice assessments. For example, Laplante and Ambady (2002) found that nonverbal cues such as tone of voice and facial expression provide much information about personality and internal state. Ambady and Rosenthal contended that certain features or attributes are quickly and accurately recognizable and decodable because immediate recognition of these features is necessary for successful navigation of the environment. For example, immediate identification of anger or fear may be important to survival.

Another explanation offered by Ambady and Rosenthal (1992) for the type of processing underlying thin-slice judgments is an automatic comparison process to categories in memory activated immediately on a respondent's exposure to a stimulus. For example, they suggested that thin slices may activate stereotypes that are accurate or relevant to a particular context. Ambady et al. (2000) contended that thin-slice judgments may arise from implicit knowledge of category exemplars. To achieve efficiency and conserve cognitive resources, individuals rely on quick and immediate categorization of stimuli in making a thin-slice judgment. This type of categorization process has been examined in consumer psychology (Meyers-Levy & Tybout, 1989; Peracchio & Tybout, 1996). Future research should examine the accuracy of these categorization judgments and explore the type of processing that underlies such thin-slice judgment formation. For instance, it may be interesting to explore the conditions under which experts, who have richer cognitive structures in a particular domain, are less accurate than novices

when forming automatic judgments. Perhaps novices' one-to-one relations between the exemplar and the category may facilitate accurate thin-slice judgments under certain conditions. On the other hand, experts may classify an exemplar in multiple and often overlapping categories for which different affective responses are available, making simple automatic categorizations difficult and resulting in potentially contradictory thin-slice judgments.

Finally, Ambady and Rosenthal suggested that aspects of the judgment context may increase the accuracy of thin-slice judgments. For example, judgments based on videotaped stimuli have been found to be more accurate than face-to-face judgments. This effect may emerge because actual face-to-face interactions place additional cognitive demands on participants, including impression management and self-presentation (Ambady & Rosenthal, 1992). Thus, reducing the amount of distraction in the judgment context, focusing the attention of the decision maker on relevant stimuli, and decreasing the number of task demands, may increase the accuracy of thin-slice judgments. However, this explanation seems to be at odds with the notion that thin-slice judgments are automatic in nature and thus do not demand cognitive resources. This cognitive resource-based explanation for thin-slice judgments should be examined in future consumer psychology research. Another explanation for the higher accuracy of videotaped thin-slice judgments may be derived from dual process models of attitude formation (Chaiken & Trope, 1999). That is, there could be a learned tendency to process video stimuli less attentively than face-to-face interactions. Thus, people may be more likely to rely on automatic processes when viewing and judging a video presentation as compared to a face-to-face interaction.

Relying on the affect as information paradigm, Pham, Cohen, Pracejus, and Hughes (2001) offered another, complementary explanation for the type of processing that may underlie thin-slice judgments. They wrote as follows: "The remarkable ability of feelings to predict spontaneous thoughts helps explain why immediate judgments based on very brief exposure to other individuals' nonverbal cues can be highly predictive of judgments based on much more extensive information about these individuals" (Pham et al., 2001, p. 185). Pham et al. suggested that nonverbal information produces an initial affective response that frames subsequent thoughts and thin-slice judgments. This explanation is related to Ambady and Rosenthal's (1992) ecological approach regarding the usefulness of nonverbal information and introduces affect as a causal agent in the formation of a thin-slice judgment. Future research employing indirect approaches rather than direct measurement should explore the role of affect in thin-slice judgments.

Recent research on implicit attitudes suggests some possible sources for the information recruited by individuals during thin-slice judgments. For instance, Olson and Fazio (2004) showed that the IAT can reflect two types of associations: extrapersonal and personal. Extrapersonal associations

reflect the individual's perception of what other people would think—the consensus about an attitude object in society at large. Personal associations reflect the information on which the individual's attitudes are formed; how the individual feels about the object regardless of what the rest of society believes. The traditional IAT, according to Olson and Fazio, is contaminated by extrapersonal associations that are accessible at the time of categorizing an attitude object. Thus, judgments are influenced by these extrapersonal associations which may not reflect the true nature of the individual's attitudes. Olson and Fazio (2004) devised a "personalized" version of the IAT that successfully removes the influence of extrapersonal associations. This dichotomy in the information accessed during automatic judgment tasks may explain why traditional versions of the IAT suggest that racial stereotypes underlie individuals' implicit judgments although their explicit judgments (e.g., semantic differential scales) do not reflect those racial stereotypes. When the personalized IAT is used, stereotype-based implicit judgments are less prevalent.

Thin-slice judgments could reflect shared extrapersonal associations, which would explain the high reliability across judges in thin-slice experiments. Stereotypes are, by definition, held by society at large (Greenwald & Banaji, 1995), so when individuals perform an automatic task, their judgments are likely to reflect those stereotypes based on extrapersonal associations. An interesting extension of Ambady et al.'s (this issue) work could attempt to ascertain in what circumstances thin-slice judgments are formed based on personal associations rather than extrapersonal associations. If the former are used by individuals, their judgments are bound to be less accurate and possess a greater degree of variance across individuals. Judgments made based on personal associations will not rely on stereotypes held by the social category to which the individual belongs.

These and other explanations for thin-slice judgments and the sources for such judgments should be further explored in the context of consumer psychology. Identifying the source of a thin-slice judgment might allow a deeper understanding of how such judgments occur and perhaps facilitate our ability to increase the accuracy of consumer thin-slice judgments. From a public policy perspective, increasing the accuracy of thin-slice judgments has important implications for consumer decision making.

### Consequences of Thin-Slice Judgments: Application and Extension of Theory to Consumer Psychology

Exploring the accuracy of evaluative judgments based on thin slices in marketing has great research potential. As Ambady et al. (2006) point out, the more observable a trait, the more accurate thin-slice judgments about that trait tend to be. In many consumption-related situations, important traits are easily observable or made salient by marketers, stimulating accurate thin-slice judgments. For instance, most adver-

tisers' quest is to break through the clutter by making their brands' diagnostic traits (i.e., their point of difference) stand out from the competition. Thus, it would seem that thin-slice judgments are bound to be relatively accurate in consumption situations—as long as advertisers do not provide misleading cues about their brands' traits.

As consumer psychologists, we explore how consumers think and form evaluative judgments and apply our theories regarding judgment formation in both the public policy and managerial arenas. Research by Ambady, Koo, Rosenthal, and Winograd (2002) clearly illustrated the potential important public policy applications for thin-slice assessments of behavior. In this research, they found that the nonverbal behavior of health care providers (their facial expressiveness, smiling, nodding, furrowed brow) is associated with an improvement in elderly clients' activities of daily living and with a decrease in confusion regarding health care recommendations. Harnessing the power of thin-slice judgments may help us make important and actionable public policy recommendations.

In the next section, we explore the potential application and extension of thin-slice judgments to consumer psychology. Our purpose is not to be inclusive of every application of thin-slice judgments to consumer psychology but rather to illustrate how research based on thin-slice judgments can offer theoretical and substantive progress to that discipline. To this end, we consider the application of thin-slice judgments to relationship marketing, language use, Internet marketing, brands and products, and customer service.

*Relationship marketing: Is there a longer term impact of thin slices?* Much attention in the channels literature has focused on the cognitive antecedents of trust (Nicholson, Compeau, & Sethi, 2001), but little research has focused on trust as an automatic, thin-slice process. It would seem viable that stage one of the trust process may be a thin-slice assessment of the relationship partner. Nicholson et al. (2001) identified the importance of liking in building trust in long-term channel relationships. Their research suggested that when the relationship between buyer and sales representative is beginning, liking plays an important role in trust formation. It mediates how the similarity of the buyer and seller's business values and the frequency of buyer–seller interaction impact the development of the buyer's trust in the seller. As the buyer–sales representative relationship develops, liking becomes quite important in the channel relationship and influences the buyer's trust in the sales representative, but similarity of business values and personal interaction between buyer and seller become less important. This research raises interesting questions regarding the impact of thin-slice judgments over time in a marketing relationship. How do initial thin-slice assessments anchor longer-term relationships? Do thin-slice assessments have a long-term impact throughout the marketing relationship?

As Crosby, Evans, and Cowles (1990) pointed out, salespeople often perform the role of relationship manager when buyers and sellers interact. Jap, Manolis, and Weitz (1999) found evidence that higher quality relationships exhibit higher degrees of trust and fewer incidences of opportunistic behavior. New products are accepted more readily in these high quality relationships. Can positive thin-slice judgments have a beneficial impact on measures of longer-term relationship quality such as new product acceptance? The impact of initial thin-slice judgments in longer-term relationships between buyers and sellers is worthy of investigation.

*Thin-slice judgments and language.* In their article, Ambady and her colleagues (2006) explore the accuracy of judgments based on thin slices of verbal stimuli. Most prior research investigating thin-slice judgments has focused on visual thin slices, particularly on moving images. Therefore, their article is an important step toward the application of the processing of thin slices to verbal stimuli.

Do consumers form judgments based on thin slices of language? Can they form them based on sound, such as a speaker's tone of voice? For instance, does it matter whether a brand's ad is voiced-over by James Earl Jones or Sean Connery? Anecdotal evidence, and increasing empirical research, suggests it would—consumers make judgments about people and brands based on various aspects of the language used during presentation.

Research on language and its influence on consumer behavior has identified automatic processes that influence judgments based on verbal stimuli (Luna, Ringberg, & Peracchio, 2006). Different languages, accents, language varieties (e.g., vernacular vs. “academese”), or intonations seem to activate different schemas, mental frames, or cultural models. These knowledge structures, which can contain unique associations, are cued by a particular language or language feature. For example, ads targeting bilingual consumers may switch from one language (A) to another (B), in the process activating the knowledge structures associated with language B. Those associations then become readily accessible and can influence subsequent judgments (Luna & Peracchio, 2005). Indeed, the language used in an ad could influence how consumers interpret the ad. Will they see the people portrayed in the ad as courageous and independent, or as sad and lonely? Interpretations of the world around us in general and ad interpretations in particular depend on the cultural models activated by the language processed at any given time (Holland & Quinn, 1993; Hong Morris, Chiu, & Benet-Martínez, 2000). Language may serve to elicit an associated mental frame or cultural model, resulting in the activation of certain values contained in that frame (e.g., independence vs. interdependence). Those values, then, influence an individual's interpretation of reality in an automatic fashion (Quinn & Holland, 1993). As Ambady and colleagues (2006) suggest, these interpretations and judgments

can be made very quickly and accurately, based on thin slices of verbal and auditory stimuli.

The application of the thin-slice process to language research can yield significant insights, extending current research on psycholinguistics in the area of marketing. For instance, one might predict that if auditory thin slices are used to form judgments, those judgments would be more accurate in alphabetic languages (e.g., English) than in logographic languages (e.g., Chinese). Conversely, judgments based on visual thin slices might be more accurate when consumers are operating in a logographic language (e.g., Tavassoli & Lee, 2003). A moderator of these effects may be type of processing—data-driven or conceptually driven (Luna, Lerman, & Peracchio, in press). That is, unless consumers are engaging in data-driven processing and attending to the language of an exchange, language may not be salient enough to trigger these effects.

Different types of judgments may be influenced by verbal thin slices. Trustworthiness ratings for salespersons or customer service representatives may be influenced by small samples of speech (Tsalikis, DeShields, & LaTour, 1991; Tsalikis, Ortiz-Buonafina, & LaTour, 1992). Also, actors' accents could lead to different perceptions and purchase intentions early on in the ad (DeShields, Kara, & Kaynak, 1996), perhaps leading consumers to disregard the content of the rest of the ad or of subsequent verbal communications. Altogether, the study of the impact of thin slices of speech and language on consumer-relevant judgments could be studied systematically by examining the different aspects of language and their interactions—from phonetics, the study of sounds in speech, to morphology and syntax; from semantic to pragmatic and symbolic perspectives. For example, a spokesperson's use of certain sounds or morphemes may make him or her appear more or less masculine or influence a product's perceived size and fit with one's needs (Yorkston & de Mello, in press; Yorkston & Menon, 2004). Similarly, a spokesperson's use of certain syntactic structures in a verbal thin slice could influence consumers' judgments.

*Thin-slice judgments on the World Wide Web.* The World Wide Web represents an important tool, allowing marketers to interact with customers by providing information, presenting products, and facilitating purchases. Research on consumer behavior on the Web suggests that 80% of Web surfers spend only a few seconds looking at a Web site before clicking through to the next site (Tweedy, 2002), and the average Web surfer is unlikely to look past the first two pages of a Web site (Powell, 2003; Thompson, 2004). Thus, online consumers seem to be forming evaluative judgments of Web sites in a manner consistent with thin-slice judgments. As Ambady et al. (2006) suggested in their article, perceptual judgments are accurate, "even in the absence of any personal interaction." On the Web, the dynamic interaction between the user and the Web site may allow the formation of a thin-slice judgment even without interpersonal interaction.

Perhaps, just as thin-slice judgments of people are accurate, thin-slice judgments of a Web site's usefulness, effectiveness, and trustworthiness are also quite accurate.

Chiravuri and Peracchio (2003) proposed that consumers can accurately judge the security and ease of use of a Web site from a brief thin-slice encounter with that Web site. Based on research suggesting that trusting beliefs online form very quickly (McKnight, Choudhury, & Kacmar, 2002), Haried (2005) contended that consumers form accurate thin-slice judgments of the trustworthiness of a Web site during brief exposure to that site. Haried relied on a cognitive view of trust which suggests that trust on the Web is based on perceived competence, benevolence, integrity, openness, attraction, and predictability of a Web site. Other researchers have found that some person perception processes do operate on the Internet—for example, the Bystander Effect (Markey, Wells, & Markey, 2001) and the Deindividuation Effect (Postmes, Spears, Sakhel, & de Groot, 2001). Hence, consumer psychologists should investigate the potential application of thin-slice judgments to the effects of Web communications.

*Thin-slice judgments of a brand.* Research by Ambady and her colleagues (2006) focus on person perception. However, one might ask whether thin-slice judgments also have implications for brand perception. Consumer researchers have argued that brands possess a perceived personality (Aaker, 1997), identity (Aaker, 1996; Keller, 1998), and even gender (Levy, 1959), and that consumers can establish real relationships with them (Fournier, 1998). Marketers often aim to bring brands to life through the embodiment of brand attributes in anthropomorphic characters such as the Michelin man, the Brawny Man, the Pillsbury Doughboy, or Mr. Clean (McGill, 2000). Research based on psycholinguistics also finds that brand names are processed in a similar way to proper names of persons (Gontijo, Rayman, Zhang, & Zaidel, 2002), suggesting that individuals consider brand names and proper names as having similar properties. It seems logical, then, to assume that thin-slice judgments can also be made about brands.

As Ambady et al. (2006) writes, "Thin slices force the observer to focus on nonverbal cues without the influence of the verbal message or information from previous interactions or the broader context of the situation." The ability to use thin slices to form judgments may be particularly important for brand perception because most interactions of consumers with brands are not verbal. Images of brands are pervasive in consumer situations and ads. Accordingly, brands featured in TV commercials could represent thin-slice stimuli on which judgments of the brand will be based. Research on this topic should explore whether judgments of new brands or products based on first-time encounters are representative of later judgments, as people become more familiar with the brand and are exposed to more commercials or come into personal contact with the brand. It would seem possible that, under certain condi-

tions, thin-slice judgments of brands may be even more accurate than thin-slice judgments of people because some brands may be less complex and easier to categorize, making automatic judgments of brands particularly reliable.

*Thin-slice judgments and customer service.* Much research in marketing has acknowledged the importance of customer service and service quality to the consumer's experience of and associations to a brand (Iacobucci, 2001). Customers' evaluative judgments of service quality affect many consumer behaviors that are important to marketers, such as customer loyalty and price sensitivity (Doucet, 2004). Researchers studying service quality have emphasized the importance of the service provider in delivering excellent customer service and presenting a face for an organization—in essence, personifying the brand (Barker & Hartel, 2004). Other research on the service-profit chain has identified relations among the attitudes of service providers, customer satisfaction, and achieving the organization's goals (Heskett, Sasser, & Schlesinger, 1997).

Research on customer service would benefit from examining, applying, and extending the concept of thin-slice judgments. How do thin-slice judgments impact perceptions of service providers? As Ambady et al. (2006) describe, Hecht and LaFrance (1995) found that the tone of voice of directory assistance operators determines customer perceptions of enthusiasm, sympathy, confidence, professionalism, and friendliness. If service providers are considered representatives of the brand, how do these thin-slice judgments impact brand assessments? Are these thin-slice effects short term or do they have longer-term implications for how people think and feel about a brand? Pugh (2001) has identified emotional contagion effects in customer service situations such that customers "catch" the affect of service providers. This research finds that the positive affect of service providers is related to customers' positive perceptions of service quality. Do thin-slice judgments underlie this emotional contagion effect? Or, as Pham et al.'s (2001) research suggested, does the emotional contagion effect underlie thin-slice judgments? These and other questions relating to service quality and thin-slice judgments await investigation

## CONCLUSION

Our examination of thin-slice judgments reveals opportunities for researchers to make theoretical and substantive contributions to consumer psychology. Studying thin-slice judgments offers the possibility of augmenting and extending information processing theory and the study of implicit processes. Gaining an understanding of the antecedents of thin-slice judgments, the processes underlying thin-slice judgment formation, presents the potential for theoretical progress in our discipline. Understanding the consequences

or applications of thin-slice judgments to consumer psychology offers many opportunities for both theoretical as well as managerial and public policy advances within marketing. Calder and Tybout (1987) have suggested that consumer behavior research should advance theoretical knowledge about the consumer. Research focusing on thin-slice judgments presents an opportunity to accomplish this research objective as well as to make substantive contributions to our discipline.

In their review of the past 15 years of consumer behavior research, Johar et al. (in press) contended that most consumer behavior research has focused on one-shot events. However, marketing is a dynamic discipline concerned with continuous exchange over time with consumers forming and reforming judgments in response to many different types of information. These researchers have called for an examination of how a sequence of events, for example, initial thin-slice judgment formation and subsequent deliberative processing, affects consumer information processing. The study of thin-slice judgments offers the opportunity to examine how initial judgments are formed and then updated after exposure to subsequent information that may or may not be consistent with the initial thin-slice judgment.

Many consumer psychologists have called for a comprehensive model of information processing incorporating our understanding of both deliberative and implicit processes (Bettman, 1979; Johar et al., in press). Research on thin-slice judgments and the processing that underlies them should be included in such a model. Incorporating judgment accuracy into a model of information processing may open new avenues of research for consumer psychologists. Studying thin-slice judgments and the accuracy of these evaluative judgments offers opportunities to contribute to knowledge in consumer psychology and information processing.

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Received: June 14, 2005

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